PN ABR-967
89238

NATURAL RESOURCES MANAGEMENT PROJECT

BAPPENAS - Ministry of Forestry

Assisted by

USAID

EMPLOYMENT EFFECTS OF NATURAL RESOURCES POLICY : Analysis of Labor Absorption Forecasts to the Year 2020

DRAFT FINAL REPORT

Associates in Rural Development

for

Office of Agro - Enterprise and Environment

USAID - Jakarta

AID Contract No. 497 - 0362

April 1994

REPORT No.

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PREFACE

This report is one of a number of reports produced under the Government of Indonesia's Natural Resources Management Project (NRM) that is assisted by the United States Agency for International Development (USAID).

The NRM Project, working with the Indonesian National Planning Board (Bappenas) and the Department of Forestry (Departemen Kehutanan), provides through a specially established project Policy Secretariat advice to Bappenas on natural resource issues relating to long term and short-term national planning. In addition, working with the Department of Forestry the NRM project carries out field activities in two pilot project areas one in West/Central Kalimantan and one in North Sulawesi including the preparation of management plans for the Bukit Baka - Bukit Raya National Park in Kalimantan and the Bunaken National Park in North Sulawesi. Each report addresses an aspect of the planned NRM project activities that are agreed on and laid out in an annual NRM Implementation Plan and each report aims at providing specific recommendations for future work in the area addressed.

This report presents an examination of the role and implications of employment creation in natural resources policy. Within the context of the Second Long-Term Development Plan, the study explores linkages between economic growth, employment levels, and environmental protection. National and sectoral policies are examined for their consequential effects on these objectives. Implications for sectoral labor absorption planning, and promising areas for future policy analysis and research are highlighted.

ACKNOWLEDGEMENTS

The study team wish to express their sincere thanks to the many people who contributed to this study. Special recognition is given to the following for their generous cooperation at critical stages during the course of the investigation : Dr. Ozay Mehmet of ILO/BAPPENAS ; Dr. Bas Bengo-Teku, A.A. Machrany, Matthew Robertson, Dr. Tirta Hidayat, Dr. Komara Djaya, all BAPPENAS ; Dr. William James, TIP Project, and Dr. Erik Scarsborough, NRM Project. The support and encouragement of Dr. Herman Haeruman and Dr. Sayuti Hasibuan of BAPPENAS, and Dr. David Ostermeier and Jerry Bisson of USAID is also acknowledged. The very able assistance of Esthy Jonathan, Nike Sudarman and Setiabudhi at many stages along the way deserves a special thank you.

EXECUTIVE SUMMARY

This study examines linkages between national policies which address the long term use and management of Indonesia's natural resources and collateral interests of full employment, economic growth and environmental protection. An understanding of how the natural and man-made features of an economy interact, and how specific outcomes can be influenced by policy, improves the ability of government to guide the country to a more prosperous and sustainable future.

The analysis begins with a review of past policies and structural economic change. The record is mixed : significant economic growth during the first long term development plan period (25 years) is associated with marked degradation of environment, and significant underemployment of a rapidly growing work force. In recent years these trends have begun to change. Expectations reflected in the targets for the second long term plan period (to the year 2018 will probably be difficult to achieve without significant policy reforms. What reforms are warranted?

The analysis proceeds with a careful examination of forecast employment demand and supply conditions. Structural analysis of future growth process, using interindustry and total factor productivity analysis techniques, provides insight into the sectoral interdependencies within the economy and the employment and environmental impacts of change.

To better understand the options for future policy over the long term, several development scenarios were constructed and their results compared. The principal findings were : a) The present consensus planning view for the next 25 years might be wrong -- different approaches to forecasting future economic outcomes are needed to corroborate the accepted results; b) The possibility of "win-win-win situations" for economic growth, with full employment and environmental protection, is not refuted by the empirical evidence reported in this study; and c) Perhaps the most effective means of policy analysis regarding future conditions would be focused on <u>sectoral</u> issues and methods of analysis rather than on <u>macro</u> policy issues and analysis.

The report concludes with discussion of specific policy implications which follow from the study results, and outlines a recommended research agenda to guide future study.

1. INTRODUCTION

Economic growth in Indonesia for the foreseeable future will remain dependent on natural resource extraction and processing activities. Consequently, the GOI has a continuing interest in the labor absorption impacts of past policy and the scope for generating new employment opportunities over coming decades. The working age population will almost double in the next 25 years. Will the new job seekers be able to get good jobs? Where will they work? Do current natural resource policies, for example in agriculture, forestry, mining and fisheries, encourage or discourage labor absorption in these resource intensive sectors of the economy?

These and many related questions are considered in this study as part of a scoping analysis of various sources of long term development forecasts. We wished to examine the future role of natural resource based employment in an economy that will continue to undergo rapid structural change. While many planning and forecasting exercises ask the question "what will happen?", the present study was directed at "what ought to happen?" This approach is in keeping with the spirit of long-term planning needs and opportunities. Hopefully it is at the frontiers of change.

In the following section the nature of the employment problem is reviewed. Next, we outline the basic objectives of the study and the factors which limited the scope of the enquiry. This is followed by a brief discussion of the methods and procedures used by the study team. The final part of this section outlines the presentation sequence for the reminder of the report, including the ten Annexes.

1.1. The Problem and Policy Issues

On the supply-side Indonesia's labor force is projected to increase from 74 million in 1990 (approximately 67 percent males) to 136 million in the year 2020 (60 percent males). The female participation rate during this period increases markedly (from about 39 percent to 51 percent). These rates of increase translate into annual growth rates over the period of 1.75 and 2.47 percent for males and females, respectively. The underlying population growth is 1.6 percent, and declining. Accordingly, the future supply of potential new entrants to the job market will increase relatively more in the first few years than in the latter years of the second long-term plan period.

Demographically, the labor force is also changing is important ways. The age of an increasingly urban (and Java based) population is favouring the older employee, with the median age increasing from about 33 today to 39 years in 2020. The proportion of the labor force below 25 years will decline, and the proportion above 25, and particularly above 50, will rise, suggestive of a more experienced and more productive labor force.

On the demand-side, most projections indicate an appropriate balance in supply and demand of 10.5-11.2 million new jobs created during Repelita VI. The major source of these new jobs is expected to be the manufacturing sector. The economic forecasts used for the draft planning document (Annex VIII) suggest that 25 percent of all new jobs will originate from manufacturing. And this will occur in the face of significant declines in employment from the traditional resource sectors of agriculture, fisheries, mining and forestry. Employment in trade and services will also grow but at a lower rate than manufacturing.

The picture of the economy presented in the official forecasts is one of growing diversity, with the manufacturing sector stimulating other sectors to expand also. Such sectors as construction, transportation, public utilities (power and water), communication, banking and finance have extensive linkages with manufacturing, and the flow-on effects will have a dramatic effect on job creation, particularly in the formal (wage) sector. What

is sometimes overlooked however is the very small economic base these combined sectors represent in the Indonesian economy at present specialized service sectors are important for reasons other than labor absorption.

What, if anything, might be wrong with these forecasts as planning tools? For one thing they typically do not account adequately for variability. The employment projections are based on projected GDP growth rates beginning with 6 percent, increasing steadily to 7 percent around the year 2000, and holding at 7 percent thereafter. It is further assumed that government will continue with its present efforts to deregulate the economy, liberalise investment, trade and financial regulations and open up new areas for export growth and foreign domestic investment. It is assumed outward-looking philosophy (strategy?) will create the conditions for a healthy private sector, which will lead economic growth beyond Repelita VI.

Economic growth paths rarely are smooth for very long. The current reversal in manufacturing exports (the first absolute decline in 10 years) and the depressed price of oil has caused the growth rate forecast for 1994/95 to be revised downward, with the consequences of immediate worker layoffs and declining investment in future job growth. Suddenly the economy is off the growth trajectory, and possibly on a lower growth target pathway at the start of Repelita VI. Economic shocks and the attendant adjustment processes, which are naturally occurring cycles of economic change, are difficult to forecast but must be incorporated into long-term planning and policy analysis.

Another shortcoming is the concomitant demands that growing future employment places on other services, for example education. At present 75 percent of the labor force has a primary (or less) level of formal education. The forecast new job demands for Repelita VI and beyond require higher skill levels. While extending compulsory education from 6 to 9 years is an important step (in Rep. VI), the time lag in realising the benefits are such that a significant bottleneck is emerging in the intermediate term. Unless non-formal

skills training for those already in the workforce also is given the same high priority, some future growth sectors will lag behind their potentials and income gaps within the workforce will widen.

Another and potentially very serious problem is the seeming inconsistencies between sectoral policies and macro policies. This observation comes from forestry and woodproducts manufacturing case studies, but is believed to be more prevalent than just these (Mehmet and Bengo-Teku, 1993). Sectoral policies, including private sector investment incentives, have tended to favour capital intensive or labor substitution technological options going back to as early as the late 1970's. Over time this policy climate has created an "uneven playing field" which will take time (perhaps years) to reverse, even if appropriate steps were taken now and all at once.

Finally, there is the linkage between macro policy and the environment which until recently has not been recognised in explicit terms, nor has it been adequately incorporated in policy analysis (Munsinghe, Cruz and Warford, 1993). The question of labor policy is seen in this study as the third side to an emerging triangle of policy analysis interests. Can these three primary national policy objectives -- economic growth, employment creation and environmental protection -- all be achieved with a given policy set? Can there be complementary policy outcomes across sectors of the economy? In other words, are genuine "win-win-win situations" feasible, and are they worth pursuing?

These are the fundamental questions and policy issues which motivated this enquiry. Time and resource constraints limited the extent to which many of them could be examined. In the next section the study objectives are described along with the policy concerns that helped to focus the examination of a number of specific issues.

1.2. Study Objectives and Scope

It was of fundamental importance in this study to link policy consequences across sectors as well as between the often competing policy objectives of economic growth, social welfare and environmental management. The present study was designed to contribute to understanding about the important linkages that exist in Indonesia economic policy, and in particular the multiple impacts of selected natural resource policies on growth, employment and the environment.

The more important issues and tasks which focused the analysis are highlighted below:

1. The historical perspective linking employment effects with natural resource management policies.

   What have been the employment impacts of key policy initiatives by GOI since the 1970's? Candidates for the above would logically include: a) the ban on log exports, b) economic liberation, c) EEZ fisheries policy, d) vertical integration in forest access and processing, e) food self-sufficiency, f) education and human capital policy. The present analysis concentrated mainly on issues related to past, present and future forestry sector policy.

2. Characterization of labor demand and supply relationships.

   What are the temporal and spatial distributions of the forecast labor force to the year 2020? The future age and skill composition? Forecast under and unemployment? Implications for labor absorption of production trends, factor intensities, sectoral balance, industrial location, migration, community development? Excellent secondary sources of information and previous studies were available to answer these types of questions.

3. Comparison of sectoral labor absorption rates and future prospects.

What level of national economy disaggregation best facilitates cross-sectoral employment policy comparisons? Which sectors offer the best and worst opportunities for absorbing labor during the SLTDP? Answering these questions was difficult. Due to limited prior understanding of sectoral interdependencies, most growth parameters were inadequate for predictive purposes.

4. Sensitivity of forecast estimates to the assumptions used to derive them.

How robust are the forecasts in an uncertain future? This aspect of the study was not pursued with much effort due to the limitations of the forecasting models available.

5. Formulate plausible employment planning scenarios for future analysis.

What possible combinations of technology, human resources, natural resources and capital hold the greatest promise for successful implementation during the SLTDP? Can labor and human capital policies be successfully pursued in isolation of sectoral growth policies (and vise versa)? Under which type of scenarios are the three objectives -- economic growth, full employment and environmental quality -- likely to be complementary policy outcomes? Again, the data limitations precluded definitive answers to these questions in most cases. None-the-less some important policy implications and future directions for study were readily forthcoming from the analysis.

1.3 Methods and Procedures

The conceptual framework underlying the approach emphasizes multiple objectives and tradeoffs in public policy implementation. Exogenous or non-controllable influences on policy outcomes are recognized to be very important to this analysis. Further, policies themselves are

viewed at three different levels : the firm or industry (micro), the sector, and the economy as a whole (macro). Much of the analytical results discussed focus on macro level policy impacts.

The study draws completely on secondary information and utilizes existing forecasting models developed for planning purposes at BAPPENAS and other agencies. We also make use of the dynamic I/O model developed last year by Policy Secretariat staff at NRMP. The forecasting model and results prepared by the international consultant to this project is reported in a companion volume to this report (Mehmet, 1994).

In addition to comparing methods of forecasting and their results, the study team also conducted a number of 'case studies' concerned with specific issues. These included: (1) a detailed decomposition analysis of sectoral impacts and change during the period 1971 to 1985 (see Annex I), (2) an empirical evaluation of the employment generation and economic growth in value added effects resulting from trade protection of the forestry sector (see Annex II), and (3) an examination of the labor absorption potential of agriculture during the Second Long-Term Plan Period (see Annex III).

To support these analysis an extensive body of economic and demographic data was collated by the study team. As an aid to future research these data have been summarized in several special annexes to this report (see Annexes IV - VIII and X).

1.4 Organization of the Report

In section two the principal findings of the study are reviewed. These are discussed under each of the five study objectives : historical perspectives, labor supply and demand, labor absorption rates by economic sector, sensitivity analysis of the forecasts, and plausible alternative employment planning scenarios. In section three the implications of the study are discussed with respect to current policy, and useful extensions of the analysis and new areas for research are identified. The Annexes I-X contain the individual case studies conducted by members of the study team, supporting information, and an extensive bibliography.

2. REVIEW AND DISCUSSION OF FINDINGS

2.1. Introduction

The following discussion reviews the main findings of the study. Beginning with "historical perspectives" the key insights to be drawn from the analyses are highlighted and placed in context. Strengths and weaknesses in the data and the approcahes used are identified along the way. The summary at the end of the section presents an overview and integration of the results.

2.2. Historical Perspectives.

Indonesia's development history since the beginning of the New Order has followed a similar path as most of her neighbours in the region: Japan, Taiwan, Korea, Malaysia, Thailand, the Philippines. After a decade of guided economy under the Sukarno regime, the Suharto government undertook stringent measures to restore economic stability and to encourage private and foreign investment. In the early 1970's exchange controls were abolished and foreign investors were instrumental in developing the country's vast resource intensive sectors: oil and gas, mining, forestry and fisheries. The agricultural sector,which had been heavily taxed in the past, was then widely promoted for private and public investment.

The strong growth in export revenue (mainly petroleum) led the economy to real GDP growth exceeding 7 percent in the decade of the 1970's. Indonesia found itself able to undertake large investment projects without a significant balance of payments constraint. In the later half of the 1970's trade policies were increasingly oriented to import substitution and protection of emerging industries. A sharp devaluation of the rupiah in 1978 was successful but short lived. It purpose was to stabilize the currency and to boost export of labor intensive manufactured products and primary resource-based goods. However, the second oil shock and resulting inflation wiped out the real devaluation.

In response to lagging growth in the first part of the 1980's, the government initiated a series of new liberalization programs. These have included further devaluations, steady import liberalization and tariff reduction, gradual deregulation of domestic industry and trade, and a further freeing up of financial markets. As a result of these reforms, export led growth has exceeded 15 percent per annum since 1987, and industrial growth has averaged between 8 and 10 percent. Manufactured goods, around 25 percent of total exports in 1985, currently exceed 60 percent of export revenues. Plywood exports account for half or more of this figure and are sent, primarily to one country; Japan. A useful timeline of Indonesia's major macro policies and real GDP since the 1960's is provided in Figure 1.

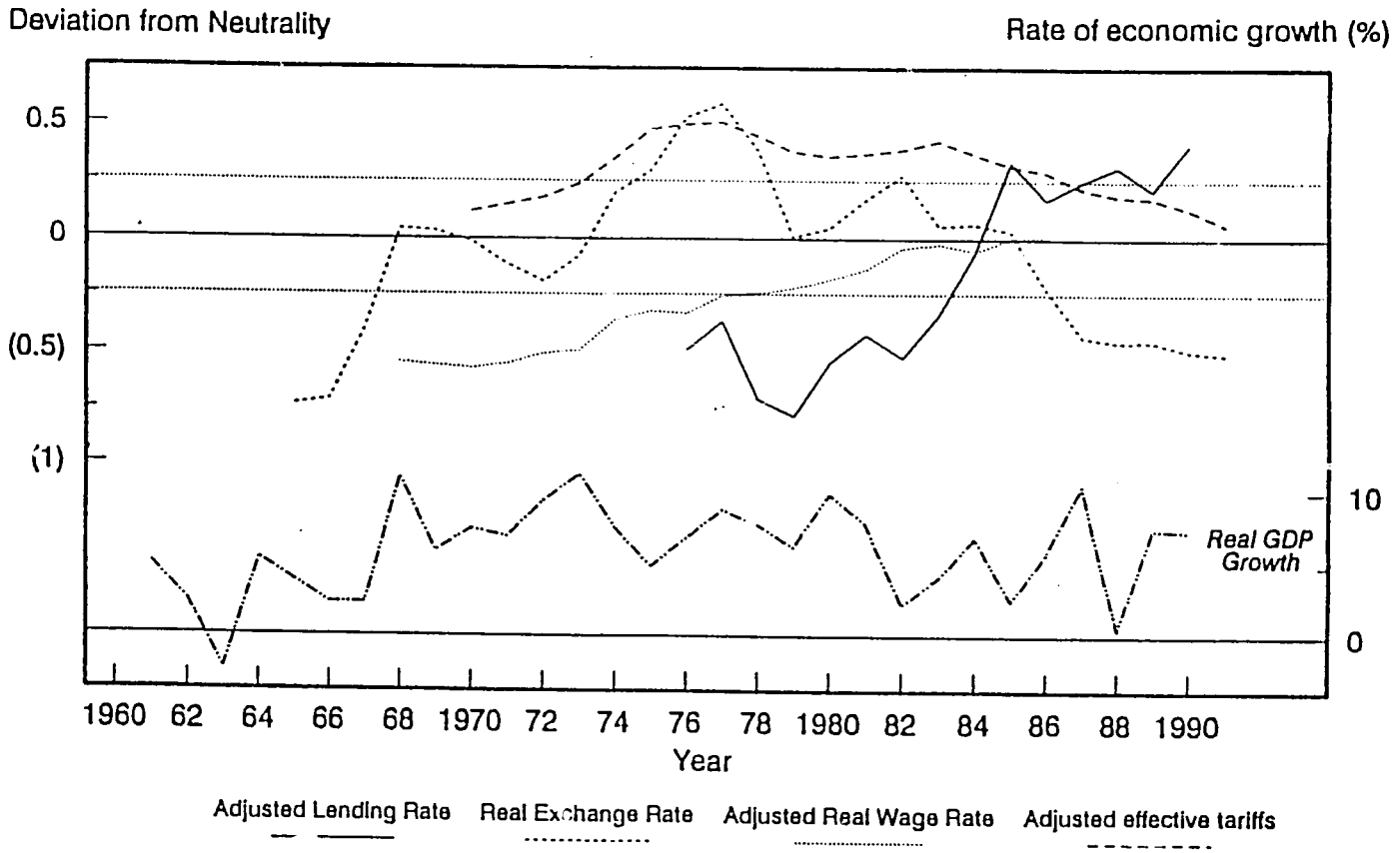
What conclusions can be drawn linking macro policy to the environment and the employment effects of such policies ?

. Most analysts seem to agree that several policy factors have contributed markedly to the natural resources "boom" which has carried the country's development fortunes since the beginning of the New Order. These factors are trade liberalization, exchange policy, wages policy, and subsidiarized lending rates and terms (for both domestic and foreign investors).

2. Most available evidence suggests that this trend is fundamentally imbedded in the structure of the economy, and that export driven growth well into the next century will remain dependent on exploitation of the resource intensive sectors. Dwindiing supplies of oil are being replaced by natural gas and coal; natural rain forests will be replaced in part by multipurpose industrial forest plantations; the extensive inshore and capture fishery resource potentials are in the process of being rediscovered.

Indonesia

Policy Mix



3. With respect to linking this growth stimulus to employment creation and environmental impacts, the record is mostly unclear. Some analysts agree that macro policies are neutral and sometimes "promotive" of natural environments and the provision of environmental services. (See for example linkages summarized in Figure 2). The problem is that macro and sectoral policy are highly interpendent : the incentives they provide to the private sector are just as often contradictory as they are reinforcing (Phelps, 1994). We believe the latter to be the case in attempting to interpret the historical record.

4. This interaction of macro and sectoral policy has special significance for evaluating the record on labor absorption Sectoral policy for the major resource-intensive sectors has had a capital-intensive bias in the past, and nothing so far indicates that this trend is in the process of changing.The case studies and general literature review reported by Mehmet and Bengo-Teku (1993) point to restructuring processes long underway in forestry, agriculture, and primary and secondary processing of food and fibre which displace significant numbers of unskilled labor. However, "adding value" to raw materials, employment creation and skills development are all given prominence in the newly drafted Repelita IV.

5. Sectoral policies, in combination with macro policies, have had less than beneficial environmental impacts in Indonesia generally. Resource degredation and inefficient resource utilization are widespread problems. No natural resource sector would not be improved with more enlightened incentive systems to guide private sector use of these very important natural assets.

Figure 2

SUGGESTED LINKAGES BETWEEN MACRO POLICY AND THE ENVIRONTMENT

a). Critical Environmental Links for (Macro) Economic Planners

Policy Issues	Policy reforms	Direct objectives/effects	Indirect (environmental) effects
Trade deficit	Flexible exchange rates	Promote exports;reduce imports	Export promotiom may lead to more deforestation for export, but it could also lead to substitution of free crops for annual crops. In addition, Industrial job creation may reduce pressures on land resources.
Food security unemployment	Agricultural intensification in settled lands and resettlement programs	Increase crop yields and acreage; absorp more labor	May reduce spontaneous migration to ecologically fragile areas. However, ther si more rural labor potential for over use of fertilizers and chemicals.
Lack of industrial competitivenes	Reduction of tariffs and special incentives	Promote competition and industrial efficiency	More openness may lead Industry to adopt more energy-efficient or less pollution-prone technologies. However, it may also lead to influx of hazardous industries.

b). Critical Economic Policy Links for environmental planners

Resource/environmental management issue	Sectoral economic characteristic	Relevant policy reforms
Agricultural expansion and deforestation	Many small, competitive decisionmakers are involved	Reduction of taxes and subsidies
	Outputs, inputs are mostly internationally traded	Exchange rate and trade reforms
	Government implements substantial production subsidies and trade intervention	Poverty and income distribution policies
		Property rights reform
Water depletion and degradation	Supply side is dominated by government or monopolies; bulk of resource use goes to large comercial enterprises and irrigation systems	Intersectoral pricing
		Reduction of subsidies and introduction of charges for resource degradation
	Resource is not intenationally traded but sectoral use and productivity for main user groups substantially differ.	
	Prices are highly regulated	
Energy use and air pollution	As with water, supply side dominated by government and monopolies	Exchange rate reforms
		Reduction of cross-subsidies
	Inputs (coal,oil) are generally traded; output broadly linked to all production activities	Privatization programs for generating and distributing activities
	(Sectoral investment and pricing highly contralized)	

BEST AVAILABLE DOCUMENT

2.3 Forecasting Labor Supply and Demand.

The study team made use of several recent reports which produced long term forecasts of economic growth, employment and demograhic change (for example see Robertson (1992), Giesbyrts (1993), and NRMP Report No. _____ , (1993). To supplement these forecasts the study team also generated some new projections of supply and demand to examine their sensitivity to different assumptions about technological innovation, external export market, forces, demographic variability and development policy initiatives (Mehmet, 1994). A discussion of these latter results is reported in section 2.5.

The main results of the supply and demand analyses are summarized below.

1. All forecasting methodologies rely to a considerable extent on extrapolation of past structural relationship and trends. One such economic structure projected to the year 2020 is depicted in Table 1. This is fairly representative of the various forecasting results available, particularly the projected data used by BAPPENAS to prepare Repelita VI and the Second Long-Term Plan targets (See Annex VIII). The significant feature of this 25 year projection is the marked reduction in agriculture's' labor absorptative capacity, which is predicted to be taken up by employment growth in the manufacturing and trade sectors.

Table 1. Structural Change in the Indonesian Economy : Comparison of Past, Present and a Future Projection

	'70	'90	2020
		share of employment (%)	
Agriculture	64	48	29
Trade	10	15	22
Services	17	18	15
Manufacturing	9	19	34
Total	100	100	100

Source: Study team estimate (Melumet,1994)

2. The future composition of the labor force will be determined by changes in participation rates for men and women, as reported in Table 2. While prediction of the year 2020 are not available, it is reasonable to anticipate women's participation rates to rise faster than mens and for children's rates to fall. These influences are reported in the labor supply forecast summarized in Table 3.

Table 2. Past, Present and Future Participation Rates for Men, Women and Children in the Labor Market

Sample	'80	'90	2020
		% of sample participation	
Men.	68.4	71.2	+
Women	32.7	39.2	++
Children <14 yrs	13	12	-

Source: Study team estimate(Annex IV)

The comparison of future employment demand with future supply (in Table 3) is meant to reveal any "gap" that could exist, an exess of supply indicating a future unemployment condition. All of the forecasts examined in this study concluded that an excess demand condition would exist before 2020. This result can be interpreted differently, however. A future labor shortage will become a constraint on the economy, hence capital will substitute for labor as wages rise to balance supply and demand in the labor market. Alternatively, the various forecasting models have overestimated future labor demand (by failing to adequately account for technical innovation and the required future skills) and will not accurately "signal" an approaching unemployment situation. The study team tends to the latter view for reasons to be explained shortly.

Table 3 Past Population and Employment Trends with projections for the year 2020 (Repelita I-X)

Ending Year	Rep.	Working Pop.	Employment	Part. Rate	GDP/EMP Base '89	Under empmt. *	
		(m)	(m)	(%)		(m)	(%)
1973	I	86	44	51		1.43	67
1978	II	100	50	50		1.56	72
1983	III	114	60	52		2.18	60
1988	IV	130	70	54		2.35	66
1993	V	46	78	55		2.81	67
2008	VIII	190	113	60		5.31	NA
2020	X	213	136	62		8.94	NA
(Excess demand 44m)		180			(6.67)		(-32)

*Percent of the labor force considered fulltime wage earners (ie, approximately 33 percent are "underemployed" in 1993).

Source: Study team estimate (Mehmet, 1994)

4. The emerging employment: skills dilemma can be infered from the information summarized in Table 4. We have seen previously that future growth means the absorption of people, leaving agriculture for new sources of formal emplyment in the manufacturing and service sectors. The data in Table 4 show that the incidence of formal employment is very low below junior high school level, but is fairly high in the growth sectors of manufacturing and services. Higher levels of education are not currently associated with the trade sector. Accordingly, one migt hypothesize that in the absense of rapid skills development taking place in the next few years, the trade sector (with low wage rates) will absorb an increasing proportion of new employment, not manufacturing or services.

Table 4. Education Levels and Formal Sectoral Employment in Indonesia

	% in Formal Employment(1990)	% of Sector Employment which is Formal	
No Schooling	21.9	Trade	15
Some Primary	26.7	Agriculture	17
Primary	33.1	Transportation	51
Jr. HS / SMP	46.6	Manufacturing	71
Sr.HS / SMA. Dip 1 & 2	78.4	Construction	74
Academy, Dip 3	88.4	Mining	77
University	90.7	Services	79
		Utilities	90
		Finance	97

Source: Study team estimates (Annexes IV and V)

2.4. Sectoral Labor Absorption

Which economic sectors hold the most promise for future labor absorption? Can successful performance be predicted over time intervals of 20 or more years? Reliable answers to such questions require more accurate data and better modelling techniques than have been available or used to date. None-the-less useful "simulations" of policy variables such as employment levels, growth rates and environmental impacts can inform policy analysts about the direction of change. They can also facilitate a wide range of comparisons such as different growth scenarios and impacts of unforseen events. The main results of the policy simulations examined in this study are reported next.

1. The 9 sector input-output model of the economy was rearranged to group the sectors into three, homogeneous classes: primary resources, consisting of agriculture, forestry and mining; manufacturing and processing activity including food and beverages, other manufacturing, and primary; and private public services (see Table 5). This was a more meaningful grouping for the purpose of the foregoing analysis.

Table 5

Revised 1985 BPS I/O Model Sector Definitions

9 Sector Forecasting Model	Revised Model Structure	
1 Agriculture (incl. Forestry)	Primary Resources	
2 Mining	1a.	Agriculture
3 Manufacturing	1b.	Forestry
4 Utilities	2	Mining
5 Construction	Manufacturing & Processing	
6 Trade	3a.	Food & Beverage
7 Transport & Communications	3b.	Other Manufacturing
8 Finance	4,5	Primary Processing & Services
9 Other Services	Services	
	6,7,8	Pvt. Sector Services
	9	Public Sector Services

Sources : Mehmet (1994) and Annex VI

2. Some important differences in the employment character of these redefined sectors can be seen in Table 6. Forestry, for example, accounts for about 1.5 percent of both GDP and employment in 1993. In contrast agriculture contributes 17.6 percent of total GDP but more than 46 percent of total employment. Food and beverage processing is highly capital intensive while "other" manufacturing is more labor intensive. Surprisingly, public and private services together are the largest contributor to GDP (39 percent) and the second largest source of employment (34 percent) after agriculture.

TABLE 6

Base Case Forecasting Assumtions, 1993, (1989 Prices)

Sector	GDP (%)	EMP(%)	GDP/EMP (Rp.m)	GDP/yr (%)
Agriculture	17.6	46.6	1.1	2.6
Forestry	1.5	1.4	2.9	4.5
Mining	14.0	1.2	34.1	2.5
Food & Beverage	11.5	.6	50.4	5.0
Other Manufacturing	9.7	12.2	2.2	9.0
Primary Processing	6.7	4.9	3.9	8.6
Private Services	29.8	20.1	4.2	6.8
Public Services	9.2	13.1	1.9	5.0
Total or Average	100.0	100.0	2.8	5.5

Source : Study team estimates (Mehmet, 1994)

3. Excluding the mining and food and beverage sectors, the highest average wage rates (as reflected by GDP/EMP ratios) occur in manufacturing, followed by the service sectors, and then the resource sectors. The logical progression for a manpower development strategy would be to upgrade skills of job leavers from the resource sectors to services, then to manufacturing. Historically this is the restructuring process that has actually been ocurring in Indonesia and elsewhere.

4. Four different growth or restructuring scenarios were compared. These were: 1) a "base case" forecast which was very similar to the ILO/ BAPPENAS. ' total factor productivity ' (TFP) modelling approach used in prepararion of the Repelita VI planning projections ; 2) a projection using the dynamic input-output model developed last year by the Policy Secretariat ; and 3) a full employment scenario developed using the TFP model with two variants : the "M" projection which targeted employment growth in manufacturing and processing activities, and the "S" projection which targeted the private

manufacturing and processing activities, and the "S" projection which targeted the private services sector. The assumed growth rate for the four scenarios are compared in Table 7, and the results of the projections are given in Table 8.

Table 7

Comparison of Scenario Growth Rate Assumptions

Scenario:	Base Case	High Tech*	Full Emplmt**	
			M	S
Source	ILO/BAPPENAS	Policy Secretariat	Policy Secretariat	
Model Structure	TFP	Dynamic I/O	TFP &I/P	
Sectoral Growth Rates:		Annual %		
Agriculture	3.5	4	4	4
Forestry		4.8	6	5
Mining	7	5.5	4	3
Food & Beverage	10	4	5	5
O. Manufacturing		4	12	10
Primary Processing	8.5	7	11	9
Private Services	8	6.5	7	9
Public Services	6.5	6	5	5

Sources:

* Scenario "MS1", NRMP Report No.____, 1993

** Scenario "M", a full employment strategy weighted in favor of "other" manufacturing and primary processing. Scenario "S", weighted in favor of the private service sector.

Table 8

Scenario Comparisons : Growth, Employment and Environmental Impacts in the Year 2020

Statistic	Base Case	High Tech	Full Employment	
			M	S
GDP Growth Rate (%)	7.5	5	7.1	7.3
EMP Growth Rate (%)	3.5	2.5	3.2	3.3
GDP/EMP (Rp m)	6.28	6.02	5.54	6.07
Excess Employment (%) **	43	7	26	28
Labor Force Composition:				
Primary Resources (%)	23	26	27	25
Processing/Manuf (%)	57	23	45	39
Services (%)	20	51	28	36
Environmental Impacts:				
CO2 (M.T)	212	171	185	176
BOD (M.T)	.245	.137	.198	.181
Water Demand (M.Cum)*	2.122	1.281	1.925	1.780

* Excludes paddy irrigation and household consumption.

** Percentage amount by which the available employment opportunity exceeds potential job seekers.

Source : Study team estimates (Annex VI, Mehmet, 1994, and NRMP Report No.___, 1993).

5. What are the main features which distinguish the four scenarios? The study team considers the base case scenario as optomistic regarding the high growth rate assumed the fact that very little technological change is assumed during the period. The work force reduction assumed for the primary resource sectors is high, and a very significant number are chanelled into manufacturing and not the service sectors.

6. The second scenario does make explicit technological assumptions for the period based on expert opinion and detailed case studies of individual sectors. Mainly because manufacturing and processing is believed to be on a capital-intensive development tract, it is interesting to observe as a the consequence most new employment growth occurs in the service sector. A modest average growth of 5 percent is assumed.

7. The third and fourth scenarios were designed to compare the effects of sectoral growth that explicitly favour manufacturing vs. services. Recalling the histrorical sequence of structural change (ie from the resource sectors to services first, then to manufacturing), we wanted to see if one or the other might be preferable. In fact the "services-first" scenario resulted in a slightly higher overall growth rate of both employment and income (as measured by the ratio GDP/EMP).

8. The four scenarios were also compared in terms of their environmental impacts. This was accomplished with the use of selected environmental coefficients contained in the dynamic impact-output model, and sharing a common structural form in the other scenarios. The environmental impacts are clearly very sensitive to assumed rates of GDP growth. For this reason the impacts of the technology scenario are not directly comparable to the others. However the services-oriented development scenario ("S") has significantly less harmful impacts on the environment than the others.

2.5. Sensitivity Analysis of Forecast Results

How reliable are such forecasting models when used as planning tools, for example to set sectoral growth targets? For five-year plans they have much greater utility than longer term planning. The comparative analysis described in the previous section illustrate how different assumptions, for example technological innovation that favours capital over labor, have marked impacts on structural employment patterns. Employment levels that are based on static long run GDP growth rates should be used with great care in any case. Business cycles and dynamic adjustment processes following exgenous shocks to the economy (eg. oil price changes) should be made explicit whenever possible in planning exercises. This does not seem to be a very common practice in Indonesia at the present time.

2.6. Plausible Employment Planning Scenarios

The experience gained by the study team tends to put more store in sectoral rather than economy-wide policy analysis scenarios. In part this reflects the difficulty we had in using input-output techniques to analyze employment and environmental linkages (see Annex I). Most existing models have significant shortcomings or data limitations. On the other hand sectoral data tends to be more reliable and amenable to policy analysis and impact evaluation. Sectoral policies are also more often the key factor in bringing about significant reforms, or in achieving the intended benefits of sound macro policies. These and some related issues are summarized in the following discussion points.

1. Macro policy forecasting has limitations which are wellknown to most anaylsts. Our sensitivity analysis of key assumptions showed the robust nature of such model forecasts, and in some ways our results are disappointing because of this. A major conclusion of the exercise is that important complementaries (or trade-offs) are fundamentally sectoral and therefore difficult to capture in "macro" results. Perhaps also the study team was too conservative in the changes made in model parameters -- "frontier

- type" changes would have yielded much more dramatic differences between the four scenarios.

2. The dynamic I/O model analysis highlighted in particular the importance of agriculture, forestry, energy and the transportation sectors as representing the majority of future environmental impacts. The case studies conducted as part of that overall study also suggest that further work on the manpower-side of growth of these sectors is urgently needed.

3. The change now occuring within the wood processing sector has clear significance to future employment creation and environmental quality. The important recent study by Arief (1992) in Sumatra provides strong evidence that most productivity gains in terms of valued added output and labor absorption are potentially feasible with careful sectoral policy reform. The World Bank's recent Forestry Sector Review (1993) also supports policy change in this area. The policy analysis summarized in Table 9 illustrates very well the potential benefits of this approach.

4. Mechanization of agriculture has initiated a productivity revolution in Indonesia which will have significant future impacts on the environment and employment. Sinaga (1993) documents many past and future changes, and in particular the extraordinary farmer response to new market forces operating in agriculture. Collier (1993) also examines rural transformation issues including the role of labor markets and non-agricultural employment opportunities. These trends have major implications for regional economies which are not yet adequately understood.

5. Similarly, labor absorption in industry and trade is experiencing rapid change which is not well understood. In particular the response of these emerging sectors to macro policy reform is an area that deserves urgent attention. Mehmet anad Bengo-

Table 9.

SCENARIOS FOR DEVELOPMENT OF WOOD-BASED INDUSTRIES (ALL FIGURES ON AN ANNUAL BASIS)

Product	Log Use (mill.m3)	Value Added (US$ mill.)	of Which Wages (US$ mill)	Employment (Nos.)
Base Case (business as usual)				
Sawnwood	18.3	419.5	102.8	107,691
Plywood	17.1	997.5	181.5	160,244
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,578.3	313.7	281,655
Woodworking	9.9	1,202.0	480.8	250,795
Furniture	4.3	848.0	279.9	76,130
(Total secondary processing /2)	14.2	2,050.1	760.7	326,926
TOTAL /3		3,628.4	1,074.3	608,581
Scenario A (with 20% of logs shifted from plywood to woodworking/furniture)				
Sawnwood	21.7	498.1	122.0	127,851
Plywood	13.7	798.0	145.2	128,195
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,457.3	296.6	269,767
Woodworking	12.3	1,491.6	596.6	311,204
Furniture	5.3	1,052.3	347.3	94,468
(Total secondary processing /2)	17.6	2,543.9	943.9	405,672
TOTAL /3		4,001.2	1,240.5	675,439
(percentage change from base case)		10.3%	15.5%	11.0%
Scenario B (with 40% of logs shifted from plywood to woodworking/furniture)				
Sawnwood	25.2	576.6	141.3	148,012
Plywood	10.3	598.5	108.9	96,146
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,336.4	279.5	257,879
Woodworking	14.7	1,781.1	712.4	371,615
Furniture	6.4	1,256.6	414.7	112,805
(Total secondary processing /2)	21.1	3,037.7	1,127.1	484,418
TOTAL /3		4,374.1	1,406.7	742,297
(percentage change from base case)		20.6%	30.9%	22.0%
Scenario C (with higher recovery Rates: 60% for plywood and 55% for sawnwood)				
Sawnwood	18.3	461.5	113.1	107,691
Plywood	17.1	1,108.3	201.7	178,049
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,731.0	344.1	299,460
Woodworking	9.9	1,322.2	528.9	250,795
Furniture	4.3	932.9	307.8	76,130
(Total secondary processing /2)	14.2	2,255.1	836.7	326,926
TOTAL /3		3,986.1	1,180.9	626,386
(percentage change from base case)		9.9%	9.9%	2.9%

Footnotes:

/1 Based on the assumption that, regardless of the scenario, total log volume extracted would stay the same.

/2 Log use for secondary processing is actually the sawnwood used.

/3 Grand total does not include total log use, to avoid double-colunting for sawnwood used for secondary processing

World Bank 'Forestry Sector Review'

BEST AVAILABLE DOCUMENT

Teku (1993), Lim (1992) and the Policy Secretariat (1994) have completed significant studies which help lead the way to important future policy analysis.

6. Decomposition analysis of sectoral change, as described in detail in Annex I, offers the potential for significant insights into the choice of sectoral employment and development strategies. The 1990 interindustry tables, when they become available, will materially improve understanding of the foreword and backward linkages between the important emerging manufacturing and processing sectors in Indonesia.

3. RESEARCH AND POLICY IMPLICATIONS

3.1. Implications for Policy

All previous studies surveyed indicated an excess labor demand condition arising before the end of the second long term plan period. Why should there be an apparent consensus about this forecasting result? The answer probably lies in the fact that the same time series data and very similar forecasting approaches have been used. Such results, while perhaps reassuring to policy makers, could be completely wrong. If they are wrong they send the wrong signals to manpower planning and policy makers who must act on such information.

Sometimes minor changes in forecasting assumptions can lead to significantly different results. Our own modelling results show there might be a large difference between services-led vs manufacturing led growth. The former strategy may be environmentally better. However the outcomes of such choices remain unclear and can only become useful policy strategy with more concrete information about investment costs, manpower and skills development, and other requirements and impacts.

Technology is always a matter for concern in employment policy and this study helps to reinforce its importance to Indonesia in the years ahead. Simply encouraging growth of the manufacturing and processing sectors via macro and sectoral policy will not necessarily lead to beneficial outcomes for labor or the environment. Both past and recent experience call this into question. Sectoral-specific policies, and in this case the technological choices, also need to be more carefully examined before significant policy change is considered.

3.2. Issues for future Study

The above policy issues deserve immediate research attention. How can they best be analysed? The study team sees clear benefits to employing different approaches where warranted. Some examples can be outlined briefly.

Forecasting models which incorporate stochastic variability or probability distributions for future events would point out shortcomings or corroborate the results of forecasting approaches now in use. These are not any more costly to use than I/O or TFP models, and their track record would be more reliable as policy analysis tools.

Computable general equilibrium CGE models are perhaps more efficient and productive in the kindsof applications called for in preparing the groundwork for intermediate and longer term plans. CGE approaches combine other tools of analysis such as optimization and simulation which help to improve policy analysis accuracy and relevance.

The above techniques are available in Indonesia but apparently are not widely used at the present time. Their application should be encouraged, particularly in addressing the policy issues identified in this study as warranting immediate attention.

Policy Study Proposals

Important policy issues, with recommended approaches for their study, are advanced below as a possible guide for further labor absorption research.

1. An improved approach to predicting levels of future employment, as an aid to policy analysis of underemployment problems, is needed. While a comprehensive macro/sectoral CGE modelling approach (like the ORANI system used in Australia) would be an ideal to strive for, simple easy to use CGE/simulation models are available for use now, and can be adapted to sectoral labor policy issues quite readily (Hidayat, 1993 and Djaja, 1994). The results of using an improved approach would be more realistic forecasts of change, more accurate estimates of resource requirements-- for example the development needs of educational and skills programs to support structural adjustment policies, better targeting of required sectoral policy reforms, and markedly improved understanding of growth vs employment vs environmental trade offs.

2. A better understanding is also needed of the role of technological change, and technology choices. This will enable the evaluation of employment and environmental policies to be much more meaningful. The implications of rapid structural change in the primary and secondary processing sectors of the economy are an example. What in fact are these implications? How can they be anticipated to improve the design of future manpower adjustment and resource management policies? Many of existing analytical models (mostly I/O systems) within the sectoral planning and manpower divisions of BAPPENAS are entirely adequate for most policy analysis needs, But the divisional efforts are not necessarily coordinated nor are the approaches and results effectively integrated to form a larger perspective. The cost in time and effort of doing this are very reasonable given the anticipated benefits that would accrue.

ANNEXES

I. DECOMPOSITION OF ECONOMIC CHANGE.

II. THE EMPLOYMENT AND GROWTH IMPLICATIONS OF PROTECTIVE TRADE POLICY.

III. AN ANALYSIS OF LABOR ABSORPTION POLICY EMPHASIZING AGRICULTURE.

IV. SELECTED EMPLOYMENT AND DEMOGRAPHIC DATA BY ECONOMIC SECTOR, 1971 - 1991.

V. LABOR SUPPLY AND DEMAND RELATIONSHIPS BY ECONOMIC SECTOR, 1971 - 1991.

VI. SUPPORTING DATA AND RESULTS, INPUT - OUTPUT FORECASTS TO THE YEAR 2020.

VII. LABOR STUDY SEMINAR AT BAPPENAS JANUARY 1994.

VIII. MAIN TARGETS AND POLICIES DURING THE SECOND LONG-TERM DEVELOPMENT PLAN.

IX. STUDY TERMS OF REFERENCE.

X. SELECTED BIBLIOGRAPHY

ANNEX I

DECOMPOSITION OF ECONOMIC CHANGE :

A Comparative analysis

Of Labor Absorption and Growth

Since 1971

Prepared By

Meyer Siahaan

National Policy Consultant

Labour Absorption Study

A. Introduction

1. The study of labour absorption in Indonesia is considered very important because of the large pool of labour force. Indonesia is the fourth most populous country in the world today with total population of 180 million spread over many islands. The results of the 1990 census indicate that Indonesia's population has reached 179,322,000 and in 1992 it was estimated to have reached 182 million. Despite the falling population growth rates from 2.4 percent per annum in the 1970's to 2.2 percent in the early 1980's and 1.8 percent in the late 1980's, Indonesia's labour force still looking for jobs remains very high. Indonesia has witnessed a fast growing labour force in the last decade as the number of young people entering the working-age group has exceeded the numbers exiting the labour force through retirement or death.

2. Indonesia consists of many islands with different regional variations in population growth. Based on the 1980 and 1990 censuses of Indonesia and the 1985 intercensal survey it was recorded that during the 1980's Java Island experienced a 1.8 percent per annum population growth rate in the early 1980's (compared with 2.2 percent for Indonesia as a whole) and 1.5 percent in the late 1980's (compared with 1.8 percent for Indonesia). Thus, during the last decade Java's population growth rate has fallen significantly. It is to be noted however, that the population growth rate in Java needs to be interpreted carefully because of the in-migration and out-migration of the people. Java, due to its historical development, has witnessed a faster growth not only in terms of population but also in terms of industrial development than the outer islands.

3. The growth rate of population differs according to the provinces in Java. First, Jakarta, the capital territory, recorded a very low rate of population growth in the late 1980's, 0.9 percent. This was very low compared to about 4 percent over the previous half century. Second, West Java province, in the same period recorded a 2.8 percent population growth rate. Third, in other provinces of Java, the growth rates were very low.

4. In Sumatra the population growth rate also differs according to its provinces. Lampung experienced almost no growth in the same period whereas Bengkulu recorded a 4.6 percent per annum second only to Riau. The rapid growth of population in Bengkulu was caused by the out-migration of population from Lampung with the opening of a new road to neighbouring Bengkulu. Riau's rapid population growth was partly caused by the development of Batam and Bintan islands and the development of new industries in the area.

5. Kalimantan, in the late 1980's also recorded a very high population growth rate, 4.5 percent in Central Kalimantan and 4.4 percent in East Kalimantan due mainly to transmigration policy and to the continued and expanded exploitation of natural resources. Sulawesi went through a high population growth rate, faster than Java in the late 1980's. Bali, in the same period, recorded a low population growth rate, only about 1 percent per annum. Growth rates that were higher than the national average were recorded in West Nusa Tenggara, Maluku and East timor. East Nusa Tenggara was slightly below the national average. Although much effort has been made to move people from a number of areas in Java, the island still remains the most over-populated in the country. The result of such an overpopulation is very conspicuous, high unemployment, congested roads, poor housings, crimes, etc.

6. The purpose of this study is to look at some of the aspects of labour absorption in various sectors of the Indonesian economy from 1970 to 1991 and make projections of the likely pattern of labour absorption up to the year 2020. Sectoral distribution of the labour force is deemed to be essential in employment policy due to the following reasons. First, linkages between sectors pave the way towards an equal distribution of sectoral growth not only at the national level but also at the regional level. If sectors are linked strongly, any new activity in one sector is likely to have some degree of impact on the other sectors. If the impact is positive, those impacted sectors would have a greater potential to increase their labour absorption. Second, sectoral distribution of labour absorption is ideal in view of the fact that Indonesia consists of so many islands with different resource potential. Any policy that concentrates on only a few sectors would cause unequal growth pattern. The effect of such unequal pattern could be undesirable not only economically but also socially and politically. Third, the development of all sectors would broaden policy perspectives eventually leading to more job opportunities in the future.

B. Historical Employment and Sectoral Development Since 1970

7. For many years the Indonesian economy has been mainly rotating around the agricultural sector where the largest proportion of the labour force finds their works. Although some changes have taken place with the gradual shifting of the labour force from rural areas to the manufacturing sector, agriculture remains the main provider of jobs especially for people of low or no formal education. The economy in some areas of the country depends on a few kinds of commodities with simple processing techniques. The distribution of economic activities is mostly concentrated in big cities and towns consequently forcing people to move into industrial areas or remain in their original place and take low-paid jobs.

8. The distribution of economic activities also relates to the distribution of educational facilities or public utilities. In areas of high economic activities one could easily find more

educational opportunities. Thus there is a high correlation between the absorption of labour force and educational opportunities. The growth of sectoral acitivities is also highly correlated with the average level of education. Hence, one could see that most labour working in the agricultural sector have only limited education, whereas in big cities many workers have high level of education.

9. With the uneven distribution of industries and public utilities and educational opportunities in the country, for many years Indonesia has been faced with unbalanced regional development. The effects of such an unbalanced development have been many such as the high concentration of population in only limited number of areas, the reluctance of some educated or skilled labours to move to different areas of the country because of the wage difference, high costs of production because of the scarcity of land for industrial sites in very congested areas like Jakarta.

10. Labour absorption is also affected by the uneven distribution of economic growth. Many unemployed people have high expectation of finding jobs in big cities and therefore tend to remain there despite the scarcity of jobs with a hope that one day they may be able to get a good job. People within this category may never be able to realize their potential which would have been a great asset to the whole process of economic development had it been tapped fully. If the length of wasted time spent waiting until they find a job were measured, the result would be astounding. Study on time wasted while waiting for a job has not been done very often in this country.

11. The proportion of male and female labours employed in all industry from 1971 to 1991 fluctuates from year to year with the agriculture remaining the largest absorper of the labour force. The largest proportion of labour with university education is employed in the public service sector. The second largest proportion is employed in wholesale trade, storage and restaurant. This is because the public service gives employees more certainty about their future welfare expectation and works in the private sector are not enough to absorb labour force.

12. Labour productivity is difficult to realize if the sector concerned is not profit-motivated sector like most departments of the public service sector. If the marginal productivity of labour is related to labour absorption consideration in this kind of sector, one has to make a number of qualifications. In the private sector this concept of marginal labour productivity constitutes a measuring stick that will determine the amount of labour input a company is willing to use. The higher the marginal productivity of labour input the higher the profit the company will earn and it is likely the company is likely to keep the same amount of labour. Any increase in the number of workers hired will affect the company's profit.

13. The implications of the profitability if related to the marginal productivity of labour are worth considering in the

context of labour absorption policy formulation. If the government were to maximise labour absorption, some degree of profitability has to be allowed in order to stimulate investment in the private sector. This can be done through several avenues such as less taxes, a reasonable degree of protection, subsidies, or raising the skill of labour by investing more on human resources and development.

14. The profitability of a business depends on many factors. One of them is the location of the business or its proximity to the market. Although Indonesia has a large labour force, labour force alone is not sufficient to guarantee a certain degree of profitability. The buying capacity of average Indonesian, especially those living in remote areas, is not sufficient to provide market for large-sized companies. Because of that large sized-companies usually are located in big cities and towns because of their proximity to public utilities and to the center of power.

15. Labour absorption in Indonesia since 1971 until 1991 shows that the role of women in the economy kept increasing especially in sectors public service, financial services and other services. For many years the role of women in sector agriculture has been notable. The trend is expected to continue in view of the current economic development and of the rising number of women entering schools, high schools and tertiary education.

16. The largest proportion of people without any kind of formal educational background find their living in the agricultural sector. Their percentage has been declining due to the government's persistent effort to eradicate illiteracy. As the labour force becomes more educated their choice of works is also enlarged, no longer limited to only a few sectors such as agriculture or mining sectors. Labour mobility also rises with the level of education and the level of information available. Naturally, male labour force is more mobile than female labour force and therefore the place of work where female workforce works usually not very far from their family or close relatives.

C. Sectoral Distribution of the Labour Force

17. The distribution of the labour force in Indonesia from 1971 to 1992 is marked by the changing status and participation of both male and female labour force. The participation of women in the agricultural sector increased from 1971 to 1992 whereas the participation of men declined steadily. In 1971, 20.5 percent of the total supply of the labour force (80,507,076 people in 1971) working in the agricultural sector were women of age 10 to over 70 year and in 1992 the number increased to 23.2 percent of the total supply of 140,774,459 people. In the same period the percentage of men working in the agricultural sector declined from 45.8 percent in 1971 to 36.7 percent in 1992. On the basis of age structure, in the agricultural sector, the largest proportion of male workers aged between 15 to 19 years. The second largest proportion is of 35 to 39 years. A small proportion consisted of male of 70 to 74

years. The largest proportion of female labour force aged between 25 to 29 years old.

18. In the mining and quarrying sector, in 1971, 0.2 percent were men which rose to 0.6 percent 1992. The participation of women in this sector increased from 0.015 percent in 1971 to 0.125 percent in 1992. The increased participation was attributed to a number of reasons such as increased mobility of female labour force as a result of small-size family planning, increased level of education giving people more access to new information and raising a sense of venture among young people, wider network of transportation and communication that is capable of reaching people in remote areas, changing work-value or ethics etc.

19. The manufacturing sector also recorded increased participation of the workforce from 1971 to 1992. Of the total labour force, 3.9 percent were men in 1971 and rose to 6.3 percent in 1992. Woman participation rose from 2.7 percent in 1971 to 5.4 percent 1992. The largest proportion of male in this sector were 25 to 29 years old. Female workers were mostly 15 to 19 years old. ?

20. Sector Wholesale Trade, Retail, Resraurant recorded a substantial rise from 1971 to 1992 in male and female participation, from 6.1 percent to 8.2 percent for male, 4.4 percent to 8.4 percent for female.

21. Other sectors showing a substantial rise in labour participation were Sectors Construction, Transportation and Communication and Public Service.

22. The classification of the labour force if it is based on the age structure will give different results. If 10 years is used as the minimum working age and 75 years is the maximum working age, Indonesia's labour force in 1991 would total 137,310,249 people. But if the working age range is between 15 and 69 years, the total would be 111,310,249 people. If the working age is set between 20 and 64 years then the total labour force would be 90,170,290 people. The growth rate of Indonesia's labour force from 1970 to 1991 was about 2 percent per annum.

23. On average, the quality of the labour force in Indonesia is still low due to low level of education. In 1991 the total number of the labour force with no formal education whatsoever and with incomplete primary education was 56,887,617 people or about 41.43 percent of the total labour force. Those with tertiary education totalled 6,338,677 people or about 1.41 percent of the total labour force.

Decomposition of Changes in Gross Output

Introduction

In this exercise the Indonesian I-O Tables are aggregated from the 19x19 sectors classification into three variants, the 9x9 sectors classification, the 15x15 sectors classification, and the 17x17 sectors classification. The aggregation is done by removing some sectors from the 19x19 sectors classification. The purpose is to look at how far the removal of those sectors affects the decomposition of changes in gross output, intermediate demand, and the final demand. The basic question of this exercise is, "How would sectors in the Indonesian economy have reached their current level of output if one or two important sectors had not existed to support their growth". It was realized that the removal of some sectors from the I-O Tables constitutes an ex-post analysis which implies a number of things:

a. The value of total gross output will change and consequently the percentage contribution of sectors' output to the total gross output will change.
b. The total value of input will change and consequently the matrix of input coefficients will change.
c. The total final demand will change and consequently the percentage contribution of sectors' final demand to the total final demand will change.
d. The ex-post value of each sector's output and final demand is not independent of the performance of the removed sectors because of the existence of sectoral linkages. This means that the ex-post value of a sector was partly determined by that sector's past transactions with the removed sectors. In other words, the economic activity of the removed sectors partly contributed to the growth process of that sector's gross output and final demand.
e. Some sectors have greater potential to stimulate the growth of the other sectors and therefore their presence in the process of economic growth is indispensable, and without which the ex-post level of other sectors' gross output could not have been realized. In other words, the rate of growth of the other sectors output is influenced by the presence of the dominant sectors.
f. The position of dominance of a sector during a period of time is dependent on the presence of the other sectors which are the receiver of growth stimulus initiated by the dominant sector. No sector will have dominant position if there is no other sector to complement its growth. For example, sector mining and quarrying would not have been dominant in the 1970s and 1980s if the demand for oil (by sectors: transport, electricity and gas, etc) had not been very high.

A. Indonesian I-O Tables, 9x9 Sectors Classification

1. I-O Tables, 1971-1975

This classification is based on the aggregation of the 19x19 sectors classification of the I-O tables into 9x9 sectors classification.

Three components of changes in gross output:
a. Change due to Final Demand change
b. Change due to change in the A matrix
c. Change due to interaction effect

a. The change in the final demand for sectors' outputs is a factor affecting the amount of outputs produced within a specified period of time. Sectors differ in their type and system of production, level of output, and costs of production. The demand for any sector's output is determined in the market by the price of and preference for that output. Sectors also differ in their response to any new information with respect to demand for their output. Some sectors, due to the nature of their products, may respond fairly quickly by immediately raising or cutting the level of their output whereas the other may have to wait longer to adjust their production level. The time lag and the response to the new information spread throughout the economy at different times and cauce unbalanced growth of outputs. Some sectors, although potentially capable of raising the level of their outputs relatively quickly, may have to wait longer until inputs required in their production arrive from their suppliers. In such a case, those sectors may not be able to respond quickly to the rising demand for their outputs which, in turn, are required by the other sectors as inputs for their production. This process will spread throughout the economy and cause the multiplier effects to fall.

b. The change in the A matrix (or the matrix of input cofficients) relates to sectors' production technology involving choices of different sets of combination of labour and capital inputs. Industries are faced constantly with profit maximization objectives which can be achieved by choosing the right combination of labour and capital inputs and utilizing them in such a way that will give them the highest possible level of profits. The choice between labour and capital inputs depends on two main factors, economic factor and institutional factor. The economic factor incorporates land rents, labour wages or salaries, transportation costs, and so forth. The institutional factor incorporates government's laws and regulations concerning the hire of labour, minimum wage policy, the location of industrial sites, etc. All these factors are taken into account in determining the choice of inputs which consequently affects the matrix of input coefficients. Since profit maximization objectives are dependent on the final demand information, then any change in the final demand will have direct and indirect effects on the composition of input coefficients.

c. The relationship between the final demand and the composition of input coefficients is not independent of the profit level. The three variables are mutually dependent on each other and produce interaction effects on the level of sectors' gross outputs. The interaction effect works in two different directions, positive and negative directions. Two sectors, both with effects of similar positive sign, give mutual support to the growth of their respective output. Those with negative signs tend to diminish the level of outputs. Two sectors with different signs offset each other's output. Interaction effects on the growth of outputs are dtermined by the size of sectors' operation measured both in volume and value of that operation. Hence, sectors with large operation tend to determine predominantly the sign of the effect. Sectors having stronger mutual linkages are more sensitive to any change in the final demand implying that if one sector's final demand change, the other sector's gross output would be affected.

From 1971 to 1975 changes in gross output are predominantly caused by changes in the final demand and the manufacturing sector exhibits the strongest force of change followed by the agricultural sector and the mining sector. This indicates that manufacturing industry has the highest degree of activity than the other sectors initiated by changes in its final demand. This however, does not show any degree of efficiency in using inputs in its production activity, it merely shows the degree of activity or the size of activity.

The second force initiating the changes is attributed to the changes in the A matrix (matrix of input coefficients) working in the negative direction. This means that overall, changes in input cofficients have produced different level of gross output. On sectoral basis, the negative force is attributed mainly to sectors: agriculture, mining, electricity,gas and water supply, trade, restaurant and hotel, transport and services. All these sectors experienced transformation in their input requirements resulting in different level of output, and through multiplier effects, spread all over the economy.

Another interpretation of the negative signs is that they show negative multiplier effects resulting from the downturn in the activity of one or more sectors of the economy. For example, if activity in the manufacturing sector decline, due to falling demand for manufacturing products, the activity of sectors supplying inputs (e.g. sector agriculture) to the manufacturing sector would likely fall. The decline in the activity of the manufacturing sector would also cause a decline in the activity of sectors: trading, transportation and communication, restaurant and hotel, and so on.

The magnitude of the negative multiplier impact on any sector depends on several factors.

First, the size of that sector's activity relative to that of the other sectors. The larger the size of that sector's

transactions with the other sectors, the larger the negative multiplier impact it would exert. Hence any sharp decline in that sector's activity would have an adverse negative effect on the other sectors' outputs. The other sectors' activity depends on how well that sector performs.

Second, the diversity of that sector's activity. A sector's diverse activity means that that sector's activity does not depend entirely on the production of only a few kinds of output. The wider the range of outputs a sector can produce the wider the range of inputs it requires and the larger the number of sectors it would transact with. Even if the production level in one of its subsectors falls, its other subsectors can function to guarantee continuous activities. This is one of many reasons for diversifying economic activities (increasing the number of subsectors of an economic sector) in order to prevent the economy from a prolonged stagnation or downturn perhaps because of the crisis of a dominant subsector such as the oil subsector in the mining and quarrying sector of the Indonesian economy.

Third, the strength of that sector's linkages with those sectors with which it transacts. Sectoral linkages may be interpreted as "an activity bonding" between two transacting sectors (e.g. between agriculture, the seller of inputs and manufacturing, the buyer of those inputs). The continuity of manufacturing activity depends on the flow of inputs from the agriculture or vice versa. If the agricultural sector can not feed the manufacturing sector with inputs it requires on a regular basis, the "activity bonding" between the two sectors is weak.

Fourth, the length of time information flows from input suppliers to output producers. The longer the time needed for inputs to reach the producers of output the larger the negative multiplier impact on the activity of those sectors involved in the production linkages.

Surprisingly. the manufacturing sector shows a positive effect which, although partly affected by the decline in the other sectors' final demands (via linkages effects), can be interpreted as a growing sector. The strongest negative effect is caused by sector agriculture meaning that the change in input coefficient of this sector contributes considerably to the total change in the A matrix. This proves that agriculture during this period constitutes a major sector in the Indonesian economy. Any fluctuation in the growth of this sector will certainly reverberates considerably through the entire Indonesian economy.

The third force is the interaction effects between the changes in the final demand and the changes in the A matrix. The direction of the force is negative attributed in descending order to sectors: trade, mining, transport, and electricity, gas and water supply. This indicates several things. First, trade sector is a go-between sector conducting most of the tradings of input and output materials from producers to consumers or vice-versa. The

interaction effect felt in this sector is influenced by the activity of two or more other transacting sectors. For example, if sector agriculture conducts transactions with sector restaurant and hotel, trade sector is likely to participate. If the final demand of either of the two transacting sectors falls, the signal will be felt by the trade sector, and therefore, the activity of this sector depends on the degree of activity between agriculture and restaurant sectors. Second, the positive offsetting effect is attributed to sectors: manufacturing and construction. Both these sectors show a high growth of gross output from 1971 to 1975 indicated by the value of change in their gross output (DX). Although other sectors experienced a decline in their final demand and transmitted the decline to the other sectors via interaction effect, both manufacturing and construction were able to cushion part of the effect by their remarkable performance. Had these two sectors experienced a final demand fall, the negative interaction effect would have been greater. In other words, the negative multiplier effect initiated by the fall in final demand of the other sectors was offsett partly by the two sectors. Vice-versa, the strong gross output growth in sectors manufacturing and construction helped the other sectors maintain their activities.

2. I-O Tables, 1975-1980

As in the 1971-1975 period, the dominant force of changes in gross output is attributed to changes in the final demand, followed by the interaction effect and the change in the A matrix. All signs are positive except that of trade sector with sector manufacturing occupies the highest rank, followed by sector agriculture, construction, mining and so on. Unlike the 1971-1975 period, the interaction effect has stronger negative force than the force due to the change in the A matrix. The negative force is exerted predominantly by sectors: manufacturing, agriculture, and trade. The change due to the change in the A matrix in this period is negatip attributable to sectors: manufacturing, agriculture, trade, and so on.

3. I-O Tables, 1980-1985

In this period all three forces of change are positive. The force due to change in the final demand remains the strongest of all the three, predominantly caused in descending order by sectors trade, construction, transport and communication, an so on. The second strongest is occupied by the force due to change in the A matrix dominated in descending order by sectors: manufacturing, agriculture (negative offsetting force), mining, services, and so on. The interaction effect is relatively weaker than the previous two periods of observation. On the positive side, sector manufacture shows dominance and on the negative side agriculture is dominant.

4. Conclusion

The gross output decomposition based on a 9x9 I-O sectoral classification gives the following indications:

a. the total change in gross output is explained by three forces namely, final demand change, input coefficients change, and interaction between final demand change and input coefficient change. The force due to final demand change remains the strongest from 1971 to 1985.

b. The relative strength of input change compared to interaction effect changes across time. In one period the strength of input change is greater than the strength of interaction effect and vice-versa. This strength interchange could have been caused by several factors such as the amount of sectoral outputs which changed overtime or the strength of one or two dominant sectors.

c. The strength of the change due to the change in input coefficients in the agricultural sector is consistently negative and increasing from 1971 to 1985. Since the change in input coefficients is the multiplicative result of the change in input coefficients and the base year final demand which in this case has not changed, then the negative signs could have been due predominantly to the change in the A matrix. The most feasible interpretation is that input coefficients of sector agriculture have have changed considerably in response to changes in demand for its output. For example, if sector manufacturing had grown rapidly, it would have required a larger amount of agro-based inputs. Rising demand for agro-based inputs will stimulate further activity in the agricultural sector.

B. 15x15 Sectors Classification

1. This classification is made by removing sectors: 7(mining), 10(petroleum refinery), 17(public administration and defence), and 19(unspecified sector) from the 19x19 sectors classification. The aim is to see how decomposition of changes in gross output would behave in the absence of those 4 sectors. Sectors 7 and 10 constitute major sectors because oil is such an important export commodity in the Indonesian economy. Sector 17 is also removed because its column and row cells have zero values. Sector 19 usually is not considered in the analysis because it is undefinable.

I-O Tables, 1971-1985

Changes in gross output is dominated by changes in final demand attributable mainly to sectors: 9(manufacturing) working in the negative direction, 8(manufacture of food) in the positive side. Construction and agriculture also contributed to the force in the positive side. Changes in input coefficients are also dominated by sector manufacture and agriculture. The interaction effect is also dominated by manufacturing. This suggests that in the absence of oil sector (sectors 7 and 10), sector manufacture plays a crucial role in the changes because of the size of its output and the linkages it created in the economy.

2. The classification is made by removing sectors: 8(manufacture of food), 9(other manufacturing), 17(public administration), 19(unspecified sector).
I-O Tables, 1971-1985

Changes in gross output is dominated by changes in final demand, predominantly occupied by the oil sector (sectors 7 and 10). The interaction effect is dominant over the input coefficient change only in 1971-1975.

C. Conclusion

a. The strength of force of change seems to be correlated with the size of sectors' output. Sectors having large output seems to contribute considerably to the force of change. The direction of force is determined by the sign of the corresponding output change.

b. Changes in final demand constitutes the strongest force creating changes in output. This means that any change in sectors' final demand will cause changes in input coefficients. The causal effect seems to run from changes in final demand to changes in input coefficients. In other words, if final demand changes, sectors will respond by raising the level of their output. To raise outputs sectors may have to adjust their production technology at increasing return to scale.

c. The decomposition of changes in gross output suggests that technological change does have some degree of flexibility. This means that most, if not all, sectors still have the potential to raise their output by improving their production technology at least at a constant return to scale.

d. With a constant rate of costs of production, there is still room to expand production activity by adopting more labour-intensive production system.

e. It seems that a positive correlation exists between the changes in final demand and changes in gross output. The correlation is much more pronounced in the manufacturing, and agriculture sectors than in the other sectors. This may have been related to the price elasticity of demand. The effect of income elasticity of demand is not clearly shown in this decomposition.

D. The application of Decomposition Technique in Employment Studies

The decomposition technique can theoretically be applied to employment studies since this technique is linked closely to input considerations. Labour is inseparable from production activities and hence is a vital part in any decision-making with regard to production costs. The importance of labour consideration is also reflected in the A matrix or the matrix of input coefficients. The proportion of labour input in input coefficients is determined by the production system adopted by firms. Those firms adopting a more capital intensive production system will obviously require less

labour input. In the mining sector a more capital intensive system is more apparent than in the agricultural sector. In other words, the mining sector has lower labour absorption rate than the agricultural sector.

The analysis can be expanded further to look at the multiplier effect of changing the A matrix on sectoral employment growth trend. This can be done by measuring sectoral employment multipliers and relating the multipliers to sectoral gross outputs. Obviously, sectors with strong employment multiplier effects and high level of gross outputs are desirable and therefore, should be accorded with development priorities. The decomposition of intermediate demand can reveal further sectors' input requirements, sources and other constraints which needs to be taken into account when producers decide the level of labour input in their production.

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 1: agriculture)
$C1i,1 + C2i,1 + C3i,1 + C4i,1 + C5i,1 = \Delta Ti,1$

Sector	Δ T	C1	C2	C3	C4	C5
1	(82 755.9)	168 031.04	(108 222.8)	(134 724.5)	(6 441.04)	(1 398.599)
2	(1 791.0)	640.31	(412.4)	(513.4)	(1 504.22)	(1.289)
3	(214.1)	19 443.69	(12 523.0)	(15 589.6)	9 594.83	(1 139.980)
4	(1 790.5)	889.82	(573.1)	(713.4)	(1 393.78)	0.000
5	2 836.9	2 894.91	(1 864.5)	(2 321.1)	4 127.59	0.000
6	(15 744.7)	15 256.15	(9 825.9)	(12 232.1)	(8 942.78)	0.000
7	(4 623.4)	1 926.93	(1 241.1)	(1 545.0)	(3 759.38)	(4.900)
8	(11 092.3)	10 293.01	(6 629.4)	(8 252.8)	(6 427.48)	(75.740)
9	13 146.3	3 565.28	(2 296.3)	(2 858.6)	14 746.27	(10.447)
Total	(102 028.8)	222 941.1	(143 588.4)	(178 750.5)	5.161E−11	(2 631.0)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 1: agriculture)
$C1i,1 + C2i,1 + C3i,1 + C4i,1 + C5i,1 = \Delta Ti,1$

Sector	ΔT	C1	C2	C3	C4	C5
1	41 281.0	285 833.9	(22 120.5)	(122 795.1)	(98 025.37)	(1 611.90)
2	(98.4)	203.7	111.4	(87.5)	(326.01)	0.00
3	79 998.9	39 263.6	9 865.4	(16 867.7)	84 290.96	(36 553.31)
4	1 123.7	699.9	215.3	(300.7)	509.14	0.00
5	(2 603.1)	7 461.1	(1 103.5)	(3 205.3)	(5 755.40)	0.00
6	(22 643.1)	20 949.8	(32 972.8)	(9 000.1)	(1 620.03)	0.00
7	(117.3)	1 072.2	460.0	(460.6)	(1 150.89)	(38.01)
8	13 278.7	13 898.7	(2 552.2)	(5 970.9)	7 939.06	(35.85)
9	29 368.6	14 971.9	6 692.1	(6 432.0)	14 138.54	(1.99)
Total	139 589.0	384 354.7	(41 404.8)	(165 119.9)	(0.0)	(38 241.1)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 1: agriculture)
$C1i,1 + C2i,1 + C3i,1 + C4i,1 + C5i,1 = \Delta Ti,1$

Sector	ΔT	C1	C2	C3	C4	C5
1	(173 791.7)	112 845.5	(149 538.9)	(24 261.9)	(110 308.0)	(2 528.29)
2	3 933.1	24.9	(33.0)	(5.3)	13.4	3 933.10
3	13 375.5	36 694.9	(48 626.9)	(7 889.5)	19 821.4	13 375.47
4	957.1	438.7	(581.4)	(94.3)	1 194.9	(0.80)
5	1 697.6	2 252.6	(2 985.0)	(484.3)	3 114.4	0.00
6	15 311.7	9 477.3	(12 559.0)	(2 037.6)	5 119.3	15 311.70
7	495.3	253.5	(335.9)	(54.5)	136.9	495.26
8	(12 007.8)	8 241.7	(10 921.6)	(1 772.0)	(7 504.6)	(51.34)
9	(8 217.9)	10 089.3	(13 370.0)	(2 169.2)	5 449.9	(8 217.94)
Total	(158 047.2)	180 318.4	(238 951.6)	(38 768.7)	(82 962.4)	22 317.2

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 2: mining & Quarrying)
$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$

Sector	Δ T	C1	C2	C3	C4	C5
1	(91.5)	42.09	52.1	152.5	(338.14)	0.000
2	(589.2)	474.97	587.6	1 720.9	(3 372.45)	(0.275)
3	16 237.7	2 413.93	2 986.5	8 746.3	2 178.45	(87.532)
4	(1 231.9)	2 453.01	3 034.8	8 887.9	(15 607.68)	0.000
5	1 575.7	174.36	215.7	631.7	553.89	0.000
6	1 953.8	553.13	684.3	2 004.1	(1 287.80)	0.000
7	(416.5)	465.95	576.5	1 688.3	(3 146.69)	(0.500)
8	336.4	859.76	1 063.7	3 115.1	(4 699.27)	(2.877)
9	32 750.0	1 196.44	1 480.2	4 335.0	25 719.68	18.563
Total	50 524.5	8 633.6	10 681.4	31 282.0	(0.0)	(72.6)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 2: mining & Quarrying)
$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$

Sector	Δ T	C1	C2	C3	C4	C5
1	(43.2)	29.0	15.9	73.9	(162.04)	0.00
2	18 812.8	593.1	324.5	1 510.8	16 385.19	(0.80)
3	60 047.5	14 576.0	7 974.4	37 125.2	34 762.78	(34 390.94)
4	(6 739.8)	4 146.3	2 268.4	10 560.7	(23 715.17)	0.00
5	10 244.4	1 290.1	705.8	3 286.0	4 962.46	0.00
6	(1 321.3)	2 270.5	1 242.2	5 783.0	(10 616.95)	0.00
7	9 286.9	678.7	371.3	1 728.6	7 101.55	(593.21)
8	(3 266.9)	1 914.7	1 047.5	4 876.8	(10 904.99)	(200.93)
9	20 385.8	21 970.9	12 020.1	55 960.0	(17 812.83)	(51 752.37)
Total	107 406.2	47 469.4	25 970.2	120 904.8	0.0	(86 938.2)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 2: mining & Quarrying)
$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$

Sector	Δ T	C1	C2	C3	C4	C5
	34.1	1.1	(0.5)	(2.1)	35.6	0.00
	(43.0)	4 293.7	(2 051.4)	(7 984.3)	5 707.3	(8.30)
	(169 388.3)	25 754.9	(12 304.9)	(47 891.7)	(35 263.8)	(99 682.73)
	433.8	40.8	(19.5)	(75.9)	486.4	0.00
	(148.6)	2 688.4	(1 284.4)	(4 999.1)	3 446.6	0.00
	3 358.7	536.0	(256.1)	(996.8)	716.9	3 358.70
	(2 479.2)	2 337.9	(1 140.9)	(4 440.3)	3 193.3	(2 479.24)
	(29 327.8)	28.9	(13.8)	(53.7)	15 264.5	(44 553.74)
	(167 587.6)	23 599.0	(11 274.9)	(43 882.8)	31 558.7	(167 587.62)
Total	(365 148.0)	59 330.9	(28 346.5)	(110 326.9)	25 147.4	(310 952.9)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

C1ij = T ij (75) * g

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	285 833.9	29.0	383 541.7	0.0	32 551.8	857.4	30 527.0	709.4	3 653.9
2	Mining & Quarrying	203.7	593.1	72 043.4	315.2	22 212.3	11.8	47.9	61.6	0.0
3	Manufacturing	39 263.6	14 576.0	336 536.8	13 560.6	181 183.5	16 619.1	40 456.1	72 926.2	30 061.7
4	Electricity, Gas & Water	699.9	4 146.3	17 768.6	1 456.1	389.7	646.5	1 158.9	1 555.7	1 482.5
5	Construction	7 461.1	1 290.1	4 389.5	1 670.8	1 197.2	2 015.1	1 322.3	4 393.8	23 612.5
6	Trade	20 949.8	2 270.5	69 693.0	1 318.5	54 574.5	2 018.7	8 726.5	5 338.5	3 870.7
7	Restaurant & Hotel	1 072.2	678.7	2 809.7	174.9	4 900.0	7 887.1	476.9	2 935.8	3 147.1
8	Transport & Communication	13 898.7	1 914.7	27 542.6	2 109.3	32 950.2	11 887.8	4 859.3	21 530.8	6 044.3
9	Public Service	14 971.9	21 970.9	26 947.6	931.2	12 157.7	6 135.3	5 346.2	15 277.3	9 627.1
	Total	384 354.73	47 469.40	941 272.97	21 536.65	342 116.97	48 078.89	92 921.04	124 729.21	81 499.90

C2i,j = T ij(75) * (gj−g)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(22 120.5)	15.9	96 368.9	0.0	(4 814.6)	(1 349.4)	13 098.2	(130.3)	1 633.2
2	Mining & Quarrying	111.4	324.5	18 101.7	97.0	(3 285.3)	(18.6)	20.5	(11.3)	0.0
3	Manufacturing	9 865.4	7 974.4	84 558.4	4 171.1	(26 797.8)	(26 156.7)	17 358.5	(13 391.6)	13 437.0
4	Electricity, Gas & Water	215.3	2 268.4	4 464.5	447.9	(57.6)	(1 017.6)	497.2	(285.7)	662.7
5	Construction	(1 103.5)	705.8	1 102.9	513.9	(177.1)	(3 171.6)	567.4	(806.8)	10 554.3
6	Trade	(32 972.8)	1 242.2	17 511.1	405.6	(8 071.8)	(3 177.2)	3 744.3	(980.3)	1 730.1
7	Restaurant & Hotel	460.0	371.3	706.0	53.8	(724.7)	(12 413.5)	204.6	(539.1)	1 406.7
8	Transport & Communication	(2 552.2)	1 047.5	6 920.4	648.8	(4 873.5)	(18 710.1)	2 085.0	(3 953.7)	2 701.7
9	Public Service	6 692.1	12 020.1	6 770.9	286.4	(1 798.2)	(9 656.4)	2 293.9	(2 805.4)	4 303.1
	Total	(41 404.82)	25 970.17	236 504.74	6 624.43	(50 600.50)	(75 670.96)	39 869.55	(22 904.22)	36 428.82

C3i,j = T ij(75) * (fj−gj)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(122 795.1)	73.9	(312 043.1)	0.0	7 497.5	1 457.6	(13 410.8)	353.4	9 773.2
2	Mining & Quarrying	(87.5)	1 510.8	(58 613.3)	106.6	5 116.1	20.0	(21.0)	30.7	0.0
3	Manufacturing	(16 867.7)	37 125.2	(273 800.7)	4 585.0	41 731.3	28 253.4	(17 772.7)	36 328.9	80 406.4
4	Electricity, Gas & Water	(300.7)	10 560.7	(14 456.2)	492.3	89.8	1 099.1	(509.1)	775.0	3 965.4
5	Construction	(3 205.3)	3 286.0	(3 571.2)	564.9	275.7	3 425.8	(580.9)	2 188.8	63 156.7
6	Trade	(9 000.1)	5 783.0	(56 701.0)	445.8	12 569.9	3 431.8	(3 833.6)	2 659.4	10 353.0
7	Restaurant & Hotel	(460.6)	1 728.6	(2 285.9)	59.1	1 128.6	13 408.5	(209.5)	1 462.5	8 417.7
8	Transport & Communication	(5 970.9)	4 876.8	(22 408.2)	713.2	7 589.3	20 209.8	(2 134.7)	10 725.8	16 166.6
9	Public Service	(6 432.0)	55 960.0	(21 924.2)	314.9	2 800.2	10 430.4	(2 348.7)	7 610.5	25 749.7
	Total	(165 119.90)	120 904.83	(765 803.82)	7 281.72	78 798.42	81 736.57	(40 821.09)	62 135.11	217 988.88

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C4i,j = T ij(80) * (fij−fj)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(110 308.0)	35.6	(1 061 168.3)	0.0	(30 273.2)	2.3	(35 547.6)	(2 586.0)	1 014.6
2	Mining & Quarrying	13.4	5 707.3	(104 004.7)	10 626.0	(20 071.6)	(14.8)	(0.1)	(54.6)	0.0
3	Manufacturing	19 821.4	(35 263.8)	894 309.1	(1 849.7)	(182 683.1)	751.8	6 005.4	(29 307.5)	20 243.6
4	Electricity, Gas & Water	1 194.9	488.4	(4 177.9)	(8 360.0)	(396.4)	4 520.5	0.0	(1 082.3)	1 099.6
5	Construction	3 114.4	3 446.6	2 675.7	(1 526.4)	415.8	2 340.7	(13 645.4)	18 672.0	2 858.5
6	Trade	5 119.3	716.9	(154 990.2)	6 102.2	(65 349.4)	4 671.4	0.0	(1 299.7)	110.3
7	Restaurant & Hotel	136.9	3 193.3	1 102.1	(1 070.5)	(1 774.4)	7 807.0	1 846.8	(319.1)	5 662.5
8	Transport & Communication	(7 504.6)	15 264.5	(59 606.8)	799.9	4 265.8	6 943.6	4 858.8	(19 907.3)	17 727.2
9	Public Service	5 449.9	31 558.7	13 298.2	(4 721.7)	23 247.9	(38 816.8)	14 984.7	(29 062.4)	59 468.7
	Total	(82 962.40)	25 147.40	(472 562.90)	0.00	(272 618.50)	(11 794.30)	(21 497.42)	(64 947.10)	108 185.00

C5 ij (80−85)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(2 528.29)	0.00	242 793.38	0.00	(80 678.49)	(6.10)	14 929.21	(10 270.30)	(9 466.70)
2	Mining & Quarrying	3 933.10	(8.30)	(99 968.08)	(47.50)	25 829.16	0.00	0.20	(258.68)	(0.10)
3	Manufacturing	13 375.47	(99 682.73)	(1 035 406.37)	(3 433.62)	99 604.76	(2 627.58)	19 397.30	(3 274 804.84)	(312 250.25)
4	Electricity, Gas & Water	(0.80)	0.00	0.00	0.00	129.90	0.00	4 773.70	1 471.30	3 882.30
5	Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20 750.70
6	Trade	15 311.70	3 358.70	94 646.60	0.00	44 612.90	0.00	19 404.90	18 006.00	25 524.70
7	Restaurant & Hotel	495.26	(2 479.24)	(1 125.00)	(33.04)	1 422.78	(4 040.23)	(139.16)	(1 399.31)	(932.36)
8	Transport & Communication	(51.34)	(44 553.74)	(1 287.86)	16.15	(138.13)	(4 699.58)	(198.64)	(37 614.36)	(833.17)
9	Public Service	(8 217.94)	(167 587.62)	(4 064.00)	(60.80)	(11 169.28)	(30 114.95)	(3 700.29)	(13 172.96)	(41 845.16)
	Total	22 317.16	(310 952.93)	(804 411.33)	(3 558.81)	79 613.60	(41 488.45)	54 467.23	(3 318 043.15)	(315 170.04)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 3 : Manufacturing)
C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = ΔTi,3

Sector	Δ T	C1	C2	C3	C4	C5
1	299 629.0	101 505.22	65 717.6	30 503.5	105 477.39	(3 574.656)
2	4 269.3	34 708.86	22 471.6	10 430.4	(62 692.75)	(648.792)
3	(672 774.9)	97 110.25	62 872.1	29 182.8	50 117.55	(912 057.636)
4	2 109.7	8 290.93	5 367.8	2 491.5	(14 040.54)	0.000
5	1 894.5	1 635.34	1 058.8	491.4	(1 291.04)	0.000
6	21 230.7	28 624.44	18 532.3	8 602.0	(34 528.05)	0.000
7	(5 635.9)	3 060.25	1 981.3	919.6	(11 446.39)	(150.700)
8	(8 185.3)	15 664.98	10 142.0	4 707.5	(36 603.28)	(2 096.537)
9	18 726.7	7 587.49	4 912.4	2 280.1	5 007.11	(1 060.377)
Total	(338 736.2)	298 187.8	193 055.8	89 608.9	(0.0)	(919 588.7)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 3 : Manufacturing)
C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = ΔTi,3

Sector	Δ T	C1	C2	C3	C4	C5
1	314 781.9	383 541.7	96 368.9	(312 043.1)	226 832.47	(79 918.09)
2	154 460.1	72 043.4	18 101.7	(58 613.3)	294 125.62	(171 197.27)
3	(3 806 688.9)	336 536.8	84 558.4	(273 800.7)	(514 863.74)	(3 439 119.69)
4	(10 252.2)	17 768.6	4 464.5	(14 456.2)	(18 029.11)	0.00
5	(2 186.9)	4 389.5	1 102.9	(3 571.2)	(4 108.10)	0.00
6	34 799.8	69 693.0	17 511.1	(56 701.0)	4 296.76	0.00
7	5 027.3	2 809.7	706.0	(2 285.9)	4 280.85	(483.33)
8	38 049.8	27 542.6	6 920.4	(22 408.2)	26 566.63	(571.58)
9	(8 282.6)	26 947.6	6 770.9	(21 924.2)	(19 101.38)	(975.57)
Total	(3 280 291.6)	941 273.0	236 504.7	(765 803.8)	0.0	(3 692 265.5)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 3 : Manufacturing)
C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = ΔTi,3

Sector	Δ T	C1	C2	C3	C4	C5
1	242 793.4	224 514.2	29 931.9	806 722.2	(1 061 168.3)	242 793.38
2	253 091.0	96 702.2	12 892.2	347 469.4	(104 004.7)	(99 968.08)
3	58 471.5	42 223.3	5 629.2	151 716.4	894 309.1	(1 035 406.37)
4	15 740.2	4 214.1	561.8	15 142.2	(4 177.9)	0.00
5	7 950.6	1 116.0	148.8	4 010.1	2 675.7	0.00
6	94 646.6	32 791.7	4 371.7	117 826.8	(154 990.2)	94 646.60
7	10 434.8	2 212.6	295.0	7 950.2	1 102.1	(1 125.00)
8	25 840.7	18 350.8	2 446.5	65 938.1	(59 608.8)	(1 287.00)
9	47 886.9	8 177.9	1 090.3	29 384.6	13 298.2	(4 064.00)
Total	756 855.8	430 302.9	57 367.4	1 546 159.8	(472 562.9)	(804 411.3)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975
(sector 4: construction)
$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.0	0.00	0.0	0.0	0.00	0.000
2	(13.3)	162.33	(255.2)	34.1	45.46	0.000
3	(1 311.4)	7 205.71	(11 326.4)	1 512.2	1 297.04	0.000
4	113.0	697.42	(1 096.3)	146.4	365.47	0.000
5	2 171.8	186.38	(293.0)	39.1	2 239.27	0.000
6	(3 836.9)	1 815.71	(2 854.0)	381.0	(3 179.62)	0.000
7	(827.8)	336.69	(529.2)	70.7	(705.92)	0.000
8	(1 135.6)	1 400.86	(2 202.0)	294.0	(628.49)	0.000
9	446.0	333.68	(524.5)	70.0	566.79	0.000
Total	(4 394.2)	12 138.8	(19 080.5)	2 547.5	(0.0)	0.0

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980
(sector 4: construction)
$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.0	0.0	0.0	0.0	0.00	0.00
2	457.6	315.2	97.0	106.6	(61.15)	0.00
3	4 453.4	13 560.6	4 171.1	4 585.0	(3 722.80)	(14 140.50)
4	16 035.0	1 456.1	447.9	492.3	13 638.71	0.00
5	184.9	1 670.8	513.9	564.9	(2 564.77)	0.00
6	(142.0)	1 318.5	405.6	445.8	(2 311.86)	0.00
7	200.5	174.9	53.8	59.1	(67.69)	(19.60)
8	(1 642.0)	2 109.3	648.8	713.2	(5 067.62)	(45.60)
9	1 689.7	931.2	286.4	314.9	157.18	0.00
Total	21 237.1	21 536.6	6 624.4	7 281.7	(0.0)	(14 205.7)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985
(sector 4: construction)
$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.0	0.0	0.0	0.0	0.0	0.00
2	12 023.7	213.4	512.8	719.0	10 626.0	(47.50)
3	55 285.1	8 943.7	21 491.4	30 133.3	(1 849.7)	(3 433.62)
4	18 755.4	4 003.9	9 621.3	13 490.1	(8 360.0)	0.00
5	2 844.1	645.4	1 550.8	2 174.4	(1 526.4)	0.00
6	9 128.4	446.9	1 073.8	1 505.6	6 102.2	0.00
7	(351.3)	111.1	266.9	374.2	(1 070.5)	(33.04)
8	3 646.9	418.0	1 004.4	1 408.3	799.9	16.15
9	(17.0)	703.7	1 690.9	2 370.9	(4 721.7)	(60.80)
Total	101 315.2	15 486.0	37 212.3	52 175.8	0.0	(3 558.8)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 5: Construction)
$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = \Delta Ti,5$

Sector	ΔT	C1	C2	C3	C4	C5
1	(8 218.8)	18 821.42	24 596.8	(3 569.8)	(48 067.29)	0.000
2	14 284.8	6 863.01	8 968.9	(1 301.7)	(245.48)	0.000
3	162 541.4	42 146.04	55 078.7	(7 993.7)	73 310.31	0.000
4	(388.9)	312.64	408.6	(59.3)	(1 050.81)	0.000
5	1 220.4	234.48	306.4	(44.5)	723.96	0.000
6	15 779.0	22 669.28	29 625.4	(4 299.6)	(32 216.12)	0.000
7	4 127.4	1 220.49	1 595.0	(231.5)	1 543.39	0.000
8	20 486.9	10 392.22	13 581.1	(1 971.0)	(1 515.37)	0.000
9	12 494.5	2 350.80	3 072.2	(445.9)	7 517.42	0.000
Total	222 326.7	105 010.4	137 233.2	(19 916.9)	(0.0)	0.0

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 5: Construction)
$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = Ti,5$

Sector	ΔT	C1	C2	C3	C4	C5
1	32 068.0	32 551.8	(4 814.6)	7 497.5	(3 166.63)	(0.20)
2	19 464.7	22 212.3	(3 285.3)	5 116.1	(3 833.91)	(744.50)
3	209 130.8	181 183.5	(26 797.8)	41 731.3	22 879.47	(9 865.70)
4	480.9	389.7	(57.6)	89.8	59.11	0.00
5	382.6	1 197.2	(177.1)	275.7	(913.27)	0.00
6	95 447.0	54 574.5	(8 071.8)	12 569.9	36 374.42	0.00
7	(3 311.7)	4 900.0	(724.7)	1 128.6	(8 423.63)	(191.90)
8	3 962.8	32 950.2	(4 873.5)	7 589.3	(31 634.77)	(68.50)
9	1 058.7	12 157.7	(1 798.2)	2 800.2	(11 340.81)	(760.30)
Total	358 683.8	342 117.0	(50 600.5)	78 798.4	0.0	(11 631.1)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 5: Construction)
$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = \Delta Ti,5$

Sector	ΔT	C1	C2	C3	C4	C5
1	(80 678.5)	18 744.7	22 745.4	(11 217.0)	(30 273.2)	(80 678.49)
2	25 829.2	12 428.1	15 080.6	(7 437.0)	(20 071.6)	25 829.16
3	99 604.8	113 114.8	137 256.9	(67 688.6)	(182 683.1)	99 604.76
4	129.9	245.4	297.8	(146.9)	(396.4)	129.90
5	1 250.2	516.6	626.9	(309.2)	415.8	0.00
6	44 612.9	40 463.4	49 099.5	(24 213.6)	(65 349.4)	44 612.90
7	1 422.8	1 098.7	1 333.2	(657.5)	(1 774.4)	1 422.78
8	24 817.0	12 810.6	15 544.7	(7 665.9)	4 265.8	(138.13)
9	19 828.5	4 798.6	5 822.8	(2 871.5)	23 247.9	(11 169.28)
Total	136 816.7	204 220.9	247 807.8	(122 207.1)	(272 618.5)	79 613.6

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 6: Trade)
$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$

Sector	Δ T	C1	C2	C3	C4	C5
1	(137.4)	471.96	(509.0)	(363.5)	263.14	0.000
2	0.0	0.00	0.0	0.0	0.00	0.000
3	(13 620.9)	12 442.40	(13 419.3)	(9 582.4)	(3 061.56)	0.000
4	(4 399.7)	1 647.36	(1 776.7)	(1 268.7)	(3 001.65)	0.000
5	487.1	865.77	(933.7)	(666.8)	1 221.84	0.000
6	(5 827.0)	2 765.65	(2 982.8)	(2 129.9)	(3 479.91)	0.000
7	8 738.7	1 334.72	(1 439.5)	(1 027.9)	9 871.42	0.000
8	1 683.4	5 465.16	(5 894.3)	(4 208.9)	6 321.45	0.000
9	(14 458.4)	7 428.16	(8 011.4)	(5 720.7)	(8 154.43)	0.000
Total	(27 534.2)	32 421.2	(34 966.8)	(24 968.9)	(19.7)	0.0

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 6: Trade)
$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$

Sector	Δ T	C1	C2	C3	C4	C5
1	(1 368.2)	857.4	(1 349.4)	1 457.6	(2 333.74)	0.00
2	(2.5)	11.8	(18.6)	20.0	(15.78)	0.00
3	(16 315.0)	16 619.1	(26 156.7)	28 253.4	(25 435.41)	(9 595.40)
4	5 541.4	646.5	(1 017.6)	1 099.1	4 813.30	0.00
5	3 525.8	2 015.1	(3 171.6)	3 425.8	1 256.44	0.00
6	(1 220.7)	2 018.7	(3 177.2)	3 431.8	(3 494.03)	0.00
7	(3 805.5)	7 887.1	(12 413.5)	13 408.5	(12 088.98)	(598.70)
8	7 095.8	11 887.8	(18 710.1)	20 209.8	(3 302.33)	(2 989.40)
9	43 894.7	6 135.3	(9 656.4)	10 430.4	40 600.53	(3 615.20)
Total	37 345.8	48 078.9	(75 671.0)	81 736.6	0.0	(16 798.7)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 6: Trade)
$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$

Sector	Δ T	C1	C2	C3	C4	C5
1	(6.1)	14.0	83.8	(100.1)	2.3	(8.10)
2	(15.4)	3.7	22.4	(26.7)	(14.8)	0.00
3	(2 627.6)	4 563.6	27 399.3	(32 714.7)	751.8	(2 627.58)
4	4 264.0	1 435.6	8 619.2	(10 291.3)	4 520.5	0.00
5	2 094.5	1 494.4	8 972.2	(10 712.8)	2 340.7	0.00
6	4 594.5	466.6	2 801.6	(3 345.1)	4 671.4	0.00
7	3 410.6	2 161.9	12 980.0	(15 498.1)	7 807.0	(4 040.23)
8	1 174.3	6 493.0	38 982.8	(46 545.5)	6 943.6	(4 699.58)
9	(70 994.9)	12 522.9	75 185.7	(89 771.7)	(38 816.8)	(30 114.95)
Total	(58 086.1)	29 155.8	175 047.0	(209 006.1)	(11 794.3)	(41 488.5)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 7: Restaurant & Hotel)
$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$

Sector	Δ T	C1	C2	C3	C4	C5
1	(43 642.5)	28 438.06	(32 784.2)	(13 442.6)	(25 803.47)	(50.300)
2	0.0	0.00	0.0	0.0	0.00	0.000
3	11 862.2	16 467.62	(18 984.3)	(7 784.2)	23 119.41	(956.300)
4	(2 863.6)	1 442.95	(1 663.5)	(682.1)	(1 961.00)	0.000
5	919.5	387.79	(447.1)	(183.3)	1 162.07	0.000
6	(3 738.8)	5 507.24	(6 348.9)	(2 603.3)	(293.88)	0.000
7	123.3	201.41	(232.2)	(95.2)	252.79	(3.500)
8	(1 985.9)	3 033.19	(3 496.7)	(1 433.8)	(73.26)	(15.300)
9	2 243.5	2 005.09	(2 311.5)	(947.8)	3 517.34	(19.600)
Total	(37 082.3)	57 483.4	(66 268.4)	(27 172.2)	(80.0)	(1 045.0)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 7: Restaurant & Hotel)
$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$

Sector	Δ T	C1	C2	C3	C4	C5
1	39 853.4	30 527.0	13 098.2	(13 410.8)	10 035.85	(396.80)
2	(79.6)	47.9	20.5	(21.0)	(126.99)	0.00
3	8 307.8	40 456.1	17 358.5	(17 772.7)	(19 209.81)	(12 524.17)
4	8 533.4	1 158.9	497.2	(509.1)	7 386.38	0.00
5	2 896.7	1 322.3	567.4	(580.9)	1 587.91	0.00
6	6 848.3	8 726.5	3 744.3	(3 833.6)	(1 788.84)	0.00
7	7.6	476.9	204.6	(209.5)	(434.88)	(29.47)
8	5 746.4	4 859.3	2 085.0	(2 134.7)	969.59	(32.67)
9	6 517.8	5 346.2	2 293.9	(2 348.7)	1 580.80	(354.50)
Total	78 631.9	92 921.0	39 869.6	(40 82[illegible].1)	0.0	(13 337.6)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 7: Restaurant & Hotel)
$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$

Sector	Δ T	C1	C2	C3	C4	C5
1	14 929.2	19 785.1	15 254.2	508.3	(35 547.6)	14 929.21
2	0.3	0.1	0.1	0.0	(0.1)	0.20
3	59 848.9	19 172.1	14 781.6	492.5	6 005.4	19 397.30
4	8 852.0	2 269.9	1 750.1	58.3	0.0	4 773.70
5	(11 656.4)	1 107.0	853.5	28.4	(13 645.4)	0.00
6	27 752.3	4 646.0	3 582.1	119.4	0.0	19 404.90
7	2 032.5	180.8	139.4	4.6	1 846.8	(139.16)
8	10 074.0	3 013.2	2 323.2	77.4	4 858.8	(198.64)
9	17 441.1	3 426.7	2 642.0	88.0	14 984.7	(3 700.29)
Total	129 273.8	53 600.9	41 326.1	1 377.0	(21 497.4)	54 467.2

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 8: Tra(sector 8: Transport & Communication)
$C1_{i,8} + C2_{i,8} + C3_{i,8} + C4_{i,8} + C5_{i,8} = \Delta T_{i,8}$

Sector	Δ T	C1	C2	C3	C4	C5
1	(3 577.5)	1 430.92	(1 118.9)	(33.8)	(3 852.88)	(2.927)
2	(107.3)	63.13	(49.4)	(1.5)	(119.38)	(0.151)
3	(32 474.9)	42 419.60	(33 168.7)	(1 001.2)	(27 506.47)	(13 218.054)
4	(840.5)	1 034.11	(808.6)	(24.4)	(1 041.61)	0.000
5	4 781.6	769.57	(601.7)	(18.2)	4 631.94	0.000
6	(6 959.9)	4 773.75	(3 732.7)	(112.7)	(7 888.29)	0.000
7	3 060.9	547.12	(427.8)	(12.9)	2 979.10	(24.600)
8	15 830.5	5 997.24	(4 689.4)	(141.6)	14 859.77	(195.554)
9	18 335.2	2 155.40	(1 685.3)	(50.9)	17 937.82	(21.764)
Total	(1 951.8)	59 190.8	(46 282.5)	(1 397.1)	0.0	(13 463.1)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 8: Tra(sector 8: Transport & Communication)
$C1_{i,8} + C2_{i,8} + C3_{i,8} + C4_{i,8} + C5_{i,8} = \Delta T_{i,8}$

Sector	Δ T	C1	C2	C3	C4	C5
1	9 398.5	709.4	(130.3)	353.4	8 463.83	2.08
2	101.7	61.6	(11.3)	30.7	39.75	(19.00)
3	(134 023.1)	72 926.2	(13 391.6)	36 328.9	(97 794.03)	(132 092.69)
4	1 829.0	1 555.7	(285.7)	775.0	(216.06)	0.00
5	(5 691.3)	4 393.8	(806.8)	2 188.8	(11 467.04)	0.00
6	(3 601.8)	5 338.5	(980.3)	2 659.4	(10 619.37)	0.00
7	3 779.8	2 935.8	(539.1)	1 462.5	320.67	(400.15)
8	45 023.5	21 530.8	(3 953.7)	10 725.8	32 424.90	(15 704.33)
9	95 424.3	15 277.3	(2 805.4)	7 610.5	78 847.35	(3 505.46)
Total	12 240.6	124 729.2	(22 904.2)	62 135.1	(0.0)	(151 719.5)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 8: Tra(sector 8: Transport & Communication)
$C1_{i,8} + C2_{i,8} + C3_{i,8} + C4_{i,8} + C5_{i,8} = \Delta T_{i,8}$

Sector	Δ T	C1	C2	C3	C4	C5
1	(10 270.3)	2 294.2	1 964.3	(1 672.4)	(2 586.0)	(10 270.30)
2	(256.7)	48.5	41.5	(35.3)	(54.6)	(258.68)
3	(3 274 804.8)	25 999.7	22 261.1	(18 953.3)	(29 307.5)	(3 274 804.84)
4	1 471.3	960.1	822.1	(699.9)	(1 082.3)	1 471.30
5	19 075.3	357.8	306.3	(260.8)	18 672.0	0.00
6	18 006.0	1 153.0	987.2	(840.5)	(1 299.7)	18 006.00
7	501.9	1 969.7	1 686.5	(1 435.9)	(319.1)	(1 399.31)
8	(33 688.6)	20 965.8	17 951.0	(15 283.7)	(19 907.3)	(37 614.36)
9	(11 819.9)	26 982.7	23 102.7	(19 669.9)	(29 062.4)	(13 172.96)
Total	(3 291 987.8)	80 731.6	69 122.7	(58 851.6)	(64 947.1)	(3 318 043.2)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1971–1975*
(sector 9: Public Service)
C1i,9 + C2i,9 + C3i,9 + C4i,9 + C5i,9 = Δ Ti,9

Sector	ΔT	C1	C2	C3	C4	C5
1	2 332.2	1 133.31	1 104.1	(1 532.2)	1 630.20	(3.200)
2	0.0	0.00	0.0	0.0	0.00	0.000
3	7 563.8	11 937.37	11 630.0	(16 139.4)	3 092.43	(2 956.561)
4	(4 622.8)	2 134.36	2 079.4	(2 885.7)	(5 950.89)	0.000
5	19 564.4	5 979.21	5 825.2	(8 083.9)	15 843.87	0.000
6	(2 712.4)	2 759.63	2 688.6	(3 731.0)	(4 429.57)	0.000
7	2 353.9	868.77	846.4	(1 174.6)	1 828.01	(14.700)
8	(1 896.8)	3 583.32	3 491.0	(4 844.7)	(4 050.30)	(76.165)
9	(4 341.9)	6 090.43	5 933.6	(8 234.3)	(7 963.74)	(167.866)
Total	18 240.5	34 486.4	33 598.3	(46 625.7)	0.0	([illegible]5)

*1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1975–1980*
(sector 9: Public Service)
C1i,9 + C2i,9 + C3i,9 + C4i,9 + C5i,9 = Δ Ti,9

Sector	ΔT	C1	C2	C3	C4	C5
1	8 836.9	3 653.9	1 633.2	9 773.2	(6 224.91)	1.43
2	0.0	0.0	0.0	0.0	0.00	0.00
3	196 598.7	30 061.7	13 437.0	80 406.4	123 956.58	(51 262.97)
4	13 715.0	1 482.5	662.7	3 965.4	7 604.40	0.00
5	2 638.1	23 612.5	10 554.3	63 156.7	(94 685.48)	0.00
6	(4 843.2)	3 870.7	1 730.1	10 353.0	(20 797.06)	0.00
7	2 548.9	3 147.1	1 406.7	8 417.7	(9 954.58)	(468.07)
8	5 940.7	6 044.3	2 701.7	16 166.6	(18 664.55)	(307.27)
9	47 863.3	9 627.1	4 303.1	25 749.7	18 765.39	(10 582.02)
Total	273 298.5	81 499.9	36 428.8	217 988.9	(0.2)	(62 618.9)

*1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

Decomposition of Changes Intermediate Demand: Indonesia, 1980–1985*
(sector 9: Public Service)
C1i,9 + C2i,9 + C3i,9 + C4i,9 + C5i,9 = Δ Ti,9

Sector	ΔT	C1	C2	C3	C4	C5
1	(9 466.7)	3 239.2	(2 395.9)	(1 857.9)	1 014.6	(9 466.70)
2	(0.1)	0.0	(0.0)	(0.0)	0.0	(0.10)
3	(312 250.3)	64 627.5	(47 802.4)	(37 068.7)	20 243.6	(312 250.25)
4	3 882.3	3 510.5	(2 596.6)	(2 013.6)	1 099.6	3 882.30
5	20 750.7	9 125.8	(6 750.0)	(5 234.3)	2 858.5	20 750.70
6	25 524.7	352.2	(260.5)	(202.0)	110.3	25 524.70
7	4 168.1	1 794.2	(1 327.1)	(1 029.1)	5 662.5	(932.36)
8	15 783.8	3 544.2	(2 621.5)	(2 032.9)	17 727.2	(833.17)
9	12 562.0	16 158.7	(11 951.9)	(9 268.2)	59 468.7	(41 845.16)
Total	(239 045.3)	102 352.4	(75 705.9)	(58 706.7)	108 185.0	(315 170.0)

*1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m(1971 constant price)

#4

C1ij =T ij (71) * (g)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	168 031.04	42.09	101 505.22	0.00	18 821.42	471.96	28 438.06	1 430.[illegible]	1 133.31
2	Mining & Quarrying	640.31	474.97	34 708.86	162.33	6 863.01	0.00	0.00	63.13	0.00
3	Manufacturing	19 443.69	2 413.93	97 110.25	7 205.71	42 146.04	12 442.40	16 467.62	42 419.60	11 937.37
4	Electricity, Gas & Water	889.82	2 453.01	8 290.93	597.42	312.64	1 647.36	1 442.35	1 034.11	2 134.36
5	Construction	2 894.91	174.36	1 635.34	186.38	234.48	865.77	387.79	769.57	5 979.21
6	Trade	15 258.15	553.13	28 624.44	1 815.71	22 669.28	2 765.65	5 507.24	4 773.75	2 759.63
7	Restaurant & Hotel	1 926.93	465.95	3 060.25	336.69	1 220.49	1 334.72	201.41	547.12	868.77
8	Transport & Communication	10 293.01	859.76	15 664.98	1 400.86	10 392.22	5 465.16	3 033.19	5 997.24	3 583.32
9	Public Service	3 565.28	1 196.44	7 587.49	333.68	2 350.80	7 426.16	2 005.09	2 155.40	6 090.43
	Total	222 941.14	8 633.63	298 187.75	12 138.78	105 010.38	32 421.19	57 483.35	59 190.84	34 486.40

C2i,j = T ij(71) * (gj−g)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(108 222.8)	52.1	65 717.6	0.0	24 596.8	(509.0)	(32 784.2)	(1 118.9)	1 104.1
2	Mining & Quarrying	(412.4)	587.6	22 471.6	(255.2)	8 968.9	0.0	0.0	(49.4)	0.0
3	Manufacturing	(12 523.0)	2 986.5	62 872.1	(11 326.4)	55 078.7	(13 419.3)	(18 984.3)	(33 168.7)	11 630.0
4	Electricity, Gas & Water	(573.1)	3 034.8	5 367.8	(1 096.3)	408.6	(1 776.7)	(1 663.5)	(808.6)	2 079.4
5	Construction	(1 864.5)	215.7	1 058.8	(293.0)	306.4	(933.7)	(447.1)	(601.7)	5 825.2
6	Trade	(9 825.9)	684.3	18 532.3	(2 854.0)	29 625.4	(2 982.8)	(6 348.9)	(3 732.7)	2 688.6
7	Restaurant & Hotel	(1 241.1)	576.5	1 981.3	(529.2)	1 595.0	(1 439.5)	(232.2)	(427.8)	846.4
8	Transport & Communication	(6 629.4)	1 063.7	10 142.0	(2 202.0)	13 581.1	(5 894.3)	(3 496.7)	(4 689.4)	3 491.0
9	Public Service	(2 296.3)	1 480.2	4 912.4	(524.5)	3 072.2	(8 011.4)	(2 311.5)	(1 685.3)	5 933.6
	Total	(143 588.42)	10 681.43	193 055.82	(19 080.46)	137 233.18	(34 966.79)	(66 268.43)	(46 282.48)	33 598.33

C3i,j = T ij(71) * (ij−gj)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(134 724.5)	152.5	30 503.5	0.0	(3 569.8)	(363.5)	(13 442.6)	(33.8)	(1 532.2)
2	Mining & Quarrying	(513.4)	1 720.9	10 430.4	34.1	(1 301.7)	0.0	0.0	(1.5)	0.0
3	Manufacturing	(15 589.6)	8 746.3	29 182.8	1 512.2	(7 993.7)	(9 582.4)	(7 784.2)	(1 001.2)	(16 139.4)
4	Electricity, Gas & Water	(713.4)	8 887.9	2 491.5	146.4	(59.3)	(1 268.7)	(682.1)	(24.4)	(2 885.7)
5	Construction	(2 321.1)	631.7	491.4	39.1	(44.5)	(666.8)	(183.3)	(18.2)	(8 083.9)
6	Trade	(12 232.1)	2 004.1	8 602.0	381.0	(4 299.6)	(2 129.9)	(2 603.3)	(112.7)	(3 731.0)
7	Restaurant & Hotel	(1 545.0)	1 688.3	919.6	70.7	(231.5)	(1 027.9)	(95.2)	(12.9)	(1 174.6)
8	Transport & Communication	(8 252.8)	3 115.1	4 707.5	294.0	(1 971.0)	(4 208.9)	(1 433.8)	(141.6)	(4 844.7)
9	Public Service	(2 858.6)	4 335.0	2 280.1	70.0	(445.9)	(5 720.7)	(947.8)	(50.9)	(8 234.3)
	Total	(178 750.52)	31 282.04	89 608.93	2 547.48	(19 916.86)	(24 968.90)	(27 172.22)	(1 397.06)	(46 625.73)

C4I,j = T ij(71) * (Iij−Ij)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(6 441.04)	(338.14)	105 477.39	0.00	(48 067.29)	263.14	(25 803.47)	(3 852.88)	1 630.20
2	Mining & Quarrying	(1 504.22)	(3 372.45)	(62 692.75)	45.46	(245.48)	0.00	0.00	(119.38)	0.00
3	Manufacturing	9 594.83	2 178.45	50 117.55	1 297.04	73 310.31	(3 061.56)	23 119.41	(27 506.47)	3 092.43
4	Electricity, Gas & Water	(1 393.78)	(15 607.68)	(14 040.54)	365.47	(1 050.81)	(3 001.65)	(1 961.00)	(1 041.61)	(5 950.89)
5	Construction	4 127.59	553.89	(1 291.04)	2 239.27	723.96	1 221.84	1 162.07	4 631.94	15 643.87
6	Trade	(8 942.78)	(1 287.80)	(34 528.05)	(3 179.62)	(32 216.12)	(3 479.91)	(293.88)	(7 888.29)	(4 429.57)
7	Restaurant & Hotel	(3 759.38)	(3 146.69)	(11 446.39)	(705.92)	1 543.39	9 871.42	252.79	2 979.10	1 828.01
8	Transport & Communication	(6 427.48)	(4 699.27)	(36 603.28)	(628.49)	(1 515.37)	6 321.45	(73.26)	14 859.77	(4 050.30)
9	Public Service	14 746.27	25 719.68	5 007.11	566.79	7 517.42	(8 154.43)	3 517.34	17 937.82	(7 963.74)
	Total	0.0000	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(19.7000)	(80.0000)	0.0000	0.0000

C5 ij (71−75)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(1 398.599)	0.000	(3 574.656)	0.000	0.000	0.000	(50.300)	(2.927)	(3.200)
2	Mining & Quarrying	(1.289)	(0.275)	(648.792)	0.000	0.000	0.000	0.000	(0.151)	0.000
3	Manufacturing	(1 139.980)	(87.532)	(912 057.636)	0.000	0.000	0.000	(956.300)	(13 218.054)	(2 956.561)
4	Electricity, Gas & Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
5	Construction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
6	Trade	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
7	Restaurant & Hotel	(4.900)	(0.500)	(150.700)	0.000	0.000	0.000	(3.500)	(24.600)	(14.700)
8	Transport & Communication	(75.740)	(2.877)	(2 096.537)	0.000	0.000	0.000	(15.300)	(195.554)	(76.165)
9	Public Service	(10.447)	18.563	(1 060.377)	0.000	0.000	0.000	(19.600)	(21.764)	(167.866)
	Total	(2 630.954)	(72.620)	(919 588.700)	0.000	0.000	0.000	(1 045.000)	(13 463.050)	(3 218.492)

1930 - 1985

C1ij =T ij (80) * (g)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	112 845.5	1.1	224 514.2	0.0	18 744.7	14.0	19 785.1	2 294.2	3 239.2
2	Mining & Quarrying	24.9	4 293.7	96 702.2	213.4	12 428.1	3.7	0.1	48.5	0.0
3	Manufacturing	36 694.9	25 754.9	42 223.3	8 943.7	113 114.8	4 563.6	19 172.1	25 999.7	64 627.5
4	Electricity, Gas & Water	438.7	40.8	4 214.1	4 003.9	245.4	1 435.6	2 269.9	960.1	3 510.5
5	Construction	2 252.6	2 688.4	1 116.0	645.4	516.6	1 494.4	1 107.0	357.8	9 125.8
6	Trade	9 477.3	536.0	32 791.7	446.9	40 463.4	466.6	4 646.0	1 153.0	352.2
7	Restaurant & Hotel	253.5	2 387.9	2 212.6	111.1	1 098.7	2 161.9	180.8	1 969.7	1 794.2
8	Transport & Communication	8 241.7	28.9	18 350.8	418.0	12 810.6	6 493.0	3 013.2	20 965.8	3 544.2
9	Public Service	10 089.3	23 599.0	8 177.9	703.7	4 798.6	12 522.9	3 426.7	26 982.7	16 158.7
	Total	180 318.37	59 330.87	430 302.86	15 486.00	204 220.91	29 155.78	53 600.90	80 731.56	102 352.37

C2i,j = T ij(80) * (gj−g)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(149 538.9)	(0.5)	29 931.9	0.0	22 745.4	83.8	15 254.2	1 964.3	(2 395.9)
2	Mining & Quarrying	(33.0)	(2 051.4)	12 892.2	512.8	15 080.6	22.4	0.1	41.5	(0.0)
3	Manufacturing	(48 626.9)	(12 304.9)	5 629.2	21 491.4	137 256.9	27 399.3	14 781.6	22 261.1	(47 802.4)
4	Electricity, Gas & Water	(581.4)	(19.5)	561.8	9 621.3	297.8	8 619.2	1 750.1	822.1	(2 596.6)
5	Construction	(2 985.0)	(1 284.4)	148.8	1 550.8	626.9	8 972.2	853.5	306.3	(6 750.0)
6	Trade	(12 559.0)	(256.1)	4 371.7	1 073.8	49 099.5	2 801.6	3 582.1	987.2	(260.5)
7	Restaurant & Hotel	(335.9)	(1 140.9)	295.0	266.9	1 333.2	12 980.0	139.4	1 686.5	(1 327.1)
8	Transport & Communication	(10 921.6)	(13.8)	2 446.5	1 004.4	15 544.7	38 982.8	2 323.2	17 951.0	(2 621.5)
9	Public Service	(13 370.0)	(11 274.9)	1 090.3	1 690.9	5 822.8	75 185.7	2 642.0	23 102.7	(11 951.9)
	Total	(238 951.65)	(28 346.51)	57 367.36	37 212.25	247 807.80	175 046.97	41 326.13	69 122.72	(75 705.94)

C3i,j = T ij(80) * (lj−gj)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(24 261.9)	(2.1)	806 722.2	0.0	(11 217.0)	(100.1)	508.3	(1 672.4)	(1 857.9)
2	Mining & Quarrying	(5.3)	(7 984.3)	347 469.4	719.0	(7 437.0)	(26.7)	0.0	(35.3)	(0.0)
3	Manufacturing	(7 889.5)	(47 891.7)	151 716.4	30 133.3	(67 688.6)	(32 714.7)	492.5	(18 953.3)	(37 068.7)
4	Electricity, Gas & Water	(94.3)	(75.9)	15 142.2	13 490.1	(146.9)	(10 291.3)	58.3	(699.9)	(2 013.6)
5	Construction	(484.3)	(4 999.1)	4 010.1	2 174.4	(309.2)	(10 712.8)	28.4	(260.8)	(5 234.3)
6	Trade	(2 037.6)	(996.8)	117 826.8	1 505.6	(24 213.6)	(3 345.1)	119.4	(840.5)	(202.0)
7	Restaurant & Hotel	(54.5)	(4 440.3)	7 950.2	574.2	(657.5)	(15 498.1)	4.6	(1 435.9)	(1 029.1)
8	Transport & Communication	(1 772.0)	(53.7)	65 938.1	1 408.3	(7 665.9)	(46 545.5)	77.4	(15 283.7)	(2 032.9)
9	Public Service	(2 169.2)	(43 882.8)	29 384.6	2 370.9	(2 871.5)	(89 771.7)	88.0	(19 669.9)	(9 268.2)
	Total	(38 768.73)	(110 326.86)	1 546 159.79	52 175.75	(122 207.11)	(209 006.05)	1 376.97	(58 851.77)	(58 706.73)

C4I,J = T ij(75) * (fij−fj)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(98 025.37)	(162.04)	226 832.47	0.00	(3 166.63)	(2 333.74)	10 035.85	8 463.83	(6 224.91)
2	Mining & Quarrying	(326.01)	16 385.19	294 125.62	(61.15)	(3 833.91)	(15.78)	(126.99)	39.75	0.00
3	Manufacturing	84 290.96	34 762.78	(514 863.74)	(3 722.80)	22 879.47	(25 435.41)	(19 209.81)	(97 794.03)	123 956.58
4	Electricity, Gas & Water	509.14	(23 715.17)	(18 029.11)	13 638.71	59.11	4 813.30	7 386.38	(216.06)	7 604.40
5	Construction	(5 755.40)	4 962.46	(4 108.10)	(2 564.77)	(913.27)	1 256.44	1 587.91	(11 467.04)	(94 685.48)
6	Trade	(1 620.03)	(10 616.95)	4 296.76	(2 311.86)	36 374.42	(3 494.03)	(1 788.84)	(10 619.37)	(20 797.06)
7	Restaurant & Hotel	(1 150.89)	7 101.55	4 280.85	(67.69)	(8 423.63)	(12 088.98)	(434.88)	320.67	(9 954.58)
8	Transport & Communication	7 939.06	(10 904.99)	26 566.63	(5 067.62)	(31 634.77)	(3 302.33)	969.59	32 424.90	(18 664.55)
9	Public Service	14 138.54	(17 812.83)	(19 101.38)	157.18	(11 340.81)	40 600.53	1 580.80	78 847.35	18 765.39
	Total	(0.0000)	0.0000	0.0000	(0.0000)	0.0000	0.0000	0.0000	(0.0000)	(0.2000)

C5 ij (75−80)

Sector	Description	1	2	3	4	5	6	7	8	9
1	Agriculture	(1 611.90)	0.00	(79 918.09)	0.00	(0.20)	0.00	(396.80)	2.08	1.43
2	Mining & Quarrying	0.00	(0.80)	(171 197.27)	0.00	(744.50)	0.00	0.00	(19.00)	0.00
3	Manufacturing	(36 553.31)	(34 390.94)	(3 439 119.69)	(14 140.50)	(9 865.70)	(9 595.40)	(12 524.17)	(132 092.69)	(51 262.97)
4	Electricity, Gas & Water	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
5	Construction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
6	Trade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
7	Restaurant & Hotel	(38.01)	(593.21)	(483.33)	(19.60)	(191.90)	(598.70)	(29.47)	(400.15)	(468.07)
8	Transport & Communication	(35.85)	(200.93)	(571.58)	(45.60)	(68.50)	(2 989.40)	(32.67)	(15 704.33)	(307.27)
9	Public Service	(1.99)	(51 752.37)	(975.57)	0.00	(760.30)	(3 615.20)	(354.50)	(3 505.46)	(10 582.02)
	Total	(38 241.06)	(86 938.24)	(3 692 265.54)	(14 205.70)	(11 631.10)	(16 798.70)	(13 337.61)	(151 719.55)	(62 618.91)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 1 : Rice)

$$C1i,1 + C2i,1 + C3i,1 + C4i,1 + C5i,1 = \Delta Ti,1$$

Sector	Δ T	C1	C2	C3	C4	C5
1	5 291.40	2 411.43	(1 394.62)	(1 363.21)	5 637.81	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	1 238.65	118.89	364.19	(67.21)	822.78	0.00
5	34.10	13.36	28.82	(7.55)	9.52	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.00	0.00	0.00	0.00	0.00
10	(1 054.00)	421.77	(990.55)	(238.43)	(1 166.71)	(37.20)
11	433.80	0.00	0.00	0.00	0.00	0.00
12	(148.80)	856.58	489.57	(484.23)	(2 034.05)	0.00
13	3 358.70	287.99	(705.47)	(162.81)	756.17	0.00
14	4 345.10	0.00	0.00	0.00	0.00	0.00
15	15 225.90	885.61	274.24	(500.65)	1 621.52	0.00
16	(14 602.30)	3 921.76	2 719.47	(2 217.02)	(5 953.43)	0.00
18	(12 302.50)	0.00	0.00	0.00	0.00	0.00
Total	1 785.35	8 917.38	785.66	(5 041.11)	(306.40)	(37.20)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 1 : Rice)

$$C1i,1 + C2i,1 + C3i,1 + C4i,1 + C5i,1 = \Delta Ti,1$$

Sector	Δ T	C1	C2	C3	C4	C5
1	3 792.10	3 110.64	(12 871.23)	13 031.73	520.96	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	205.20	287.25	(1 188.57)	1 203.39	(96.87)	0.00
5	34.10	11.89	(49.21)	49.83	(11.91)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.00	0.00	0.00	0.00	0.00
10	(1 054.00)	15.04	(62.23)	63.01	(41.22)	(15 358.24)
11	433.80	0.00	0.00	0.00	0.00	0.00
12	(148.80)	112.97	(467.44)	473.27	86.00	0.00
13	3 358.70	391.86	(1 621.44)	1 641.65	2 189.12	0.00
14	4 345.10	0.00	0.00	0.00	0.00	0.00
15	15 225.90	1 032.06	(4 270.48)	4 323.73	(3 627.21)	0.00
16	(14 602.30)	1 342.73	(5 555.96)	5 625.24	562.69	0.00
18	(12 302.50)	75.30	(311.56)	315.44	(109.38)	0.00
Total	(747.40)	6 379.73	(26 398.12)	26 727.28	(527.80)	(15 358.24)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 2 : Other farm food crops)

$$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$$

Sector	Δ T	C1	C2	C3	C4	C5
1	(79 204.400)	108 825.76	(72 196.70)	(94 263.9)	(21 568.76)	(0.8000)
2	19 208.078	9 150.32	(6 070.47)	(7 925.9)	24 058.87	(4.7216)
3	(103.200)	67.20	(44.58)	(58.2)	(67.51)	(0.1000)
4	(1 066.500)	742.93	(492.87)	(643.5)	(673.04)	0.0000
5	34.100	481.60	(319.50)	(417.2)	(851.94)	0.0000
6	0.000	0.00	0.00	0.0	0.00	0.0000
7	(34.700)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.000)	85.87	(56.96)	(74.4)	2 770.68	(1.5000)
11	433.800	130.67	(86.69)	(113.2)	(275.90)	0.0000
12	(148.800)	238.93	(158.51)	(207.0)	1 195.74	0.0000
13	3 358.700	3 415.97	(2 266.21)	(2 958.9)	(2 332.28)	0.0000
14	4 345.100	276.26	(183.28)	(239.3)	(593.69)	0.0000
15	15 225.900	2 404.25	(1 595.01)	(2 082.5)	(2 122.50)	(1.3165)
16	(14 602.300)	179.20	(118.88)	(155.2)	612.40	(0.2922)
18	(12 302.500)	78.40	(52.01)	(67.9)	(152.18)	0.0000
Total	(65 910.722)	126 077.344	(83 641.673)	(109 207.071)	(0.100)	(8.730)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 2 : Other farm food crops)

$$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$$

Sector	ΔT	C1	C2	C3	C4	C5
1	998.80	69 492.44	(13 158.69)	(64 811.55)	9 477.40	(0.80)
2	(16 509.17)	14 312.08	(2 710.05)	(13 348.05)	(14 534.18)	(228.97)
3	9.71	25.17	(4.77)	(23.48)	12.87	(0.09)
4	2 800.20	302.30	(57.24)	(281.93)	2 837.08	0.00
5	34.10	59.90	(11.34)	(55.87)	213.01	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.03	(0.01)	(0.03)	(0.10)	0.00
10	(1 054.00)	967.35	(183.17)	(902.19)	(2 687.89)	(105.58)
11	433.80	1.60	(0.30)	(1.50)	(4 70)	0.00
12	(148.80)	559.48	(105.94)	(521.80)	(135.25)	0.00
13	3 358.70	1 639.50	(310.45)	(1 529.07)	2 804.11	0.00
14	4 345.10	0.00	0.00	0.00	0.00	0.00
15	15 225.90	996.48	(188.69)	(929.36)	688.17	(0.33)
16	(14 602.30)	326.52	(61.83)	(304.52)	1 155.53	0.04
18	(12 302.50)	5.34	(1.01)	(4.98)	203.95	0.00
Total	(17 445.16)	88 688.20	(16 793.49)	(82 714.31)	(0.00)	(335.73)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 2 : Other farm food crops)

$$C1i,2 + C2i,2 + C3i,2 + C4i,2 + C5i,2 = \Delta Ti,2$$

Sector	ΔT	C1	C2	C3	C4	C5
1	(197 086.10)	52 415.59	(78 673.66)	(125 922.88)	(44 905.15)	0.00
2	9 569.49	6 743.77	(10 122.13)	(16 201.20)	30 360.36	(1 211.31)
3	895.40	21.31	(31.98)	(51.18)	957.26	0.00
4	1 932.60	915.07	(1 373.48)	(2 198.35)	4 589.36	0.00
5	34.10	95.52	(143.37)	(229.48)	29.53	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.00	0.00	0.00	0.00	0.00
10	(1 054.00)	36.69	(55.07)	(88.14)	576.92	657.82
11	433.80	0.00	0.00	0.00	0.00	0.00
12	(148.80)	362.64	(544.31)	(871.20)	661.07	0.00
13	3 358.70	1 870.75	(2 807.92)	(4 494.29)	3 439.06	0.00
14	4 345.10	0.00	0.00	0.00	0.00	0.00
15	15 225.90	887.32	(1 331.83)	(2 131.70)	1 614.71	0.00
16	(14 602.30)	519.30	(779.45)	(1 247.56)	2 242.41	0.00
18	(12 302.50)	53.96	(81.00)	(129.64)	411.88	0.00
Total	(189 433.31)	63 921.92	(95 944.20)	(153 565.62)	(22.60)	(553.49)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
. (sector 3 : other agricutural products)

$$C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = \Delta Ti,3$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.000	0.00	0.00	0.0	0.00	0.0000
2	55.000	18.67	(22.80)	(4.9)	64.16	(0.1000)
3	(13 573.534)	48 805.46	(59 622.47)	(12 882.8)	11 503.37	(1 377.1344)
4	(584.744)	302.40	(369.42)	(79.8)	(437.56)	(0.3444)
5	34.100	843.73	(1 030.73)	(222.7)	(1 010.59)	(0.2629)
6	0.000	0.00	0.00	0.0	0.00	0.0000
7	(34.700)	589.86	(720.60)	(155.7)	(1 111.07)	(1.3197)
10	(1 054.000)	1 067.72	(1 304.37)	(281.8)	4 587.08	(101.6616)
11	433.800	440.53	(538.17)	(116.3)	(635.18)	0.0000
12	(148.800)	1 310.39	(1 600.82)	(345.9)	1 078.82	0.0000
13	3 358.700	7 869.80	(9 614.03)	(2 077.3)	(6 048.65)	0.0000
14	4 345.100	1 037.86	(1 267.88)	(274.0)	(1 449.32)	(4.9000)
15	15 225.900	5 551.42	(6 781.81)	(1 465.4)	(5 779.65)	(82.9787)
16	(14 602.300)	2 079.45	(2 540.33)	(548.9)	(678.83)	(38.4734)
18	(12 302.500)	171.73	(209.79)	(45.3)	(82.61)	(1.5000)
Total	(18 847.979)	70 089.013	(85 623.214)	(18 500.799)	0.000	(1 608.675)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 3 : other agricutural products)

$$C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = \Delta Ti,3$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	166.26	34.40	30.18	(41.71)	143.33	0.06
3	1 942.69	38 800.42	34 038.18	(47 044.85)	(22 774.85)	(1 076.21)
4	800.00	73.85	64.78	(89.54)	780.91	0.00
5	34.10	274.86	241.13	(333.27)	792.78	0.02
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	59.74	52.41	(72.43)	(222.11)	0.00
10	(1 054.00)	2 267.99	1 989.62	(2 749.89)	(3 235.71)	(4 524.64)
11	433.80	108.32	95.02	(131.33)	651.49	0.00
12	(148.80)	1 293.80	1 135.00	(1 568.71)	(953.69)	0.00
13	3 358.70	3 669.38	3 219.01	(4 449.06)	1 484.27	0.00
14	4 345.10	270.61	237.40	(328.11)	(515.90)	(17.60)
15	15 225.90	2 093.19	1 836.28	(2 537.96)	11 746.69	3.61
16	(14 602.30)	1 270.53	1 114.59	(1 540.49)	2 885.88	(0.42)
18	(12 302.50)	96.24	84.43	(116.69)	9 216.92	46.09
Total	(1 805.75)	50 313.32	44 138.02	(61 004.04)	0.00	(5 569.10)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 3 : other agricutural products)

$$C1i,3 + C2i,3 + C3i,3 + C4i,3 + C5i,3 = \Delta Ti,3$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	139.60	66.67	(159.74)	(4.66)	237.43	(0.10)
3	(49 287.26)	29 870.44	(71 570.69)	(2 087.86)	(5 404.39)	(94.76)
4	34.90	259.40	(621.54)	(18.13)	415.17	0.00
5	34.10	446.07	(1 068.80)	(31.18)	(148.39)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.02	(0.06)	(0.00)	(0.06)	0.00
10	(1 054.00)	1 278.00	(3 062.14)	(89.33)	1 085.57	(30 515.67)
11	433.80	259.11	(620.84)	(18.11)	264.04	0.00
12	(148.80)	948.29	(2 272.14)	(66.28)	3 801.33	0.00
13	3 358.70	3 718.90	(8 910.52)	(259.94)	1 988.16	0.00
14	4 345.10	120.59	(288.93)	(8.43)	236.87	(12.78)
15	15 225.90	4 800.01	(11 501.01)	(335.51)	(5 160.50)	(23.58)
16	(14 602.30)	1 870.56	(4 481.92)	(130.75)	4 492.21	0.00
18	(12 302.50)	2 352.95	(5 637.75)	(164.46)	(1 807.44)	0.00
Total	(53 857.46)	45 991.01	(110 196.17)	(3 214.64)	(0.00)	(30 646.89)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 4 : Livestock & its products)

$$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$$

Sector	ΔT	C1	C2	C3	C4	C5
1	(118.300)	265.06	(162.46)	77.8	(298.71)	0.0000
2	592.800	362.13	(221.96)	106.3	346.33	0.0000
3	148.745	246.40	(151.02)	72.3	(18.50)	(0.3549)
4	9 449.935	14 586.01	(8 940.00)	4 281.5	(475.91)	(1.6646)
5	34.100	0.00	0.00	0.0	0.00	0.0000
6	(0.400)	11.20	(6.86)	3.3	(8.02)	0.0000
7	(34.700)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.000)	18.67	(11.44)	5.5	558.30	(0.3000)
11	433.800	18.67	(11.44)	5.5	19.70	0.0000
12	(148.800)	231.46	(141.87)	67.9	(19.74)	0.0000
13	3 358.700	1 511.99	(926.72)	443.8	(943.09)	0.0000
14	4 345.100	14.93	(9.15)	4.4	195.24	0.0000
15	15 225.900	854.93	(524.00)	251.0	(122.48)	(1.1999)
16	(14 602.300)	100.80	(61.78)	29.6	425.89	0.1664
18	(12 302.500)	0.00	0.00	0.0	0.00	0.0000
Total	5 328.080	18 222.247	(11 168.704)	5 348.857	(341.100)	(3.353)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 4 : Livestock & its products)

$$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$$

Sector	ΔT	C1	C2	C3	C4	C5
1	632.30	193.69	593.32	(104.15)	(50.55)	0.00
2	384.00	511.56	1 567.08	(275.09)	(1 419.54)	0.00
3	1 286.52	264.85	811.31	(142.42)	356.06	(3.28)
4	54 878.34	15 882.91	48 654.37	(8 541.06)	(739.12)	(378.76)
5	34.10	35.88	109.90	(19.29)	(27.28)	0.00
6	17.20	9.69	29.68	(5.21)	(16.96)	0.00
7	(34.70)	2.75	8.42	(1.48)	(14.39)	0.00
10	(1 054.00)	203.28	622.70	(109.31)	(999.96)	(241.05)
11	433.80	26.97	82.63	(14.50)	(38.69)	0.00
12	(148.80)	248.06	759.87	(133.39)	(853.94)	0.00
13	3 358.70	1 353.87	4 147.32	(728.04)	3 189.56	0.00
14	4 345.10	80.33	246.07	(43.20)	(387.60)	0.00
15	15 225.90	899.98	2 756.92	(483.97)	286.16	(0.40)
16	(14 602.30)	250.25	766.59	(134.57)	707.03	(0.20)
18	(12 302.50)	73.03	223.71	(39.27)	9.23	0.00
Total	52 453.66	20 037.08	61 379.90	(10 774.97)	0.00	(623.69)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 4 : Livestock & its products)

$$C1i,4 + C2i,4 + C3i,4 + C4i,4 + C5i,4 = \Delta Ti,4$$

Sector	ΔT	C1	C2	C3	C4	C5
1	1 520.50	300.79	142.51	579.28	497.93	0.00
2	1 166.90	478.41	226.66	921.36	(459.53)	0.00
3	4 762.01	515.79	244.37	993.34	3 064.00	(55.49)
4	74 443.62	25 502.69	12 082.69	49 115.07	(11 647.75)	(609.08)
5	34.10	51.31	24.31	98.82	298.16	0.00
6	6.80	11.50	5.45	22.15	(32.30)	0.00
7	(34.70)	0.91	0.43	1.75	(6.39)	0.00
10	(1 054.00)	82.99	39.32	159.82	3 589.97	7 805.65
11	433.80	34.11	16.16	65.69	1 202.64	0.00
12	(148.80)	191.28	90.63	368.39	355.70	0.00
13	3 358.70	2 973.15	1 408.62	5 725.92	5 260.71	0.00
14	4 345.10	34.65	16.42	66.73	(22.10)	0.00
15	15 225.90	1 525.68	722.84	2 938.28	(1 455.40)	(0.20)
16	(14 602.30)	578.43	274.05	1 113.98	(485.15)	(0.07)
18	(12 302.50)	120.36	57.03	231.81	(160.50)	0.00
Total	77 155.14	32 402.04	15 351.47	62 402.39	0.00	7 140.81

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 5 : Forestry)

$$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = \Delta Ti,5$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.000	0.00	0.00	0.0	0.00	0.0000
2	0.000	0.00	0.00	0.0	0.00	0.0000
3	0.000	0.00	0.00	0.0	0.00	0.0000
4	0.000	0.00	0.00	0.0	0.00	0.0000
5	34.100	6 238.35	(6 909.46)	5.7	(3 765.83)	0.0000
6	0.000	0.00	0.00	0.0	0.00	0.0000
7	(34.700)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.000)	1 399.99	(1 550.60)	1.3	2 073.42	(1.9975)
11	433.800	477.86	(529.27)	0.4	(554.93)	0.0000
12	(148.800)	895.99	(992.38)	0.8	616.16	0.0000
13	3 358.700	2 318.38	(2 567.79)	2.1	(1 556.43)	0.0000
14	4 345.100	455.46	(504.46)	0.4	(854.92)	0.0000
15	15 225.900	1 788.25	(1 980.63)	1.6	847.03	(0.3589)
16	(14 602.300)	563.73	(624.37)	0.5	3 199.33	(0.0921)
18	(12 302.500)	52.27	(57.89)	0.0	(3.83)	0.0000
Total	(4 744.700)	14 190.281	(15 716.847)	13.066	(0.000)	(2.449)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 5 : Forestry)

$$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = \Delta Ti,5$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	4 019.30	8 672.98	(12 003.93)	(3 772.15)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.00	0.00	0.00	0.00	0.00
10	(1 054.00)	1 857.34	4 007.83	(5 547.08)	(16.79)	(5 294.07)
11	433.80	220.66	476.14	(659.01)	(28.39)	0.00
12	(148.80)	956.02	2 062.93	(2 855.22)	371.97	0.00
13	3 358.70	1 442.34	3 112.34	(4 307.66)	(3 359.92)	0.00
14	4 345.10	103.60	223.56	(309.41)	92.86	(20.70)
15	15 225.90	1 782.77	3 846.93	(5 324.38)	(3 973.92)	(18.07)
16	(14 602.30)	1 521.85	3 283.91	(4 545.13)	765.67	(0.16)
18	(12 302.50)	42.75	92.25	(127.68)	9 920.68	0.00
Total	(4 744.70)	11 946.65	25 778.86	(35 679.51)	0.00	(5 333.00)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 5 : Forestry)

$$C1i,5 + C2i,5 + C3i,5 + C4i,5 + C5i,5 = \Delta Ti,5$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	2 259.59	(9 713.09)	2 203.79	(2 883.69)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	0.00	0.00	0.00	0.00	0.00
10	(1 054.00)	1 468.40	(6 312.08)	1 432.14	2 046.94	(57 810.97)
11	433.80	167.96	(722.01)	163.82	100.03	0.00
12	(148.80)	849.35	(3 651.04)	828.38	371.81	0.00
13	3 358.70	317.84	(1 366.28)	309.99	1 160.04	0.00
14	4 345.10	104.96	(451.16)	102.36	263.84	(24.10)
15	15 225.90	436.85	(1 877.86)	426.07	533.04	(30.26)
16	(14 602.30)	1 394.70	(5 995.28)	1 360.26	(6.58)	0.00
18	(12 302.50)	2 471.81	(10 625.35)	2 410.77	(1 585.44)	0.00
Total	(4 744.70)	9 471.48	(40 714.16)	9 237.59	0.00	(57 865.32)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 6 : Fishery)

$$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.000	0.00	0.00	0.0	0.00	0.0000
2	(62.700)	104.53	(167.97)	20.0	(19.31)	0.0000
3	0.000	0.00	0.00	0.0	0.00	0.0000
4	0.000	0.00	0.00	0.0	0.00	0.0000
5	34.100	168.00	(269.95)	32.2	667.04	0.0000
6	(13 462.500)	15 388.67	(24 727.69)	2 951.3	(7 074.76)	0.0000
7	(34.700)	205.33	(329.94)	39.4	(315.47)	0.0000
10	(1 054.000)	593.60	(953.83)	113.8	2 773.70	(0.4000)
11	433.800	37.33	(59.99)	7.2	(7.30)	0.0000
12	(148.800)	7.47	(12.00)	1.4	493.10	0.0000
13	3 358.700	2 460.25	(3 953.31)	471.8	3 796.03	0.0000
14	4 345.100	608.53	(977.83)	116.7	(974.50)	0.0000
15	15 225.900	1 497.05	(2 405.58)	287.1	(505.18)	(0.2562)
16	(14 602.300)	369.60	(593.90)	70.9	1 080.72	(0.0063)
18	(12 302.500)	33.60	(53.99)	6.4	85.95	0.0000
Total	(18 269.900)	21 473.954	(34 505.980)	4 118.327	(0.000)	(0.663)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 6 : Fishery)

$$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	(112.70)	71.13	79.36	(214.08)	(49.11)	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	342.82	382.49	(1 031.80)	1 029.89	0.00
6	(11 193.80)	9 086.05	10 137.42	(27 346.63)	(3 070.64)	0.00
7	(34.70)	48.87	54.53	(147.09)	5.29	0.00
10	(1 054.00)	1 347.74	1 503.69	(4 056.35)	916.72	(3 304.35)
11	433.80	25.27	28.19	(76.06)	92.39	0.00
12	(148.80)	166.94	186.26	(502.45)	0.15	0.00
13	3 358.70	3 065.44	3 420.15	(9 226.18)	(643.32)	0.00
14	4 345.10	131.88	147.14	(396.94)	(174.59)	0.00
15	15 225.90	943.84	1 053.06	(2 840.72)	645.42	0.00
16	(14 602.30)	627.60	700.22	(1 888.92)	1 006.89	0.00
18	(12 302.50)	53.03	59.16	(159.60)	191.11	0.00
Total	(16 051.20)	15 910.63	17 751.68	(47 886.82)	(49.80)	(3 304.35)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 6 : Fishery)

$$C1i,6 + C2i,6 + C3i,6 + C4i,6 + C5i,6 = \Delta Ti,6$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	(104.60)	25.70	(44.46)	9.56	(95.40)	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	(43.10)	12.24	(21.17)	4.55	(38.72)	0.00
5	34.10	435.13	(752.69)	161.75	(1 598.60)	0.00
6	(15 365.20)	4 070.38	(7 040.87)	1 513.08	(13 907.29)	(0.50)
7	(34.70)	27.25	(47.14)	10.13	3 946.26	0.00
10	(1 054.00)	940.97	(1 627.67)	349.78	5 816.72	5 069.72
11	433.80	36.12	(62.49)	13.43	58.23	0.00
12	(148.80)	88.69	(153.41)	32.97	300.66	0.00
13	3 358.70	1 469.75	(2 542.35)	546.35	2 902.65	0.00
14	4 345.10	27.13	(46.93)	10.08	331.01	0.00
15	15 225.90	659.81	(1 141.34)	245.27	730.65	0.00
16	(14 602.30)	580.71	(1 004.50)	215.87	1 275.93	0.00
18	(12 302.50)	75.12	(129.95)	27.93	158.50	0.00
Total	(20 257.60)	8 449.02	(14 614.97)	3 140.75	(119.40)	5 069.22

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 7 : Mining & Quarrying)

$$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.000	0.00	0.00	0.0	0.00	0.0000
2	0.000	0.00	0.00	0.0	0.00	0.0000
3	0.000	0.00	0.00	0.0	0.00	0.0000
4	0.000	0.00	0.00	0.0	0.00	0.0000
5	34.100	52.27	10.65	188.0	(342.42)	0.0000
6	0.000	0.00	0.00	0.0	0.00	0.0000
7	(34.700)	589.86	120.24	2 121.7	(3 420.66)	(0.2746)
10	(1 054.000)	1 582.92	322.67	5 693.6	2 809.76	(23.2562)
11	433.800	3 046.37	620.98	10 957.4	(15 856.66)	0.0000
12	(148.800)	216.53	44.14	778.8	526.19	0.0000
13	3 358.700	686.93	140.03	2 470.8	(1 343.94)	0.0000
14	4 345.100	578.66	117.96	2 081.4	(3 193.99)	(0.5000)
15	15 225.900	1 067.72	217.65	3 840.5	(4 786.54)	(2.8765)
16	(14 602.300)	1 299.19	264.83	4 673.0	25 969.47	21.8570
18	(12 302.500)	186.67	38.05	671.4	(371.23)	(0.3000)
Total	(4 744.700)	9 307.122	1 897.191	33 476.487	(0.000)	(5.350)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 7 : Mining & Quarrying)

$$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	15.88	38.98	17.76	(115.81)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	324.42	796.48	362.86	17 329.84	(0.80)
10	(1 054.00)	4 795.13	11 772.27	5 363.30	(17 623.19)	(17 960.01)
11	433.80	2 267.82	5 567.62	2 536.54	(17 111.78)	0.00
12	(148.80)	705.64	1 732.38	789.25	7 017.13	0.00
13	3 358.70	1 241.85	3 048.81	1 389.00	(7 000.95)	0.00
14	4 345.10	371.20	911.31	415.18	8 182.40	(593.21)
15	15 225.90	1 047.25	2 571.05	1 171.34	(7 855.63)	(200.93)
16	(14 602.30)	11 681.51	28 678.69	13 065.64	(4 971.43)	(51 753.59)
18	(12 302.50)	335.49	823.64	375.24	22 149.43	6.63
Total	(4 744.70)	22 786.18	55 941.22	25 486.10	0.00	(70 501.90)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 7 : Mining & Quarrying)

$$C1i,7 + C2i,7 + C3i,7 + C4i,7 + C5i,7 = \Delta Ti,7$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	1.30	(0.57)	(1.06)	34.49	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	4 866.83	(2 133.59)	(3 951.36)	(3 582.29)	(8.30)
10	(1 054.00)	4 658.37	(2 042.20)	(3 782.11)	(30 930.38)	(381 031.46)
11	433.80	46.27	(20.29)	(37.57)	497.68	0.00
12	(148.80)	3 047.21	(1 335.88)	(2 474.02)	(148.60)	0.00
13	3 358.70	607.59	(266.37)	(493.30)	(6 459.56)	0.00
14	4 345.10	2 706.62	(1 186.56)	(2 197.49)	(1 600.10)	(879.14)
15	15 225.90	32.76	(14.36)	(26.60)	15 225.90	(44 553.74)
16	(14 602.30)	20 676.88	(9 064.61)	(16 787.47)	(14 602.90)	(181 806.83)
18	(12 302.50)	6 071.94	(2 661.90)	(4 929.78)	(12 303.10)	0.00
Total	(4 744.70)	42 715.77	(18 726.31)	(34 680.76)	(53 868.85)	(608 279.47)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 10 : Petroleum Refinery)

$$C1i,10 + C2i,10 + C3i,10 + C4i,10 + C5i,10 = \Delta Ti,10$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	0.00	0.00	0.00	0.0	0.00	0.0000
3	0.00	0.00	0.00	0.0	0.00	0.0000
4	0.00	0.00	0.00	0.0	0.00	0.0000
5	34.10	0.00	0.00	0.0	0.00	0.0000
6	0.00	0.00	0.00	0.0	0.00	0.0000
7	(34.70)	37 239.69	553 917.88	(412 673.2)	(257 245.70)	(427.3409)
10	(1 054.00)	1 638.92	24 377.94	(18 161.8)	203 120.60	(986.8660)
11	433.80	608.53	9 051.49	(6 743.4)	3 533.61	0.0000
12	(148.80)	339.73	5 053.29	(3 764.7)	(559.18)	0.0000
13	3 358.70	1 097.59	16 326.00	(12 163.0)	33 622.71	0.0000
14	4 345.10	462.93	6 885.80	(5 130.0)	(2 119.05)	(16.2000)
15	15 225.90	1 034.12	15 381.98	(11 459.7)	6 862.79	5.5315
16	(14 602.30)	1 433.59	21 323.76	(15 886.4)	3 463.02	(84.1616)
18	(12 302.50)	440.53	6 552.61	(4 881.7)	(2 336.89)	(5.6196)
Total	(4 744.70)	44 295.63	658 870.74	(490 863.87)	(11 658.10)	(1 514.66)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 10 : Petroleum Refinery)

$$C1i,10 + C2i.10 + C3i,10 + C4i,10 + C5i,10 = \Delta Ti,10$$

Sector	ΔT	C1	C2	C3	C4	C5
1	(1 039.00)	340.10	(798.74)	602.10	(1 182.46)	0.00
2	(150.50)	49.26	(115.70)	87.21	(171.28)	0.00
3	(3 355.00)	1 098.22	(2 579.20)	1 944.21	(3 818.23)	0.00
4	(351.50)	115.06	(270.22)	203.69	(400.03)	0.00
5	34.10	2 203.99	(5 176.15)	3 901.81	(7 657.15)	0.00
6	(29.00)	9.49	(22.29)	16.81	(33.00)	0.00
7	(34.70)	6 870.38	(16 135.32)	12 162.88	328 143.37	(160 094.22)
10	(1 054.00)	70 497.14	(165 565.05)	124 803.71	(244 727.59)	(2 851.18)
11	433.80	2 644.95	(6 211.75)	4 682.45	(4 965.14)	0.00
12	(148.80)	647.83	(1 521.46)	1 146.88	(1 079.66)	0.00
13	3 358.70	13 690.31	(32 152.18)	24 236.46	(46 390.89)	0.00
14	4 345.10	438.53	(1 029.91)	776.35	3 923.43	(308.05)
15	15 225.90	4 775.58	(11 215.63)	8 454.39	(12 399.65)	(235.32)
16	(14 602.30)	4 639.67	(10 896.44)	8 213.79	(9 851.12)	(171.34)
18	(12 302.50)	312.44	(733.78)	553.13	609.41	(1.24)
Total	(9 669.70)	108 332.96	(254 423.83)	191 785.88	0.00	(163 661.34)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 10 : Petroleum Refinery)

$$C1i,10 + C2i,10 + C3i,10 + C4i,10 + C5i,10 = \Delta Ti,10$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	1.38	3.23	1.35	(11.56)	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	86 508.23	203 062.38	85 094.60	(7 158.22)	11 026.30
10	(1 054.00)	91.88	215.68	90.38	2 744.76	14 747.93
11	433.80	1 039.66	2 440.41	1 022.67	(3 304.93)	0.00
12	(148.80)	288.18	676.45	283.47	2 696.30	0.00
13	3 358.70	296.61	696.24	291.76	(537.61)	0.00
14	4 345.10	1 338.82	3 142.64	1 316.94	(1 225.01)	(812.41)
15	15 225.90	1 033.07	2 424.95	1 016.19	(22.21)	(602.91)
16	(14 602.30)	1 543.23	3 622.45	1 518.01	4 615.01	(2 393.80)
18	(12 302.50)	416.70	978.14	409.89	2 203.47	0.00
Total	(4 744.70)	92 557.76	217 262.56	91 045.28	0.00	21 965.12

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 11 : Electricity, gas & water)

$$C1i,11 + C2i,11 + C3i,11 + C4i,11 + C5i,11 = \Delta Ti,11$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	0.00	0.00	0.00	0.0	0.00	0.0000
3	0.00	0.00	0.00	0.0	0.00	0.0000
4	0.00	0.00	0.00	0.0	0.00	0.0000
5	34.10	0.00	0.00	0.0	0.00	0.0000
6	0.00	0.00	0.00	0.0	0.00	0.0000
7	(34.70)	201.60	(295.58)	(191.7)	272.39	0.0000
10	(1 054.00)	8 004.20	(11 735.58)	(7 611.5)	(5 598.94)	0.0000
11	433.80	866.13	(1 269.89)	(823.6)	1 340.40	0.0000
12	(148.80)	231.46	(339.37)	(220.1)	2 499.81	0.0000
13	3 358.70	2 254.91	(3 306.10)	(2 144.3)	(641.43)	0.0000
14	4 345.10	418.13	(613.05)	(397.6)	(235.26)	0.0000
15	15 225.90	1 739.72	(2 550.74)	(1 654.4)	1 329.78	0.0000
16	(14 602.30)	369.60	(541.89)	(351.5)	1 014.76	0.0000
18	(12 302.50)	44.80	(65.68)	(42.6)	18.49	0.0000
Total	(4 744.70)	14 130.55	(20 717.89)	(13 437.26)	(0.00)	0.00

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 11 : Electricity, gas & water)

$$C1i,11 + C2i,11 + C3i,11 + C4i,11 + C5i,11 = \Delta Ti,11$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	172.41	502.38	643.28	(860.47)	0.00
10	(1 054.00)	1 472.43	4 290.50	5 493.86	16 502.52	(13 496.70)
11	433.80	796.41	2 320.66	2 971.53	9 946.40	0.00
12	(148.80)	913.86	2 662.89	3 409.75	(6 801.60)	0.00
13	3 358.70	721.16	2 101.37	2 690.75	(5 655.27)	0.00
14	4 345.10	95.65	278.71	356.88	(511.13)	(19.60)
15	15 225.90	1 153.67	3 361.66	4 304.51	(10 416.24)	(45.60)
16	(14 602.30)	484.79	1 412.62	1 808.81	(3 801.31)	0.00
18	(12 302.50)	24.55	71.54	91.60	1 597.11	0.00
Total	(4 744.70)	5 834.91	17 002.32	21 770.97	0.00	(13 561.90)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 11 : Electricity, gas & water)

$$C1i,11 + C2i,11 + C3i,11 + C4i,11 + C5i,11 = \Delta Ti,11$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.00	0.00	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	0.00	0.00	0.00	0.00	0.00	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	0.00	0.00	0.00	0.00	0.00
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	241.88	453.64	912.71	10 462.96	(47.50)
10	(1 054.00)	7 926.99	14 866.76	29 911.38	3 149.06	6 903.05
11	433.80	4 538.35	8 511.49	17 124.81	(11 419.24)	0.00
12	(148.80)	731.50	1 371.89	2 760.20	(2 019.49)	0.00
13	3 358.70	506.50	949.91	1 911.19	5 760.79	0.00
14	4 345.10	125.89	236.11	475.04	(1 155.34)	(33.04)
15	15 225.90	473.79	888.57	1 787.77	480.56	16.15
16	(14 602.30)	340.57	638.73	1 285.10	(1 865.61)	(60.80)
18	(12 302.50)	457.03	857.14	1 724.54	(3 393.70)	0.00
Total	(4 744.70)	15 342.50	28 774.25	57 892.75	(0.00)	6 777.86

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 12 : Construction)

$$C1i,12 + C2i,12 + C3i,12 + C4i,12 + C5i,12 = \Delta Ti,12$$

Sector	ΔT	C1	C2	C3	C4	C5
1	892.80	440.53	382.81	911.9	(842.40)	0.0000
2	0.00	0.00	0.00	0.0	0.00	0.0000
3	4.90	3.73	3.24	7.7	(9.81)	0.0000
4	0.00	0.00	0.00	0.0	0.00	0.0000
5	34.10	22 929.94	19 925.44	47 463.3	(99 434.74)	0.0000
6	0.00	0.00	0.00	0.0	0.00	0.0000
7	(34.70)	8 523.13	7 406.35	17 642.2	(19 286.91)	0.0000
10	(1 054.00)	1 347.72	1 171.13	2 789.7	247 727.06	0.0000
11	433.80	388.26	337.39	803.7	(1 918.23)	0.0000
12	(148.80)	291.20	253.04	602.8	73.40	0.0000
13	3 358.70	28 152.83	24 463.98	58 274.2	(95 112.06)	0.0000
14	4 345.10	1 515.72	1 317.12	3 137.4	(1 842.87)	0.0000
15	15 225.90	12 906.03	11 214.96	26 714.5	(30 348.58)	0.0000
16	(14 602.30)	2 583.45	2 244.94	5 347.5	1 669.68	0.0000
18	(12 302.50)	336.00	291.97	695.5	(674.56)	0.0000
Total	(3 847.00)	79 418.53	69 012.37	164 390.40	(0.00)	0.00

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 12 : Construction)

$$C1i,12 + C2i,12 + C3i,12 + C4i,12 + C5i,12 = \Delta Ti,12$$

Sector	ΔT	C1	C2	C3	C4	C5
1	1 354.00	678.50	387.80	(1 004.16)	1 291.86	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	16.70	4.88	2.79	(7.22)	16.25	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	17 121.00	9 785.47	(25 338.33)	29 128.97	(0.20)
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	12 149.04	6 943.76	(17 980.06)	19 096.46	(744.50)
10	(1 054.00)	84 009.57	48 015.49	(124 330.54)	(143 255.91)	(8 217.90)
11	433.80	213.13	121.81	(315.42)	461.38	0.00
12	(148.80)	654.80	374.25	(969.08)	322.63	0.00
13	3 358.70	29 849.52	17 060.43	(44 176.01)	92 713.05	0.00
14	4 345.10	2 680.04	1 531.77	(3 966.34)	(3 365.27)	(191.90)
15	15 225.90	18 022.15	10 300.52	(26 672.01)	2 380.63	(68.50)
16	(14 602.30)	6 142.67	3 510.83	(9 090.89)	1 062.79	(760.30)
18	(12 302.50)	507.01	289.78	(750.36)	147.16	0.00
Total	(3 374.00)	172 032.32	98 324.70	(254 600.42)	0.00	(9 983.30)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 12 : Construction)

$$C1i,12 + C2i,12 + C3i,12 + C4i,12 + C5i,12 = \Delta Ti,12$$

Sector	ΔT	C1	C2	C3	C4	C5
1	1 801.70	842.11	797.19	(897.68)	1 060.09	0.00
2	0.00	0.00	0.00	0.00	0.00	0.00
3	69.60	7.77	7.35	(8.28)	62.76	0.00
4	0.00	0.00	0.00	0.00	0.00	0.00
5	34.10	20 396.76	19 308.83	(21 742.84)	(100 512.15)	(0.40)
6	0.00	0.00	0.00	0.00	0.00	0.00
7	(34.70)	14 086.86	13 335.49	(15 016.52)	14 424.67	(1 001.34)
10	(1 054.00)	29 755.36	28 168.26	(31 719.07)	40 896.34	(17 962.51)
11	433.80	278.18	263.34	(296.54)	(115.08)	0.00
12	(148.80)	585.60	554.37	(624.25)	734.48	0.00
13	3 358.70	45 864.13	43 417.82	(48 890.93)	4 221.88	0.00
14	4 345.10	1 245.32	1 178.89	(1 327.50)	851.79	(525.72)
15	15 225.90	14 520.40	13 745.91	(15 478.67)	12 167.47	(138.13)
16	(14 602.30)	5 010.91	4 743.63	(5 341.60)	26 966.36	(11 094.04)
18	(12 302.50)	428.20	405.36	(456.46)	(758.60)	0.00
Total	(2 873.40)	133 021.59	125 926.45	(141 800.34)	0.00	(30 722.15)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 13 : Trade)

$$C1i,13 + C2i,13 + C3i,13 + C4i,13 + C5i,13 = \Delta Ti,13$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	652.30	56.00	(56.54)	(36.0)	688.82	0.0000
3	(291.20)	246.40	(248.78)	(158.3)	(130.53)	0.0000
4	0.00	0.00	0.00	0.0	0.00	0.0000
5	34.10	283.73	(286.47)	(182.3)	(557.68)	0.0000
6	0.00	0.00	0.00	0.0	0.00	0.0000
7	(34.70)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.00)	6 257.01	(6 317.45)	(4 019.7)	(2 285.84)	0.0000
11	433.80	2 045.85	(2 065.61)	(1 314.3)	(3 065.61)	0.0000
12	(148.80)	1 075.19	(1 085.58)	(690.7)	1 188.23	0.0000
13	3 358.70	3 434.64	(3 467.81)	(2 206.5)	(3 587.29)	0.0000
14	4 345.10	1 657.59	(1 673.60)	(1 064.9)	9 819.60	0.0000
15	15 225.90	6 787.14	(6 852.70)	(4 360.3)	6 109.25	0.0000
16	(14 602.30)	9 191.39	(9 280.17)	(5 904.9)	(10 916.05)	0.0000
18	(12 302.50)	33.60	(33.92)	(21.6)	2 473.21	0.0000
Total	(4 383.60)	31 068.54	(31 368.65)	(19 959.49)	(263.90)	0.00

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 13 : Trade)

$$C1i,13 + C2i,13 + C3i,13 + C4i,13 + C5i,13 = \Delta Ti,13$$

Sector	ΔT	C1	C2	C3	C4	C5
1	(242.40)	79.9	(195.812)	343.67	(470.20)	0.00
2	(770.20)	262.6	(643.324)	1129.12	(1 526.61)	0.00
3	(349.60)	120.7	(295.722)	519.03	(693.63)	0.00
4	0.00	0.0	0.000	0.00	0.00	0.00
5	34.10	5.7	(13.872)	24.35	(14.14)	0.00
6	0.00	0.0	0.000	0.00	0.00	0.00
7	(34.70)	6.4	(15.796)	27.72	(20.88)	0.00
10	(1 054.00)	3 402.3	(8 334.424)	14627.98	(11 828.29)	(7 954.80)
11	433.80	353.6	(866.238)	1520.36	4 533.66	0.00
12	(148.80)	1 102.2	(2 699.908)	4738.68	384.85	0.00
13	3 358.70	1 104.1	(2 704.638)	4746.99	(4 367.15)	0.00
14	4 345.10	4 313.9	(10 567.335)	18547.02	(15 500.36)	(598.70)
15	15 225.90	6 502.0	(15 927.458)	27954.72	(8 444.09)	(2 989.40)
16	(14 602.30)	2 523.9	(6 182.500)	10851.08	29 572.56	(3 615.20)
18	(12 302.50)	831.9	(2 037.740)	3576.49	8 374.28	0.00
Total	(6 114.90)	20 609.26	(50 484.77)	88 607.21	(0.00)	(15 158.10)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 13 : Trade)

$$C1i,13 + C2i,13 + C3i,13 + C4i,13 + C5i,13 = \Delta Ti,13$$

Sector	ΔT	C1	C2	C3	C4	C5
1	1.10	0.4	2.9	(3.5)	1.2	0.00
2	3.80	5.9	38.6	(46.3)	5.6	0.00
3	2.70	4.7	30.8	(36.9)	4.1	0.00
4	0.00	0.0	0.0	0.0	0.0	0.00
5	34.10	4.7	30.9	(37.1)	(12.3)	0.00
6	0.00	0.0	0.0	0.0	0.0	0.00
7	(34.70)	4.2	27.6	(33.1)	(14.1)	0.00
10	(1 054.00)	2 030.2	13 245.7	(15 885.9)	8 228.9	(49 473.54)
11	433.80	1 627.2	10 616.5	(12 732.6)	4 772.9	0.00
12	(148.80)	1 693.9	11 051.3	(13 254.0)	2 603.4	0.00
13	3 358.70	528.9	3 450.7	(4 138.6)	4 753.4	0.00
14	4 345.10	2 450.5	15 987.8	(19 174.5)	8 167.0	(4 040.23)
15	15 225.90	7 359.6	48 016.1	(57 586.8)	8 085 1	(4 699.58)
16	(14 602.30)	10 929.4	71 306.5	(85 519.6)	(33 075.6)	(31 159.83)
18	(12 302.50)	3 265.0	21 301.5	(25 547.4)	(3 539.7)	0.00
Total	(4 737.10)	29 904.75	195 106.76	(233 996.31)	0.00	(89 373.19)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 14 : Restaurant & Hotel)

$$C1i,14 + C2i,14 + C3i,14 + C4i,14 + C5i,14 = \Delta Ti,14$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	(7 138.10)	10 397.25	(11 100.50)	(9 086.3)	2 667.31	(15.9000)
3	(7 890.30)	4 595.69	(4 906.54)	(4 016.2)	(3 531.83)	(31.4000)
4	(12 890.30)	10 378.58	(11 080.57)	(9 070.0)	(3 115.66)	(2.7000)
5	34.10	317.33	(338.79)	(277.3)	36.68	(0.1000)
6	(15 461.60)	9 628.19	(10 279.42)	(8 414.2)	(6 395.99)	(0.2000)
7	(34.70)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.00)	1 526.92	(1 630.20)	(1 334.4)	815.97	(181.9000)
11	433.80	1 791.98	(1 913.19)	(1 566.0)	(1 176.36)	0.0000
12	(148.80)	481.60	(514.17)	(420.9)	1 372.95	0.0000
13	3 358.70	6 839.41	(7 302.01)	(5 977.0)	2 700.84	0.0000
14	4 345.10	250.13	(267.05)	(218.6)	362.31	(3.5000)
15	15 225.90	3 766.90	(4 021.69)	(3 291.9)	1 576.12	(15.3000)
16	(14 602.30)	1 399.99	(1 494.68)	(1 223.5)	5 538.96	(16.0000)
18	(12 302.50)	1 090.12	(1 163.86)	(952.7)	(931.29)	(3.6000)
Total	(48 125.00)	52 464.09	(56 012.66)	(45 848.93)	(80.00)	(270.60)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 14 : Restaurant & Hotel)

$$C1i,14 + C2i,14 + C3i,14 + C4i,14 + C5i,14 = \Delta Ti,14$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.000	0.00	0.00	0.000
2	(3 520.30)	6 785.0	11 067.538	−443.07	(20 748.74)	(181.000)
3	6 762.91	1 457.0	2 376.650	−95.15	3 065.29	(40.891)
4	33 175.51	4 881.4	7 962.425	−318.76	20 799.86	(149.393)
5	34.10	192.4	313.907	−12.57	521.62	(0.127)
6	2 431.95	3 380.9	5 514.921	−220.78	(6 229.67)	(13.453)
7	(34.70)	26.2	42.716	−1.71	(146.79)	0.000
10	(1 054.00)	1 135.3	1 851.887	−74.14	2 492.35	(4 405.984)
11	433.80	633.9	1 033.934	−41.39	6 907.00	0.000
12	(148.80)	723.3	1 179.755	−47.23	1 040.92	0.000
13	3 358.70	4 773.0	7 785.582	−311.62	(5 398.56)	0.000
14	4 345.10	260.8	425.449	−17.03	(632.14)	(29.466)
15	15 225.90	2 657.8	4 335.326	−173.56	(1 040.45)	(32.672)
16	(14 602.30)	2 609.1	4 255.982	−170.38	(4 034.34)	(360.584)
18	(12 302.50)	315.0	513.817	−20.57	3 403.66	12.203
Total	34 105.36	29 831.03	48 659.89	(1 948.02)	0.00	(5 201.37)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 14 : Restaurant & Hotel)

$$C1i,14 + C2i,14 + C3i,14 + C4i,14 + C5i,14 = \Delta Ti,14$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.0	0.0	0.0	0.0000
2	4 070.42	4 273.1	2 205.6	730.4	(2 730.9)	(407.7843)
3	1 385.94	2 765.8	1 427.6	472.8	(2 826.2)	(454.0563)
4	10 010.39	11 853.9	6 118.7	2 026.2	(9 831.6)	(156.7111)
5	34.10	394.0	203.4	67.3	(777.7)	(0.7142)
6	(410.63)	3 139.1	1 620.3	536.6	(5 657.2)	(49.4275)
7	(34.70)	0.1	0.1	0.0	0.0	0.0000
10	(1 054.00)	2 180.6	1 125.6	372.7	2 456.0	(4 655.0849)
11	433.80	2 572.9	1 328.0	439.8	433.0	0.0000
12	(148.80)	1 254.8	647.7	214.5	(615.6)	0.0000
13	3 358.70	5 266.1	2 718.2	900.1	10 520.4	0.0000
14	4 345.10	204.9	105.8	35.0	1 501.1	(139.1578)
15	15 225.90	3 415.4	1 763.0	583.8	(903.4)	(198.6446)
16	(14 602.30)	2 612.5	1 348.5	446.6	11 966.9	(3 527.6223)
18	(12 302.50)	1 271.5	656.3	217.3	(3 535.0)	0.0000
Total	10 311.42	41 204.73	21 268.82	7 043.05	(0.00)	(9 589.20)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 15 : Transport & communication)

$$C1i,15 + C2i,15 + C3i,15 + C4i,15 + C5i,15 = \Delta Ti,15$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	(1 153.48)	526.40	(375.22)	578.3	(1 882.58)	(0.3818)
3	(96.79)	37.33	(26.61)	41.0	(147.94)	(0.5904)
4	(1 651.30)	877.33	(625.37)	963.8	(2 865.29)	(1.8027)
5	34.10	130.67	(93.14)	143.6	(367.28)	0.0000
6	(489.79)	205.33	(146.36)	225.6	(774.15)	(0.1891)
7	(34.70)	78.40	(55.88)	86.1	(215.75)	(0.1511)
10	(1 054.00)	18 244.65	(13 005.14)	20 043.8	(1 904.64)	(2 369.1907)
11	433.80	1 284.26	(915.44)	1 410.9	(2 620.22)	0.0000
12	(148.80)	955.73	(681.26)	1 050.0	3 457.16	0.0000
13	3 358.70	5 928.48	(4 225.94)	6 513.1	(15 175.56)	0.0000
14	4 345.10	679.46	(484.33)	746.5	2 143.91	(24.6000)
15	15 225.90	7 447.94	(5 309.03)	8 182.4	5 704.79	(195.5539)
16	(14 602.30)	2 045.85	(1 458.32)	2 247.6	13 966.77	6.7103
18	(12 302.50)	630.93	(449.74)	693.1	680.76	(14.3177)
Total	(8 136.06)	39 072.74	(27 851.80)	42 925.86	0.00	(2 600.07)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 15 : Transport & communication)

$$C1i,15 + C2i,15 + C3i,15 + C4i,15 + C5i,15 = \Delta Ti,15$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.000	0.00	0.00	0.00
2	(223.47)	84.1	26.040	225.98	(559.21)	(0.37)
3	(1.50)	1.2	0.385	3.34	(6.47)	0.00
4	9 537.76	229.3	71.005	616.18	8 620.02	1.26
5	34.10	53.6	16.603	144.08	(103.40)	0.00
6	(26.40)	19.8	6.122	53.13	(105.42)	0.00
7	(34.70)	33.7	10.430	90.51	(13.93)	(19.00)
10	(1 054.00)	23 649.7	7 323.375	63551.92	(52 644.16)	(114 215.73)
11	433.80	850.9	263.494	2286.59	(1 572.00)	0.00
12	(148.80)	2 403.2	744.170	6457.87	(15 296.52)	0.00
13	3 358.70	2 919.9	904.172	7846.36	(15 272.21)	0.00
14	4 345.10	1 605.8	497.238	4315.01	(2 233.10)	(400.15)
15	15 225.90	11 776.3	3 646.660	31645.56	13 659.28	(15 704.33)
16	(14 602.30)	7 293.7	2 258.570	19599.76	(24 225.72)	(3 736.22)
18	(12 302.50)	1 062.2	328.934	2854.48	89 757.85	401.71
Total	4 541.69	51 983.32	16 097.20	139 690.78	(0.00)	(133 672.83)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 15 : Transport & communication)

$$C1i,15 + C2i,15 + C3i,15 + C4i,15 + C5i,15 = \Delta Ti,15$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.0	0.0	0.0	0.00
2	36.10	8.3	5.7	(8.0)	30.0	0.00
3	20.90	0.6	0.4	(0.5)	20.5	0.00
4	(10 084.00)	2 515.7	1 727.6	(2 409.6)	(11 917.7)	0.00
5	34.10	67.5	46.4	(64.7)	(315.5)	0.00
6	23.00	8.4	5.7	(8.0)	16.9	0.00
7	(34.70)	54.9	37.7	(52.6)	(257.8)	(40.98)
10	(1 054.00)	28 046.3	19 261.0	(26 863.5)	10 176.0	(2 359 896.12)
11	433.80	1 088.3	747.4	(1 042.4)	678.0	0.00
12	(148.80)	405.5	278.5	(388.4)	18 779.7	0.00
13	3 358.70	1 306.9	897.5	(1 251.8)	17 053.3	0.00
14	4 345.10	2 232.7	1 533.3	(2 138.5)	273.7	(1 399.31)
15	15 225.90	23 764.1	16 320.2	(22 761.9)	(13 596.6)	(37 614.36)
16	(14 602.30)	6 686.2	4 591.8	(6 404.2)	13 187.6	(12 001.64)
18	(12 302.50)	23 898.0	16 412.1	(22 890.1)	(34 128.3)	0.00
Total	(14 748.70)	90 083.30	61 865.36	(86 284.05)	(0.00)	(2 410 952.41)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 16 : Finance, r.estate, business)

$$C1i,16 + C2i,16 + C3i,16 + C4i,16 + C5i,16 = \Delta Ti,16$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	0.00	0.00	0.00	0.0	0.00	0.0000
3	0.00	0.00	0.00	0.0	0.00	0.0000
4	0.00	0.00	0.00	0.0	0.00	0.0000
5	34.10	7.47	8.20	(4.8)	(26.26)	0.0000
6	0.00	0.00	0.00	0.0	0.00	0.0000
7	(34.70)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.00)	362.13	397.92	(232.7)	1 845.30	(15.6421)
11	433.80	586.13	644.06	(376.7)	(827.72)	0.0000
12	(148.80)	6 675.14	7 334.86	(4 289.7)	12 898.01	0.0000
13	3 358.70	735.46	808.15	(472.6)	(762.40)	0.0000
14	4 345.10	858.66	943.52	(551.8)	1 730.24	(9.5000)
15	15 225.90	2 848.51	3 130.03	(1 830.6)	(2 006.50)	(55.5997)
16	(14 602.30)	3 845.30	4 225.34	(2 471.1)	(2 902.44)	(77.9383)
18	(12 302.50)	761.59	836.86	(489.4)	347.98	(5.4038)
Total	(4 744.70)	16 680.39	18 328.93	(10 719.43)	10 296.20	(164.08)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 16 : Finance, r.estate, business)

$$C1i,16 + C2i,16 + C3i,16 + C4i,16 + C5i,16 = \Delta Ti,16$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.000	0.00	0.00	0.00
2	0.00	0.0	0.000	0.00	0.00	0.00
3	0.00	0.0	0.000	0.00	0.00	0.00
4	0.00	0.0	0.000	0.00	0.00	0.00
5	34.10	0.0	0.000	0.00	0.00	0.00
6	0.00	0.0	0.000	0.00	0.00	0.00
7	(34.70)	0.0	0.000	0.00	0.00	0.00
10	(1 054.00)	1 021.0	707.992	−1606.57	(1 968.92)	(651.58)
11	433.80	403.9	280.101	−635.60	(1 247.53)	0.00
12	(148.80)	11 907.9	8 257.293	−18737.35	(5 886.80)	0.00
13	3 358.70	597.3	414.158	−939.80	(271.81)	0.00
14	4 345.10	1 555.0	1 078.319	−2446.91	(284.96)	(288.07)
15	15 225.90	2 623.0	1 818.883	−4127.39	1 210.09	(237.96)
16	(14 602.30)	3 477.5	2 411.385	−5471.89	3 060.34	(1 753.69)
18	(12 302.50)	990.8	687.064	−1559.08	5 389.50	(200.71)
Total	(4 744.70)	22 576 39	15 655.20	(35 524.59)	(0.10)	(3 132.01)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 16 : Finance, r.estate, business)

$$C1i,16 + C2i,16 + C3i,16 + C4i,16 + C5i,16 = \Delta Ti,16$$

Sector	ΔT	C1	C2	C3	C4	C5
1	0.00	0.0	0.0	0.0	0.0	0.00
2	0.00	0.0	0.0	0.0	0.0	0.00
3	0.00	0.0	0.0	0.0	0.0	0.00
4	0.00	0.0	0.0	0.0	0.0	0.00
5	34.10	0.0	0.0	0.0	0.0	0.00
6	0.00	0.0	0.0	0.0	0.0	0.00
7	(34.70)	0.0	0.0	0.1	(0.2)	0.00
10	(1 054.00)	312.7	515.7	1 177.3	(179.8)	118.43
11	433.80	8.6	14.1	32.3	5 302.5	0.00
12	(148.80)	7 843.8	12 933.5	29 528.2	(27 059.5)	0.00
13	3 358.70	399.2	658.2	1 502.7	(1 004.5)	0.00
14	4 345.10	1 143.2	1 885.0	4 303.7	(2 058.7)	(565.37)
15	15 225.90	2 343.8	3 864.7	8 823.4	(5 051.4)	(746.51)
16	(14 602.30)	3 465.1	5 713.6	13 044.6	40 500.6	(21 558.19)
18	(12 302.50)	2 097.4	3 458.4	7 895.9	(10 449.1)	(135.95)
Total	(4 744.70)	17 613.96	29 043.19	66 308.25	0.00	(22 887.59)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1971 – 1975 *
(sector 18 : General service)

$$C1i,18 + C2i,18 + C3i,18 + C4i,18 + C5i,18 = \Delta Ti,18$$

Sector	Δ T	C1	C2	C3	C4	C5
1	0.00	0.00	0.00	0.0	0.00	0.0000
2	1 762.80	731.73	133.55	(36.0)	935.30	(1.8000)
3	(92.09)	52.27	9.54	(158.3)	5.30	(0.9000)
4	1 983.19	302.40	55.19	0.0	1 626.00	(0.4000)
5	34.10	119.47	21.80	(182.3)	(250.60)	(0.1000)
6	247.56	194.13	35.43	0.0	18.00	0.0000
7	(34.70)	0.00	0.00	0.0	0.00	0.0000
10	(1 054.00)	1 119.99	204.41	(4 019.7)	5 604.50	(87.0322)
11	433.80	2 064.52	376.79	(1 314.3)	(4 286.80)	0.0000
12	(148.80)	750.39	136.95	(690.7)	1 066.40	0.0000
13	3 358.70	2 691.71	491.26	(2 206.5)	(2 567.00)	0.0000
14	4 345.10	220.26	40.20	(1 064.9)	(82.00)	(5.2000)
15	15 225.90	1 601.59	292.30	(4 360.3)	(2 203.80)	(12.7067)
16	(14 602.30)	1 153.59	210.54	(5 904.9)	(1 677.40)	(14.6190)
18	(12 302.50)	1 803.18	329.10	(21.6)	(3 807.00)	(53.3000)
Total	(843.24)	12 805.23	2 337.06	(19 959.49)	(5 619.10)	(176.06)

* 1971 and 1975 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1975 – 1980 *
(sector 18 : General service)

$$C1i,18 + C2i,18 + C3i,18 + C4i,18 + C5i,18 = \Delta Ti,18$$

Sector	ΔT	C1	C2	C3	C4	C5
1	20.60	7.0	19.416	82.18	(88.00)	0.00
2	3 525.59	947.7	2 626.844	11118.23	(11 167.61)	0.39
3	257.70	47.6	131.828	557.97	(480.36)	0.70
4	3 903.24	797.4	2 210.131	9354.47	(8 459.00)	0.24
5	34.10	22.7	62.965	266.50	(115.38)	0.24
6	892.90	176.1	488.116	2065.97	(1 837.29)	0.00
7	(34.70)	0.0	0.000	0.00	0.00	0.00
10	(1 054.00)	2 816.6	7 806.680	33042.11	18 488.14	(4 674.49)
11	433.80	406.9	1 127.929	4774.01	8 605.22	0.00
12	(148.80)	1 007.0	2 791.152	11813.67	(8 514.74)	0.00
13	3 358.70	1 519.8	4 212.495	17829.57	(28 204.89)	0.00
14	4 345.10	166.3	460.898	1950.77	537.55	(157.62)
15	15 225.90	682.9	1 892.765	8011.21	(5 863.46)	(56.93)
16	(14 602.30)	462.4	1 281.622	5424.52	13 172.26	75.14
18	(12 302.50)	334.9	928.146	3928.42	23 927.47	(7 614.59)
Total	3 855.33	9 395.32	26 040.99	110 219.59	(0.10)	(12 426.93)

* 1975 and 1980 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price)

Decomposition of Changes Intermediate Demand : Indonesia, 1980 – 1985 *
(sector 15 : General service)

$$C1i,18 + C2i,18 + C3i,18 + C4i,18 + C5i,18 = \Delta Ti,18$$

Sector	ΔT	C1	C2	C3	C4	C5
1	(22.20)	10.3	(19.4)	(5.2)	(8.0)	0.00
2	(4 390.40)	1 577.8	(2 959.7)	(796.3)	(2 195.8)	(16.40)
3	(167.60)	98.9	(185.5)	(49.9)	(30.8)	(0.30)
4	(3 606.80)	1 557.8	(2 922.1)	(786.2)	(1 447.5)	(8.70)
5	34.10	75.2	(141.2)	(38.0)	(74.2)	0.00
6	(1 101.60)	351.6	(659.6)	(177.5)	(616.2)	0.00
7	(34.70)	0.0	(0.0)	(0.0)	(0.1)	0.00
10	(1 054.00)	17 388.1	(32 617.9)	(8 775.6)	(40 848.9)	(11 506.02)
11	433.80	3 970.5	(7 448.2)	(2 003.9)	4 006.3	0.00
12	(148.80)	2 500.0	(4 689.8)	(1 261.7)	956.2	0.00
13	3 358.70	0.0	0.0	0.0	0.0	0.00
14	4 345.10	890.4	(1 670.4)	(449.4)	1 056.6	(343.84)
15	15 225.90	1 673.4	(3 139.1)	(844.5)	8 946.7	(86.34)
16	(14 602.30)	5 345.7	(10 027.8)	(2 697.9)	7 145.7	(760.38)
18	(12 302.50)	7 407.1	(13 894.8)	(3 738.3)	(859.2)	(27 017.08)
Total	(14 033.30)	42 846.97	(80 375.34)	(21 624.34)	(23 969.10)	(39 739.06)

* 1980 and 1985 Indonesian Input–Output Tables, all figures are in Rp.m (1971 constant price

#3

1I] = T I] (71) * (g)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	1 821.85	108 825.76	0.00	265.06	0.00	0.00	0.00	0.00	0.00	440.53	0.00	0.00	0.00	0.00	0.00
2	Other Farm Food Crops	0.00	9 150.32	18.67	[illegible]	0.00	104.53	0.00	0.00	0.00	0.00	58.00	10 397.25	526.40	0.00	731.73
3	Other Agricultural Products	0.00	67.20	48 805.48	246.40	0.00	0.00	0.00	0.00	0.00	3.73	246.40	4 595.69	37.33	0.00	52.27
4	Livestock & Its Products	246.40	742.93	302.40	14 586.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10 378.58	877.33	0.00	302.40
5	Forestry	0.00	481.60	643.73	0.00	6 238.35	168.00	52.27	0.00	0.00	22 029.94	283.73	317.33	130.67	7.47	119.47
6	Fishery	0.00	0.00	0.00	11.20	0.00	15 388.67	0.00	0.00	0.00	0.00	0.00	9 628.19	205.33	0.00	194.13
7	Mining & Quarrying	0.00	0.00	589.86	0.00	0.00	205.33	589.86	37 239.69	201.60	8 523.13	0.00	0.00	78.40	0.00	0.00
10	Petroleum Refinery	7.47	85.87	1 067.72	18.67	1 399.99	593.60	1 582.92	1 638.92	8 004.20	1 347.72	6 257.01	1 526.92	16 244.65	362.13	1 119.99
11	Electricity, Gas & Water	0.00	130.67	440.53	18.67	477.86	37.33	3 046.37	608.53	666.13	388.26	2 045.85	1 791.98	1 284.26	566.13	2 064.52
12	Construction	910.93	236.93	1 310.39	231.46	895.99	7.47	216.53	339.73	231.46	291.20	1 075.19	481.60	955.73	6 675.14	750.39
13	Trade	1 370.12	3 415.97	7 669.80	1 511.99	2 318.38	2 460.25	666.93	1 097.59	2 254.91	28 152.83	3 434.64	6 839.41	5 928.48	735.46	2 691.71
14	Restaurant & Hotel	0.00	276.26	1 037.86	14.93	455.46	668.53	578.66	462.93	416.13	1 515.72	1 657.59	250.13	879.46	658.66	220.26
15	Transport & Communication	688.93	2 404.25	5 551.42	854.93	1 788.25	1 497.05	1 067.72	1 034.12	1 739.72	12 906.03	6 787.14	3 768.90	7 447.94	2 846.51	1 601.59
16	Finance, Real Estate, Business	798.93	179.20	2 079.45	100.80	563.73	369.60	1 299.19	1 433.59	369.60	2 583.45	9 191.39	1 399.99	2 045.85	3 845.30	1 153.59
18	(General) Service	0.00	78.40	171.73	0.00	52.27	33.60	186.67	440.53	44.80	336.00	33.60	1 000.12	630.93	761.59	1 333.18
	Total	5 842.62	126 077.34	70 069.01	18 222.25	14 190.28	21 473.95	9 307.12	44 295.63	14 130.55	79 418.53	31 068.54	52 464.09	39 072.74	16 660.39	12 805.23

2I,] = T I](71) * (g)-g)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(3 043.25)	(72 196.70)	0.00	(162.46)	0.00	0.00	0.00	0.00	0.00	382.81	0.00	0.00	0.00	0.00	0.00
2	Other Farm Food Crops	0.00	(6 070.47)	(22.80)	(221.96)	0.00	(167.97)	0.00	0.00	0.00	0.00	(56.54)	(11 100.50)	(375.22)	0.00	133.55
3	Other Agricultural Products	0.00	(44.58)	(59 622.47)	(151.02)	0.00	0.00	0.00	0.00	0.00	3.24	(248.78)	(4 906.54)	(26.61)	0.00	9.54
4	Livestock & Its Products	(411.59)	(492.87)	(369.42)	(8 940.00)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(11 080.57)	(625.37)	0.00	55.19
5	Forestry	0.00	[illegible]	(1 030.73)	0.00	(6 909.46)	(269.65)	10.65	0.00	0.00	19 925.44	(288.47)	(338.79)	(93.14)	8.20	21.80
6	Fishery	0.00	0.00	0.00	(6.86)	0.00	(24 727.69)	0.00	0.00	0.00	0.00	0.00	(10 279.42)	(146.36)	0.00	35.43
7	Mining & Quarrying	0.00	0.00	(720.60)	0.00	0.00	(329.94)	120.24	553 917.88	(295.58)	7 406.35	0.00	0.00	(55.66)	0.00	0.00
10	Petroleum Refinery	(12.47)	(56.96)	(1 304.37)	(11.44)	(1 550.60)	(953.83)	322.67	24 377.94	(11 735.58)	1 171.13	(6 317.45)	(1 630.20)	(13 005.14)	397.92	204.41
11	Electricity, Gas & Water	0.00	(86.69)	(538.17)	(11.44)	(529.27)	(59.99)	620.98	9 051.49	(1 289.89)	337.39	(2 065.61)	(1 913.19)	(915.44)	644.06	376.79
12	Construction	(1 521.62)	(156.51)	(1 600.82)	(141.87)	(992.38)	(12.00)	44.14	5 053.29	(339.37)	253.04	(1 085.58)	(514.17)	(681.26)	7 334.86	136.95
13	Trade	(2 288.67)	(2 266.21)	(9 614.03)	(926.72)	(2 567.79)	(3 953.31)	140.03	16 326.00	(3 306.10)	24 453.68	(3 467.61)	(7 302.01)	(4 225.94)	808.15	491.26
14	Restaurant & Hotel	0.00	(183.28)	(1 267.86)	(9.15)	(504.46)	(977.63)	117.96	6 685.80	(613.05)	1 317.12	(1 673.60)	(267.05)	(484.33)	943.52	40.20
15	Transport & Communication	(1 147.45)	(1 595.01)	(6 781.81)	(524.00)	(1 980.63)	(2 405.58)	217.65	15 381.98	(2 550.74)	11 214.96	(6 852.70)	(4 021.69)	(5 309.03)	3 130.03	292.30
16	Finance, Real Estate, Business	(1 334.54)	(118.88)	(2 540.33)	(61.78)	(624.37)	(593.90)	264.83	21 323.76	(541.89)	2 244.94	(9 280.17)	(1 494.68)	(1 458.32)	4 225.34	210.54
18	(General) Service	0.00	(52.01)	(209.79)	0.00	(57.89)	(53.99)	38.05	6 552.61	(65.68)	291.97	(33.92)	(1 162.36)	(449.74)	836.86	329.10
	Total	(9 759.59)	(83 641.67)	(85 623.21)	(11 168.70)	(15 716.85)	(34 505.98)	1 897.19	658 870.74	(20 717.89)	69 012.37	(31 368.65)	(55 012.66)	(27 851.80)	18 328.93	2 337.06

3I,] = T I](71) * (f)-g)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	[illegible]	(94 263.9)	0.0	77.8	0.0	0.0	0.0	0.0	0.0	911.9	0.0	0.0	[illegible]	0.0	0.0
2	Other Farm Food Crops	0.0	(7 925.9)	(4.9)	106.3	0.0	20.0	0.0	0.0	0.0	0.0	(35.0)	(9 086.3)	576.3	0.0	(251.4)
3	Other Agricultural Products	0.0	(58.2)	(12 882.8)	72.3	0.0	0.0	0.0	0.0	0.0	7.7	(158.3)	(4 016.2)	41.3	0.0	(18.0)
4	Livestock & Its Products	654.1	(643.5)	(79.8)	4 281.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(9 070.0)	[illegible]	0.0	(103.9)
5	Forestry	0.0	(417.2)	(222.7)	0.0	5.7	32.2	188.0	0.0	0.0	47 463.3	(182.3)	(277.3)	143.6	(4.8)	(41.0)
6	Fishery	0.0	0.0	0.0	3.3	0.0	2 951.3	0.0	0.0	0.0	0.0	0.0	(8 414.2)	225.6	0.0	(66.7)
7	Mining & Quarrying	0.0	0.0	(155.7)	0.0	0.0	39.4	2 121.7	(412 673.2)	(191.7)	17 842.2	0.0	[illegible]	86.1	0.0	0.0
10	Petroleum Refinery	19.8	(74.4)	(251.8)	5.5	1.3	113.6	5 693.8	(18 161.8)	(7 611.5)	2 789.7	(4 [illegible])	(1 334.4)	20 043.8	(232.7)	(384.8)
11	Electricity, Gas & Water	0.0	(113.2)	(116.3)	5.5	0.4	7.2	10 957.4	(6 743.4)	(823.6)	603.7	(1 314.3)	(1 566.0)	1 410.9	(376.7)	(709.3)
12	Construction	2 418.0	(207.0)	(345.9)	67.9	0.6	1.4	778.8	(3 764.7)	(220.1)	602.8	(690.7)	(420.9)	1 050.0	(4 289.7)	(257.8)
13	Trade	3 637.0	(2 958.9)	(2 077.3)	443.8	2.1	471.6	2 470.8	(12 163.0)	(2 144.3)	58 274.2	(2 206.5)	(5 977.0)	6 513.1	(472.6)	(924.8)
14	Restaurant & Hotel	0.0	(239.3)	(274.0)	4.4	0.4	116.7	2 081.4	(5 130.0)	(397.6)	3 137.4	(1 064.9)	(218.6)	746.5	(551.8)	(75.7)
15	Transport & Communication	1 823.4	(2 082.5)	(1 465.4)	251.0	1.6	287.1	3 640.5	(11 459.7)	(1 654.4)	26 714.5	(4 360.3)	(3 291.9)	8 182.4	(1 830.6)	(550.3)
16	Finance, Real Estate, Business	2 120.7	(155.2)	(548.9)	29.6	0.5	70.9	4 673.0	(15 886.4)	(351.5)	5 347.5	(5 904.9)	(1 223.5)	2 247.6	(2 471.1)	(396.3)
18	(General) Service	0.0	(67.9)	(45.3)	0.0	0.0	6.4	671.4	(4 881.7)	(42.6)	695.5	(21.6)	(952.7)	693.1	(469.4)	(619.5)
	Total	15 509.17	(109 207.07)	(18 500.80)	5 348.86	13.07	4 118.33	33 476.49	(490 863.87)	(13 437.26)	164 390.40	(19 959.49)	(45 848.93)	42 925.86	(10 719.43)	(4 399.59)

BEST AVAILABLE DOCUMENT

C4I,J = T i(71) * (ti−fi)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(1 127.89)	(21 568.76)	0.00	(298.71)	0.00	0.00	0.00	0.00	0.00	(842.40)	0.00	0.00	0.00	0.00	0.00
2	Other Farm Food Crops	0.00	24 058.87	64.16	346.33	0.00	(19.31)	0.00	0.00	0.00	0.00	688.82	2 667.31	(1 882.58)	0.00	935.30
3	Other Agricultural Products	0.00	(67.51)	11 503.37	(18.60)	0.00	0.00	0.00	0.00	0.00	(9.81)	(130.53)	(3 531.83)	(147.94)	0.00	5.30
4	Livestock & Its Products	(785.67)	(673.04)	(437.56)	(475.91)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	(3 115.66)	(2 865.29)	0.00	1 626.00
5	Forestry	0.00	(851.94)	(1 010.59)	0.00	(3 765.83)	667.04	(342.42)	0.00	0.00	(99 434.74)	(557.68)	36.68	(387.28)	(28.26)	(250.60)
6	Fishery	0.00	0.00	0.00	(8.02)	0.00	(7 074.76)	0.00	0.00	0.00	0.00	0.00	(6 395.99)	(774.15)	0.00	18.00
7	Mining & Quarrying	0.00	0.00	(1 111.07)	0.00	0.00	(315.47)	(3 420.66)	(257 245.70)	272.39	(19 286.91)	0.00	0.00	(215.75)	0.00	0.00
10	Petroleum Refinery	1 253.69	2 770.68	4 587.08	558.30	2 073.42	2 773.70	2 809.76	203 120.60	(5 598.94)	247 727.06	(2 285.84)	815.97	(1 904.64)	1 845.30	5 604.50
11	Electricity, Gas & Water	0.00	(275.90)	(635.18)	19.70	(554.93)	(7.30)	(15 856.66)	3 533.61	1 540.40	(1 918.23)	(3 065.61)	(1 176.36)	(2 620.22)	(827.72)	(4 286.80)
12	Construction	(1 830.55)	1 195.74	1 078.92	(19.74)	616.16	493.10	536.19	(559.18)	2 499.81	73.40	1 188.23	1 372.95	3 457.16	12 898.01	1 066.40
13	Trade	(5 508.63)	(2 332.28)	(6 648.65)	(943.09)	(1 556.43)	3 796.03	(1 343.94)	33 622.71	(641.43)	(95 112.06)	(3 587.29)	2 700.84	(15 175.56)	(762.40)	(2 567.00)
14	Restaurant & Hotel	0.00	(593.69)	(1 449.32)	195.24	(854.92)	(974.50)	(3 193.99)	(2 119.05)	(235.28)	(1 842.87)	9 819.60	362.31	2 143.91	1 730.24	(82.00)
15	Transport & Communication	(497.42)	(2 122.50)	(5 779.65)	(122.48)	647.03	(505.18)	(4 766.54)	6 862.79	1 329.78	(30 348.58)	6 109.25	1 576.12	5 704.79	(2 006.50)	(2 203.80)
16	Finance, R.Estate, Business	8 255.67	612.40	(678.83)	425.89	3 199.33	1 080.72	25 969.47	3 463.02	1 014.76	1 669.68	(10 916.05)	5 538.96	13 966.77	(2 902.44)	(1 677.40)
18	(General) Service	0.00	(152.18)	(82.61)	0.00	(3.83)	85.95	(371.23)	(2 336.69)	18.49	(674.56)	2 473.21	(931.29)	680.76	347.98	(3 807.00)
	Total	(40.80)	(0.10)	0.00	(341.10)	(0.00)	(0.00)	(0.00)	(11 658.10)	(0.00)	(0.00)	(263.90)	(80.00)	0.00	10 296.20	(5 619.10)

C5 I,J (71−75)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	0.0000	(0.8000)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	Other Farm Food Crops	0.0000	(4.7216)	(0.1000)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(15.9000)	(0.3818)	0.0000	(1.8000)
3	Other Agricultural Products	0.0000	(0.1000)	(1 377.1344)	(0.3549)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(31.4000)	(0.5904)	0.0000	(0.9000)
4	Livestock & Its Products	0.0000	0.0000	(0.3444)	(1.6646)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(2.7000)	(1.8027)	0.0000	(0.4000)
5	Forestry	0.0000	0.0000	(0.2629)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(0.1000)	0.0000	0.0000	(0.1000)
6	Fishery	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(0.2000)	(0.1891)	0.0000	0.0000
7	Mining & Quarrying	0.0000	0.0000	(1.3197)	0.0000	0.0000	0.0000	(0.2746)	(427.3409)	0.0000	0.0000	0.0000	0.0000	(0.1511)	0.0000	0.0000
10	Petroleum Refinery	0.0000	(1.5000)	(101.8616)	(0.3000)	(1.9975)	(0.4000)	(23.2562)	(986.8660)	0.0000	0.0000	0.0000	(181.9000)	(2 369.1907)	(15.6421)	(87.0322)
11	Electricity, Gas & Water	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	Construction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	Trade	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	Restaurant & Hotel	0.0000	0.0000	(4.9000)	0.0000	0.0000	0.0000	(0.5000)	(16.2000)	0.0000	0.0000	0.0000	(3.5000)	(24.6000)	(9.5000)	(5.2000)
15	Transport & Communication	0.0000	(1.3165)	(82.9787)	(1.1999)	(0.3589)	(0.2562)	(2.6765)	5.5315	0.0000	0.0000	0.0000	(15.3000)	(195.5539)	(55.5997)	(12.7067)
16	Finance, R.Estate, Business	0.0000	(0.2922)	(38.4734)	0.1664	(0.0921)	(0.0063)	21.8570	(84.1616)	0.0000	0.0000	0.0000	(16.0000)	6.7103	(77.9383)	(14.6190)
18	(General) Service	0.0000	0.0000	(1.5000)	0.0000	0.0000	0.0000	(0.3000)	(5.6196)	0.0000	0.0000	0.0000	(3.6000)	(14.3177)	(5.4038)	(53.3000)
	Total	0.0000	(8.7304)	(1 608.6751)	(3.3530)	(2.4485)	(0.6625)	(5.3503)	(1 514.6566)	0.0000	0.0000	0.0000	(270.6000)	(2 600.0670)	(164.0839)	(176.0579)

BEST AVAILABLE DOCUMENT

C1I.j = T I.j (75) * g

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	2 411.4	69 492.4	0.0	193.7	0.0	0.0	0.0	340.1	0.0	378.5	79.9	0.0	0.0	0.0	7.0
2	Other Farm Food Crops	0.0	14 312.1	34.4	511.6	0.0	71.1	0.0	40.3	0.0	0.0	262.6	6 785.0	84.1	0.0	947.7
3	Other Agricultural Products	0.0	25.2	38 800.4	284.8	0.0	0.0	0.0	1 098.2	0.0	4.9	120.7	1 457.0	1.2	0.0	47.6
4	Livestock & its Products	118.9	302.3	73.8	15 882.9	0.0	0.0	0.0	115.1	0.0	0.0	0.0	4 881.4	229.3	0.0	797.4
5	Forestry	13.4	59.9	274.9	35.9	4 019.3	342.8	15.9	2 204.0	0.0	17 121.0	5.7	192.4	53.6	0.0	22.7
6	Fishery	0.0	0.0	0.0	9.7	0.0	9 088.1	0.0	9.5	0.0	0.0	0.0	3 380.9	19.6	0.0	178.1
7	Mining & Quarrying	0.0	0.0	59.7	2.7	0.0	48.3	324.4	6 870.4	172.4	12 149.0	0.4	26.2	33.7	0.0	0.0
10	Petroleum Refinery	421.8	967.3	2 268.0	203.3	1 857.3	1 347.7	4 795.1	70 497.1	1 472.4	84 009.6	3 402.3	1 135.3	23 649.7	1 021.0	2 816.6
11	Electricity, Gas & Water	0.0	1.6	168.3	27.0	220.7	25.3	2 267.8	2 644.9	798.4	213.1	353.6	633.9	850.9	403.9	406.9
12	Construction	856.6	559.5	1 293.8	248.1	956.0	166.9	705.6	647.8	913.9	654.8	1 102.2	723.3	2 403.2	11 907.9	1 007.0
13	Trade	288.0	1 639.5	3 669.4	1 353.9	1 442.3	3 065.4	1 241.9	13 690.3	721.2	29 840.5	1 104.1	4 773.0	2 919.9	597.3	1 519.8
14	Restaurant & Hotel	0.0	0.0	270.6	83.3	103.6	131.9	371.2	438.5	95.6	2 380.0	4 313.9	260.8	1 605.8	1 555.0	168.3
15	Transport & Communication	885.6	996.5	2 093.2	900.0	1 782.8	943.8	1 047.2	4 775.6	1 153.7	18 022.2	6 502.0	2 657.8	11 776.3	2 623.0	682.9
16	Finance, Real Estate, Busine	3 921.8	326.5	1 270.5	250.2	1 521.9	627.6	11 681.5	4 639.7	484.9	6 142.7	2 523.9	2 609.1	7 293.7	3 477.5	462.4
18	(General) Service	0.0	5.3	96.2	73.0	42.8	53.0	335.5	312.4	24.6	507.0	831.9	315.0	1 062.2	990.8	334.9
	Total	8 917.38	88 688.20	50 313.32	20 037.08	11 946.65	15 910.83	22 786.16	108 332.96	5 834.91	172 032.32	20 609.26	29 831.03	51 983.32	22 576.39	9 395.32

C2I.j = T I.j(75) * (g|−g)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(1 394.621)	(13 158.692)	0.000	593.319	0.000	0.000	0.000	(798.744)	0.000	387.797	(195.812)	0.000	0.000	0.000	19.416
2	Other Farm Food Crops	0.000	(2 710.055)	30.181	1 567.076	0.000	79.361	0.000	(115.699)	0.000	0.000	(643.324)	11 067.538	26.040	0.000	2 626.844
3	Other Agricultural Products	0.000	(4.765)	34 038.182	811.314	0.000	0.000	0.000	(2 579.198)	0.000	2.788	(295.722)	2 376.650	0.365	0.000	131.828
4	Livestock & its Products	364.194	(57.241)	64.783	45 654.372	0.000	0.000	0.000	(270.220)	0.000	0.000	0.000	7 962.425	71.005	0.000	2 210.131
5	Forestry	28.819	(11.343)	241.129	109.900	6 672.980	382.488	38.976	(5 176.154)	0.000	9 785.467	(13.872)	313.907	16.603	0.000	62.965
6	Fishery	0.000	0.000	0.000	29.681	0.000	10 137.417	0.000	(22.294)	0.000	0.000	0.000	5 514.921	6.122	0.000	488.116
7	Mining & Quarrying	0.000	(0.006)	52.407	8.423	0.000	54.526	795.476	(16 135.323)	502.380	6 943.759	(15.796)	42.716	10.430	0.000	0.000
10	Petroleum Refinery	(990.550)	(183.171)	1 989.621	622.699	4 007.831	1 503.694	11 772.272	(165 565.050)	4 290.497	48 015.485	(8 334.424)	1 851.887	7 323.375	707.992	7 806.680
11	Electricity, Gas & Water	0.000	(0.304)	95.021	82.625	476.142	28.194	5 567.618	(6 211.754)	2 320.657	121.813	(866.238)	1 033.934	263.494	280.101	1 127.929
12	Construction	489.574	(105.941)	1 135.002	759.874	2 062.930	186.259	1 732.382	(1 521.458)	2 662.890	374.252	(2 699.908)	1 179.755	744.170	8 257.293	2 791.152
13	Trade	(705.457)	(310.445)	3 219.013	4 147.318	3 112.336	3 420.152	3 048.806	(32 152.180)	2 101.373	17 060.429	(2 704.638)	7 785.562	904.172	414.158	4 212.495
14	Restaurant & Hotel	0.000	0.000	237.396	246.072	223.556	147.145	911.315	(1 029.911)	278.708	1 531.770	(10 567.335)	425.449	497.238	1 078.319	460.898
15	Transport & Communication	274.239	(188.683)	1 836.277	2 756.923	3 846.927	1 053.057	2 571.048	(11 215.628)	3 361.662	10 300.523	(15 927.458)	4 335.326	3 646.660	1 818.883	1 892.765
16	Finance, Real Estate, Busine	2 719.473	(61.828)	1 114.585	766.592	3 283.906	700.224	28 676.686	(10 896.438)	1 412.615	3 510.831	(6 182.500)	4 255.982	2 258.570	2 411.385	1 281.622
18	(General) Service	0.000	(1.010)	84.425	223.710	92.248	59.165	823.639	(733.784)	71.537	289.782	(2 037.740)	313.817	328.934	687.064	928.146
	Total	785.659	(18 793.491)	44 138.023	61 379.899	25 778.857	17 751.682	55 941.217	(254 423.834)	17 002.319	90 324.697	(50 484.768)	48 659.869	16 097.200	15 655.195	26 040.986

C3I.j = T I.j(75) * (I|−g)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	−1363.21	−64811.55	0.00	−104.15	0.00	0.00	0.00	602.10	0.00	−1004.16	343.67	0.00	0.00	0.00	82.18
2	Other Farm Food Crops	0.00	−13348.05	−41.71	−275.00	0.00	−214.06	0.00	87.21	0.00	0.00	1129.12	−443.07	225.98	0.00	11116.23
3	Other Agricultural Products	0.00	−23.48	−47044.85	−142.42	0.00	0.00	0.00	1944.21	0.00	−7.22	519.03	−95.15	3.34	0.00	557.97
4	Livestock & its Products	−67.21	−281.93	−80.54	−8541.06	0.00	0.00	0.00	203.60	0.00	0.00	0.00	−318.76	616.18	0.00	9354.47
5	Forestry	−7.55	−55.87	−333.27	−19.29	−12003.93	−1031.80	17.76	3901.81	0.00	−25338.33	24.35	−12.57	144.06	0.00	266.50
6	Fishery	0.00	0.00	0.00	−5.21	0.00	−27346.63	0.00	16.81	0.00	0.00	0.00	−220.78	53.13	0.00	2065.97
7	Mining & Quarrying	0.00	−0.03	−72.43	−1.48	0.00	−147.09	362.86	12162.85	643.28	−17980.06	27.72	−1.71	90.51	0.00	0.00
10	Petroleum Refinery	−238.43	−902.19	−2749.89	−109.31	−5547.08	−4056.35	5363.30	124803.71	5493.86	−124330.54	14627.98	−74.14	63551.92	−1606.57	33042.11
11	Electricity, Gas & Water	0.00	−1.50	−131.33	−14.50	−659.01	−76.06	2536.54	4682.45	2971.53	−315.42	1520.36	−41.39	2286.59	−635.60	4774.01
12	Construction	−484.23	−521.80	−1568.71	−133.39	−2855.22	−502.45	789.25	1146.88	3409.75	−969.08	4738.68	−47.23	6457.87	−16737.35	11813.67
13	Trade	−162.31	−1529.07	−4449.06	−728.04	−4307.66	−9228.18	1389.00	24236.46	2690.75	−44176.01	4746.90	−311.68	7846.36	−939.80	17829.57
14	Restaurant & Hotel	0.00	0.00	−328.11	−43.20	−309.41	−396.94	415.18	776.35	356.88	−3966.34	18547.02	−17.03	4315.01	−2446.91	1950.77
15	Transport & Communication	−500.65	−929.36	−2537.96	−483.97	−5324.38	−2840.72	1171.34	8454.39	4304.51	−26672.01	27954.72	−173.56	31645.56	−4127.39	8011.21
16	Finance, Real Estate, Busine	−2217.02	−304.52	−1540.49	−134.57	−4545.13	−1888.92	13065.84	8213.79	1808.81	−9090.89	10851.08	−170.38	19599.76	−5471.89	5424.52
18	(General) Service	0.00	−4.68	−116.69	−39.27	−127.68	−159.60	375.24	553.13	91.60	−750.38	3576.49	−20.57	2854.46	−1559.08	3928.42
	Total	(5 041.11)	(82 714.31)	(61 004.04)	(10 774.97)	(35 679.51)	(47 886.82)	25 486.10	191 785.88	21 770.97	(254 600.42)	88 607.21	(1 948.02)	139 690.78	(35 524.59)	110 219.59

BEST AVAILABLE DOCUMENT

70

C4IJ = T I(75) * (II-I)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	5 637.81	9 477.40	0.00	(50.55)	0.00	0.00	0.00	(1 182.46)	0.00	1 291.86	(470.20)	0.00	0.00	0.00	(88.00)
2	Other Farm Food Crops	0.00	(14 534.18)	143.33	(1 419.54)	0.00	(49.11)	0.00	(171.28)	0.00	0.00	(1 528.61)	(20 748.74)	(559.21)	0.00	(11 167.61)
3	Other Agricultural Products	0.00	12.87	(22 774.85)	356.06	0.00	0.00	0.00	(3 818.23)	0.00	16.25	(693.63)	3 065.29	(8.47)	0.00	(480.36)
4	Livestock & Its Products	822.78	2 837.06	780.91	(739.12)	0.00	0.00	0.00	(400.03)	0.00	0.00	0.00	20 799.86	8 620.02	0.00	(8 459.00)
5	Forestry	9.52	213.01	792.78	(27.28)	(3 772.15)	1 029.89	(115.81)	(7 657.15)	0.00	29 128.97	(14.14)	521.62	(103.40)	0.00	(115.38)
6	Fishery	0.00	0.00	0.00	(16.96)	0.00	(3 070.64)	0.00	(33.00)	0.00	0.00	0.00	(8 229.67)	(105.42)	0.00	(1 837.29)
7	Mining & Quarrying	0.00	(0.10)	(222.11)	(14.39)	0.00	5.29	17 329.84	328 143.37	(860.47)	19 096.46	(20.68)	(146.79)	(13.93)	0.00	0.00
10	Petroleum Refinery	(1 166.71)	(2 687.89)	(3 235.71)	(999.96)	(16.79)	916.72	(17 623.19)	(244 727.59)	16 502.52	(143 255.91)	(11 828.29)	2 492.35	(52 644.16)	(1 968.92)	18 488.14
11	Electricity, Gas & Water	0.00	(4.70)	651.49	(38.60)	(28.39)	92.39	(17 111.78)	(4 965.14)	9 946.40	461.38	4 533.66	6 907.00	(1 572.00)	(1 247.53)	8 605.22
12	Construction	(2 034.05)	(165.25)	(953.69)	(853.94)	371.97	0.15	7 017.13	(1 079.66)	(6 801.60)	322.63	384.85	1 040.92	(15 296.52)	(5 886.80)	(8 514.74)
13	Trade	756.17	2 604.11	1 [illegible]84.27	3 189.56	(3 359.92)	(643.32)	(7 000.95)	(46 390.80)	(5 655.27)	92 713.05	(4 367.15)	(5 398.56)	(15 272.21)	(271.81)	(28 204.89)
14	Restaurant & Hotel	0.00	0.00	(515.90)	(387.60)	92.86	(174.59)	8 182.40	3 923.43	(511.13)	(3 365.27)	(15 500.36)	(632.14)	(2 238.10)	(284.96)	537.55
15	Transport & Communication	1 821.52	688.17	11 748.69	286.16	(3 973.92)	645.42	(7 855.63)	(12 399.65)	(10 416.24)	2 580.63	(8 444.09)	(1 040.45)	13 659.28	1 210.09	(5 863.46)
16	Finance, R. Estate, Business	(5 953.43)	1 155.53	2 885.88	707.03	765.67	1 006.89	(4 971.43)	(9 851.12)	(3 801.31)	1 062.79	20 572.56	(4 034.34)	(24 225.72)	3 060.34	13 172.26
18	(General) Service	0.00	203.95	9 216.92	9.23	9 920.68	191.11	22 149.43	609.41	1 597.11	147.16	8 374.28	3 403.66	89 757.35	5 389.50	23 927.47
	Total	(306.40)	(0.00)	0.00	0.00	0.00	(49.80)	0.00	0.00	0.00	0.00	(0.00)	0.00	(0.00)	(0.10)	(0.10)

C5 II (75-80)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	0.000	(0.796)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
2	Other Farm Food Crops	0.000	(228.975)	0.058	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(181.000)	(0.374)	0.000	0.392
3	Other Agricultural Products	0.000	(0.087)	(1 076.206)	(3.282)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(40.891)	0.000	0.000	0.696
4	Livestock & Its Products	0.000	0.000	0.000	(378.761)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(149.393)	1.262	0.000	0.241
5	Forestry	0.000	0.000	0.016	0.000	0.000	0.000	0.000	0.000	0.000	(0.200)	0.000	(0.127)	0.000	0.000	0.242
6	Fishery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	(12.[illegible])	0.000	0.000	0.000
7	Mining & Quarrying	0.000	0.000	0.000	0.000	0.000	0.000	(0.800)	(160 094.224)	0.000	(744.500)	0.000	0.000	(19.000)	0.000	0.000
10	Petroleum Refinery	(37.200)	(105.578)	(4 524.644)	(241.053)	(5 294.072)	(3 304.349)	(17 960.011)	(2 851.176)	(13 496.700)	(8 217.900)	(7 954.800)	(4 405.984)	(114 215.728)	(651.578)	(4 674.494)
11	Electricity, Gas & Water	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
12	Construction	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
13	Trade	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
14	Restaurant & Hotel	0.000	0.000	(17.595)	0.000	(20.700)	0.000	(593.205)	(308.045)	(19.600)	(191.900)	(596.700)	(29.466)	(400.145)	(268.073)	(157.623)
15	Transport & Communication	0.000	(0.326)	3.605	(0.397)	(18.068)	0.000	(200.925)	(235.324)	(45.600)	(68.500)	(2 909.400)	(32.672)	(15 704.334)	(237.958)	(56.934)
16	Finance, R. Estate, Business	0.000	0.035	(0.417)	(0.200)	(0.156)	0.000	(51 753.594)	(171.338)	0.000	(760.300)	(3 615.200)	(360.584)	(3 736.223)	(1 753.694)	75.138
18	(General) Service	0.000	0.000	46.087	0.000	0.000	0.000	6.634	(1.236)	0.000	0.000	0.000	12.203	401.710	(200.707)	(7 614.590)
	Total	(37.200)	(335.726)	(5 569.097)	(823.693)	(5 332.995)	(3 304.349)	(70 501.901)	(163 661.344)	(13 561.900)	(9 983.300)	(15 158.100)	(5 201.369)	(133 672.833)	(3 132.010)	(12 428.932)

BEST AVAILABLE DOCUMENT

C1i] = T i] (80) * (g)

Section	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	3 110.8	52 415.6	0.0	300.8	0.0	0.0	0.0	0.0	0.0	842.1	0.4	0.0	0.0	0.0	10.3
2	Other Farm Food Crops	0.0	8 743.8	68.7	478.4	0.0	25.7	0.0	0.0	0.0	0.0	5.9	4 273.1	8.3	0.0	1 577.8
3	Other Agricultural Products	0.0	21.2	29 870.4	515.8	0.0	0.0	0.0	0.0	0.0	7.8	4.7	2 765.8	0.8	0.0	98.9
4	Livestock & its Products	287.2	915.1	259.4	25 502.7	0.0	12.2	0.0	0.0	0.0	0.0	0.0	11 853.9	2 515.7	0.0	1 557.8
5	Forestry	11.9	95.5	446.1	51.3	2 259.6	435.1	1.3	1.4	0.0	20 396.8	4.7	394.0	67.5	0.0	75.2
6	Fishery	0.0	0.0	0.0	11.5	0.0	4 070.4	0.0	0.0	0.0	0.0	0.0	3 130.1	8.4	0.0	351.6
7	Mining & Quarrying	0.0	0.0	0.0	0.9	0.0	27.3	4 866.8	86 508.2	241.9	14 086.9	4.2	0.1	54.9	0.0	0.0
10	Petroleum Refinery	15.0	36.7	1 278.0	83.0	1 468.4	941.0	4 658.4	91.9	7 027.0	29 755.4	2 030.2	2 180.6	28 046.3	312.7	17 388.1
11	Electricity, Gas & Water	0.0	0.0	259.1	34.1	1.8.0	35.1	46.3	1 039.7	4 538.3	278.2	1 627.2	2 572.9	1 088.3	8.6	3 970.5
12	Construction	113.0	362.6	948.3	191.3	849.4	88.7	3 047.2	288.2	731.5	585.8	1 693.9	1 254.8	405.5	7 843.8	2 500.0
13	Trade	391.9	1 870.8	3 718.9	2 973.1	317.8	1 469.8	607.6	206.6	506.5	45 864.1	528.9	5 266.1	1 306.9	399.2	0.0
14	Restaurant & Hotel	0.0	0.0	120.8	34.8	105.0	27.1	2 706.6	1 338.6	125.9	1 245.3	2 450.5	204.9	2 232.7	1 143.2	800.4
15	Transport & Communication	1 032.1	887.3	4 800.0	1 525.7	438.9	659.8	32.8	1 033.1	473.8	14 520.4	7 359.6	3 415.4	23 764.1	2 343.8	1 673.4
16	Finance, Real Estate, Busine	1 342.7	519.3	1 870.6	578.4	1 394.7	580.7	20 676.9	1 543.2	340.6	5 010.9	10 929.4	2 612.5	6 686.2	3 465.1	5 345.7
18	(General) Service	75.3	54.0	2 352.9	120.4	2 471.8	75.1	6 071.9	416.7	457.0	428.2	3 265.0	1 271.5	23 898.0	2 097.4	7 407.1
	Total	6 379.73	63 921.92	45 991.01	32 402.04	9 471.48	8 449.02	42 715.77	92 557.78	15 342.50	133 021.60	29 904.75	41 204.73	90 083.30	17 613.96	42 846.97

C2i,] = T i](80) * (g)−g)

Section	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(12 671.2)	(78 673.7)	0.0	142.5	0.0	0.0	0.0	0.0	0.0	797.2	2.9	0.0	0.0	0.0	(19.4)
2	Other Farm Food Crops	0.0	(10 122.1)	(159.7)	226.7	0.0	(44.5)	0.0	0.0	0.0	0.0	38.6	2 205.6	5.7	0.0	(2 959.7)
3	Other Agricultural Products	0.0	(32.0)	(71 570.7)	244.4	0.0	0.0	0.0	0.0	0.0	7.4	30.8	1 427.6	0.4	0.0	(185.5)
4	Livestock & its Products	(1 188.6)	(1 373.5)	(621.5)	12 082.7	0.0	(21.2)	0.0	0.0	0.0	0.0	0.0	6 118.7	1 727.6	0.0	(2 922.1)
5	Forestry	(49.2)	(143.4)	(1 068.8)	24.3	(9 713.1)	(752.7)	(0.6)	3.2	0.0	19 308.8	30.9	203.4	46.4	0.0	(141.2)
6	Fishery	0.0	0.0	0.0	5.4	0.0	(7 040.9)	0.0	0.0	0.0	0.0	0.0	1 620.3	5.7	0.0	(659.6)
7	Mining & Quarrying	0.0	0.0	(0.1)	0.4	0.0	(47.1)	(2 133.6)	203 082.4	453.6	13 335.5	27.6	0.1	37.7	0.0	(0.0)
10	Food, Beverage & Tobacco	(62.2)	(55.1)	(3 062.1)	39.3	(6 312.1)	(1 627.7)	(2 042.2)	215.7	14 866.8	28 168.3	13 245.7	1 125.6	19 261.0	515.7	(32 617.9)
11	Electricity, Gas & Water	0.0	0.0	(620.6)	16.2	(722.0)	(62.5)	(20.3)	2 440.4	8 511.5	263.3	10 616.5	1 328.0	747.4	14.1	(7 448.2)
12	Construction	(467.4)	(544.3)	(2 272.1)	90.6	(3 651.0)	(153.4)	(1 335.9)	676.5	1 371.9	554.4	11 051.3	647.7	278.5	12 933.5	(4 689.8)
13	Trade	(1 621.4)	(2 807.9)	(8 910.6)	1 408.6	(1 366.3)	(2 542.4)	(266.4)	698.2	949.9	43 417.8	3 450.7	2 718.2	897.5	658.2	0.0
14	Restaurant & Hotel	0.0	0.0	(288.9)	16.4	(451.2)	(46.9)	(1 186.6)	3 142.6	236.1	1 178.9	15 987.8	105.8	1 533.3	1 885.0	(1 670.4)
15	Transport & Communication	(4 270.5)	(1 331.8)	(11 501.0)	722.6	(1 877.9)	(1 141.3)	(14.4)	2 424.9	868.6	13 745.9	48 016.1	1 763.0	16 320.2	3 864.7	(3 139.1)
16	Finance, Real Estate, Busine	(5 556.0)	(779.4)	(4 481.9)	274.0	(5 995.3)	(1 004.5)	(9 064.6)	3 622.5	538.7	4 743.6	71 306.5	1 346.5	4 591.8	5 713.6	(10 027.8)
18	(General) Service	(311.5)	(81.0)	(5 637.7)	57.0	(10 625.3)	(129.9)	(2 661.9)	978.1	857.1	405.4	21 301.5	656.3	16 412.1	3 458.4	(13 894.8)
	Total	(26 398.12)	(95 944.20)	(110 196.17)	15 351.47	(40 714.16)	(14 614.97)	(18 726.31)	217 262.56	28 774.25	125 926.45	195 105.76	21 268.82	61 865.36	29 043.19	(60 375.34)

C3i,] = T i](80) * (f)−g)

Section	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	13 031.7	(125 922.9)	0.0	579.3	0.0	0.0	0.0	0.0	0.0	(897.7)	(3.5)	0.0	0.0	0.0	(5.2)
2	Other Farm Food Crops	0.0	(16 201.2)	(4.7)	921.4	0.0	9.6	0.0	0.0	0.0	0.0	(46.3)	730.4	(8.0)	0.0	(796.3)
3	Other Agricultural Products	0.0	(51.2)	(2 087.9)	993.3	0.0	0.0	0.0	0.0	0.0	(8.3)	(36.9)	472.8	(0.5)	0.0	(49.9)
4	Livestock & its Products	1 203.4	(2 198.3)	(18.1)	49 115.1	0.0	4.5	0.0	0.0	0.0	0.0	0.0	2 026.2	(2 409.0)	0.0	(788.2)
5	Forestry	49.8	(229.5)	(31.2)	98.8	2 203.8	181.8	(1.1)	1.4	0.0	(21 742.8)	(37.1)	67.3	(64.7)	0.0	(38.0)
6	Fishery	0.0	0.0	0.0	22.1	0.0	1 513.1	0.0	0.0	0.0	0.0	0.0	536.6	(8.0)	0.0	(177.5)
7	Mining & Quarrying	0.0	0.0	(0.0)	1.8	0.0	10.1	(3 951.4)	85 094.8	912.7	(15 016.5)	(33.1)	0.0	(52.6)	0.1	(0.0)
10	Petroleum Refinery	63.0	(88.1)	(89.3)	159.8	1 432.1	349.8	(3 782.1)	90.4	29 911.4	(31 719.1)	(15 885.9)	372.7	(26 863.5)	1 177.3	(8 775.6)
11	Electricity, Gas & Water	0.0	0.0	(16.1)	65.7	163.8	13.4	(37.6)	1 022.7	17 124.8	(296.5)	(12 732.6)	439.8	(1 042.4)	32.3	(2 003.9)
12	Construction	473.3	(671.2)	(66.3)	368.4	828.4	33.0	(2 474.0)	283.5	2 760.2	(524.2)	(13 254.0)	214.5	(388.4)	29 528.2	(1 261.7)
13	Trade	1 641.7	(4 494.3)	(259.9)	5 725.9	310.0	546.4	(493.3)	291.8	1 911.2	(48 890.9)	(4 138.6)	900.1	(1 251.8)	1 502.7	0.0
14	Restaurant & Hotel	0.0	0.0	(8.4)	66.7	102.4	10.1	(2 197.5)	1 316.9	475.0	(1 327.5)	(19 174.5)	35.0	(2 136.5)	4 303.7	(449.4)
15	Transport & Communication	4 323.7	(2 131.7)	(335.5)	2 938.3	426.1	245.3	(26.6)	1 016.2	1 787.8	(15 476.7)	(57 586.8)	583.8	(22 761.9)	8 823.4	(844.5)
16	Finance, Real Estate, Busine	5 625.2	(1 247.6)	(130.7)	1 114.0	1 360.3	215.9	(16 787.5)	1 518.0	1 285.1	(5 341.6)	(85 519.6)	446.6	(6 404.2)	13 044.6	(2 697.9)
18	(General) Service	315.4	(129.6)	(164.5)	231.8	2 410.8	27.9	(4 929.8)	409.9	1 724.5	(456.5)	(25 547.4)	217.3	(22 890.1)	7 895.9	(3 738.3)
	Total	26 727.28	(153 565.62)	(3 214.64)	62 402.39	9 237.59	3 140.75	(34 680.76)	91 045.26	57 692.75	(141 800.34)	(233 996.31)	7 043.05	(66 284.05)	66 308.25	(21 624.34)

BEST AVAILABLE DOCUMENT

C4I,j = T I](80) * (TI|−f)

Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	521.0	(44 905.1)	0.0	497.9	0.0	0.0	0.0	0.0	0.0	1 060.1	1.2	0.0	0.0	0.0	(5.0)
2	Other Farm Food Crops	0.0	30 360.4	237.4	(459.5)	0.0	(95.4)	0.0	0.0	0.0	0.0	5.6	(2 730.9)	30.0	0.0	(2 195.8)
3	Other Agricultural Products	0.0	957.3	(5 404.4)	3 064.0	0.0	0.0	0.0	0.0	0.0	62.8	4.1	(2 826.2)	20.5	0.0	(30.8)
4	Livestock & Its Products	(96.9)	4 589.4	415.2	(11 647.8)	0.0	(38.7)	0.0	0.0	0.0	0.0	0.0	(9 831.6)	(11 917.7)	0.0	(1 447.5)
5	Forestry	(11.9)	29.5	(148.4)	298.2	(2 883.7)	(1 598.6)	34.5	(11.6)	0.0	(100 512.1)	(12.3)	(777.7)	(315.5)	0.0	(74.2)
6	Fishery	0.0	0.0	0.0	(32.3)	0.0	(13 907.3)	0.0	0.0	0.0	0.0	0.0	(5 657.2)	16.9	0.0	(616.2)
7	Mining & Quarrying	0.0	0.0	(0.1)	(6.4)	0.0	3 946.3	(3 582.3)	(7 158.2)	10 463.0	14 424.7	(14.1)	0.0	(257.8)	(0.2)	(0.1)
10	Petroleum Refinery	(41.2)	576.9	1 085.6	3 590.0	2 046.9	5 816.7	(30 930.4)	2 744.8	3 149.1	40 890.3	8 228.9	2 456.0	10 176.0	(179.8)	(40 848.9)
11	Electricity, Gas & Water	0.0	0.0	264.0	1 202.6	100.0	58.2	497.7	(3 304.9)	(11 410.2)	(115.1)	4 772.9	433.0	878.0	5 302.5	4 006.3
12	Construction	88.0	661.1	3 801.3	355.7	371.8	300.7	(148.6)	2 696.3	(2 010.5)	704.5	2 603.4	(615.3)	18 779.7	(27 059.5)	956.2
13	Trade	2 189.1	3 [illegible]	1 988.2	5 260.7	1 160.0	2 902.6	(6 459.6)	(537.6)	5 760.8	4 221.9	4 753.4	10 520.4	17 053.3	(1 004.5)	0.0
14	Restaurant & Hotel	0.0	0.0	236.9	(22.1)	263.8	331.0	(1 600.1)	(1 225.0)	(1 155.3)	851.8	8 187.0	1 501.1	273.7	(2 058.7)	1 056.6
15	Transport & Communication	(3 627.2)	1 614.7	(5 160.5)	(1 465.4)	533.0	730.6	15 225.9	(22.2)	480.6	12 167.5	8 085.1	(903.4)	(13 596.6)	(5 051.4)	8 946.7
16	Finance, R. Estate, Business	582.7	2 242.4	4 492.2	(485.1)	(5.6)	1 275.9	(14 602.9)	4 615.0	(1 865.6)	26 966.4	(33 075.6)	11 966.9	13 187.6	40 500.6	7 145.7
18	(General) Service	(109.4)	411.9	(1 807.4)	(160.5)	(1 585.4)	158.5	(12 303.1)	2 203.5	(3 393.7)	(758.6)	(3 539.7)	(3 535.0)	(34 128.3)	(10 449.1)	(859.2)
	Total	(527.80)	(22.60)	(0.00)	0.00	0.00	(119.40)	(53 868.85)	0.00	(0.00)	0.00	0.00	(0.00)	(0.00)	0.00	(23 969.10)

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Sector	Description	1	2	3	4	5	6	7	10	11	12	13	14	15	16	18
1	Rice (Paddy)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2	Other Farm Food Crops	0.0000	(1 211.3122)	(0.1000)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(407.7843)	0.0000	0.0000	(16.4000)
3	Other Agricultural Products	0.0000	0.0000	(94.7642)	(55.4860)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(454.0563)	0.0000	0.0000	(0.3000)
4	Livestock & Its Products	0.0000	0.0000	0.0000	(609.0752)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(156.7111)	0.0000	0.0000	(8.7000)
5	Forestry	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(0.3089)	0.0000	(0.7142)	0.0000	0.0000	0.0000
6	Fishery	0.0000	0.0000	0.0000	0.0000	0.0000	(0.5000)	0.0000	0.0000	0.0000	0.0000	0.0000	(49.4275)	0.0000	0.0000	0.0000
7	Mining & Quarrying	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(8.3017)	11 026.3034	(47.5000)	(1 001.3418)	0.0000	0.0000	(40.9809)	0.0000	0.0000
10	Petroleum Refinery	(15 358.2400)	657.8221	(30 515.6658)	7 805.8494	(57 810.9666)	5 069.7166	(381 031.4646)	14 747.9321	6 903.0475	(17 962.5120)	(49 473.5443)	(4 655.0849)	(2 359 896.1202)	116.4253	(11 506.0153)
11	Electricity, Gas & Water	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
12	Construction	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
13	Trade	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
14	Restaurant & Hotel	0.0000	0.0000	(12.7778)	0.0000	(24.0986)	0.0000	(879.1377)	(812.4061)	(33.0419)	(525.7222)	(4 040.2340)	(139.1578)	(1 399.3072)	(565.3722)	(343.8446)
15	Transport & Communication	0.0000	0.0000	(23.5826)	(0.1995)	(30.2570)	0.0000	(44 553.7400)	(602.9113)	16.1534	(138.1301)	(4 699.5823)	(198.6446)	(37 614.3623)	(746.5064)	(86.3393)
16	Finance, R. Estate, Business	0.0000	0.0000	0.0000	(0.0741)	0.0000	0.0000	(181 606.8307)	(2 303.8000)	(60.8000)	(11 094.0427)	(31 159.8309)	(3 527.6223)	(12 001.6379)	(21 558.1870)	(760.3766)
18	(General) Service	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	(135.9468)	(27 017.0808)
	Total	(15 358.2400)	(553.4901)	(30 646.8903)	7 140.8145	(57 865.3223)	5 069.2166	(608 279.4747)	21 965.1181	6 777.8590	(30 722.1477)	(89 373.1915)	(9 589.2030)	(2 410 952.4085)	(22 887.5868)	(39 739.0567)

BEST AVAILABLE DOCUMENT

C1ij = 0Tij . g *SECTOR 10, 17 and 19 REMOVED*

1971 – 1975

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	721.614390	43104.63007	0	104.988978	0	0	0	24434.3364	39.9253863	0	174.488725	0	0	0	0	0
2	0	3824.337849	7.393590064	143.435647	0	41.4041043	0	3500.12553	89.4997468	0	0	22.1807701	4118.22966	208.499239	0	289.828730
3	0	26.61692423	19331.28058	97.5953888	0	0	0	16100.2817	2691.26678	0	1.47871801	97.5953888	1820.30187	14.7871601	0	20.7020521
4	97.5953888	294.2648645	119.7761590	5777.35127	0	0	0	87.2443627	224.785137	0	0	4110.83507	347.498733	0	0	119.776159
5	0	190.7546236	334.1902709	0	2470.93779	66.5423105	20.7020521	168.573853	2336.37448	0	9982.28603	112.382568	125.691031	51.7551304	2.95743602	47.3189764
6	0	0	0	4.43615403	0	6095.27564	0	276.520268	1.47871601	0	0	3813.81375	81.3294907	0	0	76.8933368
7	0	0	233.6374460	0	0	81.3294907	233.637446	54.7125864	2268.35343	79.8507726	3375.91322	0	0	31.0530782	0	0
8	0	106.4878969	0	93.1592346	0	50.2764124	0	2432.49113	1233.25082	0	0	272.084114	6827.24106	542.689510	2.95743602	264.690524
9	2441.38343	1533.430579	2516.773057	94.6379528	589.488191	601.838231	580.434126	2524.17164	37516.5547	374.115657	20197.8093	3369.99835	668.380541	13097.0054	1387.03749	3830.25272
11	0	51.75513044	174.4887255	7.39359006	189.275905	14.7871601	1206.63389	1673.90379	2183.38445	343.062578	153.788873	810.337471	709.784646	508.678998	232.158728	817.731061
12	380.807195	94.63795282	519.0300225	91.6805187	354.892323	2.95743602	85.7656447	170.052571	4913.806688	91.6805187	115.340005	425.870787	190.754623	376.551811	2643.94780	297.222320
13	542.689510	1353.026981	3117.137571	508.680795	918.283865	974.475170	272.084114	3991.05991	9654.54990	893.145879	11151.0125	1380.42057	2709.01139	2348.20420	291.307445	1068.15588
14	0	109.4251329	411.0836075	5.91487205	180.403597	241.031038	229.201291	650.635925	671.337977	165.616417	600.359513	656.550797	99.0741068	269.126878	340.105142	87.2443627
15	272.084114	952.2944002	2198.853685	338.626424	708.305928	592.965923	422.913351	3439.49809	3856.49657	689.082593	5111.92817	2688.30934	1492.02647	2950.04243	1128.26184	634.370027
16	316.445654	70.97848481	823.6459331	39.9253863	223.286419	148.393083	514.593868	740.837724	1839.52520	148.393083	1023.27286	3640.60374	554.519254	810.337471	1523.07955	456.923865
18	0	31.05307827	68.02102859	0	20.7020521	13.3084621	73.9359006	193.712059	215.892829	17.7448161	133.084621	13.3084621	431.785659	249.903344	301.658474	714.220800

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1975 – 1980

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	5479.56374	157910.0364	0	440.117536	0	0	0	301072.602	207.302277	0	1541.48991	181.640531	0	0	0	15.9177206
2	0	32521.83711	78.17534744	1162.43989	0	161.631807	0	31492.6895	704.247583	0	0	596.761758	15417.7256	191.087029	0	2153.57833
3	0	57.19965954	88187.51059	601.823726	0	0	0	77786.6277	6388.50149	0	11.0828989	274.320343	3310.81150	2.82651113	0	108.076859
4	270.154959	686.9165876	187.8055031	36091.27431	0	0	0	1929.76328	2785.52672	0	0	0	11092.1222	521.045013	0	1811.94240
5	30.3478037	136.1188257	624.5845789	81.5225316	9133.20129	779.0013451	36.0752079	540.979354	10239.0365	0	38904.6199	12.8880838	437.291025	121.837506	0	51.6210191
6	0	0	0	22.01703411	0	20646.5481	0	34887.6289	0	0	0	0	7882.80602	44.9266506	0	400.174471
7	0	0.074381872	135.7463163	6.24807724	0	111.052134	737.198733	722.322358	73205.3739	391.769319	27606.6830	14.6532267	59.5054975	76.5389482	0	0
8	0	0	9.372115868	1412.734691	0	973.956231	0	37222.2507	3983.07488	0	0	0	41670.5098	2135.42918	88.0681364	1705.79947
9	157.689588	11427.65890	10944.47426	678.5858181	2554.79415	4584.52667	7219.72763	12461.4925	154454.700	13508.0454	34286.9189	12923.9246	6030.73341	34761.3265	3839.81537	23006.3956
11	0	3.644711726	246.1296143	61.2906825	501.408198	57.4226051	5153.25047	6641.40858	9432.14203	1809.71094	484.300388	803.547362	1440.33058	1933.55678	917.872300	924.715432
12	1948.42482	1271.334955	2939.943489	563.665825	2172.39695	379.347547	1603.45001	1457.81030	2525.83648	2076.59310	1487.93498	2504.51201	1643.48748	5460.81951	27058.6373	2288.28390
13	854.411709	3725.490439	8338.059084	3076.43422	3277.48842	8965.71354	2821.89945	37698.0632	17813.1938	1638.70702	67828.0852	2508.90054	10845.7895	6834.93738	1357.17163	3453.55031
14	0	0	614.9149356	182.533113	235.418624	299.684562	843.490428	1408.27198	1087.31420	217.343829	6089.94138	9832.56376	592.674755	3648.80272	3533.58521	377.859909
15	2012.40154	2284.332948	4756.423185	2045.05518	4051.05989	2144.72689	2379.69933	12766.6069	10613.1030	2621.51489	40952.3528	14774.7887	6039.36171	26759.6968	5960.36816	1551.75461
16	8911.54331	741.9591729	2887.057978	568.6494111	3458.16199	1426.12363	26544.2867	8863.58723	5057.66976	1101.59552	13958.2045	5735.06547	5928.83025	16573.6943	7901.95816	1050.71832
18	0	12.12424513	218.6827036	165.9459561	97.1427247	120.4986321	762.339805	[illegible]52.55343	965.327934	55.7864039	1152.100[illegible]	1890.26651	715.776754	2413.76612	2251.45488	760.926550

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1980 – 1985

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	2570.68348	43317.09885	0	248.575355	0	0	0	114233.434	97.6833075	0	695.929761	0.38555199	0	0	0	8.52954650
2	0	5573.165071	55.09680875	395.384769	0	21.2426324	0	22587.4170	82.3507406	0	0	4.89433501	3531.33379	6.86425409	0	1303.90385
3	0	17.60742100	24585.42147	426.2539321	0	0	0	48723.5974	9199.72516	0	6.41748832	3.89922126	2285.69507	0.46709421	0	11.7008704
4	237.385402	758.2255316	214.3759355	21075.8392	0	10.1136051	0	1446.69540	1764.03206	0	0	0	9796.24508	2078.97541	0	1287.35226
5	9.82928692	78.93892208	368.6388766	42.4040312	1867.38143	359.601619	1.07634753	160.274240	10295.5078	0	16856.2116	3.91952970	325.605283	55.7872958	0	62.1844557
6	0	0	0	9.50435182	0	3363.82974	0	1710.15376	5.66656433	0	0	0	2594.20064	6.90487098	0	290.593526
7	0	0	0.020308444	0.75141243	0	22.5220844	4022.02642	300.219728	18790.8348	199.898014	11641.6124	3.49305237	0.08123377	45.4096809	0.02030844	0.02030844
8	0	0	0.324935105	4256.18278	0	447.879340	0.04061688	18352.7409	1227.30020	0	0	0	14179.5181	404.117728	38.7485112	1418.41243
9	9242.67752	4557.742887	8144.254706	438.685476	1824.32783	2302.18552	20275.3413	7269.59032	1977.69720	1826.74454	81366.5325	2597.02351	1977.23011	772.411361	1798.63765	42655.7746
11	0	0	214.1322342	28.1881203	138.808215	29.6534127	38.2406001	692.213315	2396.05115	3750.56345	229.891586	1344.76424	2126.25147	899.359445	7.08764897	3281.29623
12	93.3579113	299.6917090	783.6825480	158.680928	701.920752	73.2931746	2518.26737	212.873110	594.387232	604.521454	483.950222	1399.84074	1038.98977	335.150252	6462.25228	2068.07955
13	323.838446	1548.020921	3073.350074	2457.05772	262.669415	1214.32773	502.126279	11798.7592	18872.7410	416.577340	37902.8876	437.098641	4351.99802	1060.06398	329.890365	0
14	0	0	99.85353502	28.6349061	66.7373646	22.4205222	2238.79233	426.842877	539.290732	104.040156	1029.15071	2025.13773	169.352115	1845.10337	944.769128	735.876470
15	852.914033	733.2972983	3966.807762	1260.84974	361.023210	545.281723	27.0711559	4734.44663	11901.4017	391.546801	11999.8940	6082.09487	2822.56909	19839.0574	1938.99908	1382.92360
16	1109.85338	429.1580399	1545.8584531	478.020156	1152.60574	479.908841	17087.7076	2118.82058	2774.07253	281.454726	4141.09482	9032.24142	2159.03130	5525.56707	2863.65308	4417.77707
18	82.2250728	44.59734316[illegible]	1944.513210[illegible]	99.4707590	2042.74515	62.0829135	5017.95251	362.262025	785.489699	377.698442	353.874637	2698.22049	1050.79951	19749.6775	1733.36631	6121.35090

BEST AVAILABLE DOCUMENT

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1971–1975

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	1013.18582	−785.472198	0	14.4858971	0	0	0	100751.192	−133.29745	0	643.807384	0	0	0	0	0
2	0	−66.0443347	−12.0613474	19.7903186	0	−49.436079	0	14432.2242	−232.03630	0	0	−26.339942	−5631.5895	−120.44176	0	619.520939
3	0	−0.4[illegible]502571	−31535.5989	13.4855778	0	0	0	66387.0120	−6985.2355	0	5.45599986	−115.89574	−2489.2232	−8.5419690	0	44.2514956
4	137.029203	−5.36222873	−195.393828	797.121389	0	0	0	359.738584	−750.41527	0	0	0	−5621.4789	−200.73627	0	256.026510
5	0	−3.47601782	−545.172903	0	−3321.1333	−79.450842	73.3975839	695.088112	−7800.3693	0	33510.7511	−133.45570	−171.87975	−29.896891	11.2296533	101.146275
6	0	0	0	0.61207170	0	−7277.8971	0	1140.18839	−4.0369426	0	0	0	−5215.0339	−46.980829	0	164.362698
7	0	0	−381.138578	0	0	−97.106585	828.344161	225.598773	−7573.2699	−173.27658	12456.0476	0	0	−17.938135	0	0
8	0	−1.94010285	0	12.8535058	0	−60.029525	0	10029.9995	−4117.4101	0	0	−323.10329	−9336.1037	−313.49026	11.2296533	565.786960
9	3427.80629	−27.9428703	−4105.68266	13.0575297	−1168.3573	−718.58873	1988.97745	10408.0298	−125255.17	−811.83289	74523.5021	−4001.9152	−913.99586	−7565.6219	5266.70741	7759.81565
11	0	−0.94310555	−284.647799	1.02011951	−254.40159	−17.655742	4278.03060	6902.10301	−7222.7470	−744.44755	567.423386	−962.28590	−970.81507	−293.84373	881.527786	1747.93408
12	506.592813	−1.72453587	−846.706588	12.6494819	−477.00299	−3.5311405	304.075704	701.185376	−1868.6868	−198.94719	425.567989	−505.72669	−260.85260	−218.67440	10039.3100	635.325045
13	761.965420	−24.6554738	−5065.06407	82.6296807	−1234.2452	−1163.5134	964.653960	16456.5159	−32233.298	−1938.1307	41143.6949	−1615.5164	−3704.5142	−1358.4646	1106.12065	2278.95202
14	0	−1.99399460	−670.610916	0.81609581	−242.47852	−287.78860	812.616107	2682.79622	−2241.3719	−359.38847	2215.13594	−779.68230	−135.48168	−155.46383	1291.41013	186.488446
15	382.020310	−17.3531422	−3587.04472	46.7214738	−952.01846	−707.99528	1499.40778	14182.2364	−12875.546	−1495.3127	18861.3915	−3192.4010	−2040.3137	−1704.1226	4284.11274	1355.99228
16	444.306811	−1.29340190	−1343.63410	5.50884538	−300.11438	−174.79185	1824.45422	3054.72933	−6141.5565	−317.67374	3775.55190	−4323.2825	−758.29302	−468.09990	5783.27146	976.693728
18	0	−0.56586333	−110.964398	0	−27.825174	−15.890168	262.134228	798.741603	−720.79362	−38.505908	491.039987	−15.803985	−590.45750	−144.35927	1145.42463	1526.67660

C2ij

1975–1980

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	−3267.2719	−87127.7197	0	350.0758931	0	0	0	24767.9550	441.873091	0	−484.65053	−265.55150	0	0	0	9.17527014
2	0	−17944.1001	9.700353423	924.621081	0	−82.331630	0	2590.76884	1501.13183	0	0	−872.44868	2310.01424	−65.572812	0	1241.36260
3	0	−31.5602226	10940.22657	478.699078[illegible]	0	0	0	6399.17310	13574.7155	0	−3.4845073	−401.04583	496.053822	−0.9699364	0	62.2975118
4	−161.08393	−379.009955	20.82207168	28707.50841	0	0	0	154.753370	5937.46157	0	0	0	1661.91571	−178.80013	0	1044.43729
5	−18.095332	−75.1043009	77.50130132	64.6441710	5223.08309	−396.80683	8.63085852	44.5040572	21824.9158	0	−12231.768	−18.812616	65.5186453	−41.809367	0	29.7553153
6	0	0	0	17.5126593	0	−10516.915	0	2870.05582	0	0	0	0	1151.07310	−15.416885	0	230.668008
7	0	−0.04104060	16.84409609	4.96980873	0	−56.567612	180.459049	59.4223704	156040.181	20.4055251	−8879.6505	−21.422459	8.91561767	−26.284659	0	0
8	0	0	1.16293485[illegible]	1123.70925	0	−496.11274	0	3062.11533	6490.08331	0	0	0	6243.42874	−732.78702	−22.677855	983.254534
9	−94.024785	−6305.27282	1358.040249	539.7567261	1461.03230	−2335.2611	1767.31880	1025.15368	329228.370	703.574137	−10779.943	−18894.282	903.575581	−11928.585	−968.76597	13262.4671
11	0	−2.01098947	30.54058437	48.75145701	256.744658	−29.249964	1261.46538	546.360273	20104.9878	94.2598113	−152.26595	−1174.7554	215.802525	−683.51313	−236.35534	533.023170
12	−1160.5849	−701.465982	364.8015880	448.3477441	1242.34750	−193.23163	392.508901	119.927817	5383.49509	108.160518	−467.81264	−3681.5006	246.236215	−1873.9173	−6967.6943	1319.00939
13	−390.20277	−2055.55957	1034.624374	2447.03915	1874.32575	−3548.1874	690.773424	3101.09386	37969.5348	65.3529758	−21325.418	−3667.9165	1625.00505	−2276.8238	−349.47647	1990.89062
14	0	0	76.30144790	145.189412	134.630892	−152.65298	206.478217	115.652511	2317.65309	11.3204754	−1914.7016	−14330.972	68.7995520	−1252.1114	−909.91062	217.805478
15	−1199.9245	−1249.35799	590.1986879	1626.66572	2316.71478	−1092.4788	582.527127	1050.25414	22622.2533	136.543065	−12875.581	−21600.146	904.888328	−9182.7716	−1534.8157	894.460214
16	−5313.6411	−409.380001	358.2393128	452.311758	1977.64911	−726.43726	6497.78211	564.637960	10780.6253	57.3772217	−4388.5148	−8384.4460	868.307566	−5887.3757	−2034.7820	605.651760
18	0	−6.68961806	27.13514858	131.995753	55.5538531	−61.379459	186.613336	769.394562	2057.63508	2.90566619	−362.22508	−2763.4972	107.243736	−828.30024	−579.76012	436.612213

C2ij

1980–1985

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	−1298	−67736	0	161	0	0	0	−82363	12	0	949	2	0	0	0	−17
2	0	−8715	−98	256	0	−371	0	−16268	10	0	0	32	3145	7	0	−2659
3	0	−251	−43857	276	0	0	0	−35130	1160	0	9	25	2036	0	0	−167
4	−120	−1183	−381	13659	0	−181	0	−1043	222	0	0	0	8725	2043	0	−2625
5	−5	−123	−655	27	−7061	−634	0	−116	1298	0	22974	25	290	55	0	−127
6	0	0	0	6	0	−5928	0	−1233	1	0	0	0	2310	7	0	−593
7	0	0	0	0	0	−401	−1780	−216	2370	527	15867	23	0	45	0	0
8	0	0	−1	2758	0	−789	0	−13233	155	0	0	0	12629	397	91	−2888
9	−4865	−7127	−14469	284	−8899	−4057	−8972	−5241	249	4818	110899	16823	1761	759	4230	−86980
11	0	0	−380	18	−525	−53	−17	−499	302	9891	313	8711	1894	884	17	−6691
12	−47	−4691	−1392	102	−2654	−129	−1114	−153	75	1594	680	9068	924	329	15243	−4213
13	−163	−2418	−5490	1592	−993	−2141	−222	−8507	2355	1104	51660	2831	3876	1061	776	0
14	0	0	−177	19	−328	−40	−990	−308	88	274	1403	13118	151	1813	2222	−1501
15	−430	−1147	−7048	8171	−1365	−961	−12	−3414	1463	1033	16355	39398	2514	19296	4555	−2820
16	−560	−671	−2746	310	−4359	−846	−7561	−1528	350	742	5844	58508	1923	5429	6734	−9008
18	−31	−701	−3455	641	−7725	−109	−2220	−261	99	998	482	17478	936	19404	4076	−12482

BEST AVAILABLE DOCUMENT

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	-804601155	-3.1009E+10	0	-19729858.	0	0	0	-7.775E+10	132089700.	0	-447403830	0	0	0	0	0
2	0	-2807272993	2382319.995	-26954878.	0	1790449.12	0	-1.114E+10	229933922.	0	0	3616445.17	395450816.	-49187258.	0	-253745078
3	0	-19147859.6	6228813880.	-16340431.	0	0	0	-5.123E+10	8903624236	0	-3791557.8	15921158.7	174793520.	-3488458.0	0	-18124648
4	-108819008	-211888015.	38593563.93	-1.088E+09	0	0	0	-277611644	743616090.	0	0	0	394740850.	-81978763.	0	-104864037
5	0	-137224894.	107880863.8	0	145491520.	2877507.51	-32323936.	-538402160	7729693587	0	-2.329E+10	18333455.5	12069414.4	-12209603.	-3329561.2	-41427787
6	0	0	0	-833855.98	0	26357968.	0	-879887754	4892211.11	0	0	0	386200235.	-19186519.	0	-67320122.
7	0	0	75281311.86	0	0	3516953.63	-334798708	-174095438	7504651856	7723869.74	-8.656E+09	0	0	-7325761.8	0	0
8	0	-78590638.7	0	-17506775.	0	2174118.79	0	-7.740E+09	4080104073	0	0	44386280.8	655582198.	-128026409	-3329561.2	-231736577
9	-2.722E+09	-1103117949	810941726.5	-17784660.	51198298.2	28025456.6	-875055129	-8.032E+09	1.241E+11	36187760.1	-5.179E+10	549762436.	64180888.4	-3.090E+09	-1.562E+09	-3.178E+09
11	0	-37231560.4	56222751.9	-1389426.6	11144772.4	639446.115	-1.884E+09	-5.326E+09	7157304868	33184032.9	-394322020	132193863.	68156693.6	-120002955	-261370555	-715923615
12	-402300577	-65080567.7	167238563.7	-17228890.	20898448.2	127889.223	-133913449	-541107442	1653567358	8868146.74	-205741515	69474147.3	18317111.4	-89304525.	-2.977E+09	-260218167
13	-805099639	-973339367.	1004388110.	-112543557	54069559.6	42139498.9	-424828875	-1.270E+10	3.124E+10	86392913.4	-2.859E+10	221931304.	260131380.	-553967133	-327961779	-933419396
14	0	-78718156.4	132456991.7	-1111541.3	10622361.1	10422971.6	-357872150	-2.070E+09	2221063847	16019877.9	-1.539E+09	107105977.	9513538.48	-63489935.	-328899539	-78382447
15	-303374206	-885060713.	708501968.7	-63835739.	41705827.9	25841789.2	-660331838	-1.094E+10	1.276E+10	66854135.2	-1.311E+10	438555555.	143271049.	-695947374	-1.270E+09	-555391014
16	-352837391	-51060425.8	265390447.5	-7502903.8	13147348.6	6330516.54	-803480698	-2.357E+09	8085910631	14160427.8	-2.624E+09	593907467.	53247416.8	-191167499	-1.715E+09	-400038884
18	0	-22338936.2	21917343.96	0	1218959.48	575501.5031	-115442629	-816391956	714282823.	1716415.49	-341240209	2171067.10	41461988.6	-59954940.	-339815243	-625300372

C3IJ

1975 -- 1980

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	-1.391E+09	-5.9394E+10	0	-152450180	0	0	0	-3.557E+11	-600772077	0	-978530278	70978538.2	0	0	0	-10250422
2	0	-1.2232E+10	-40662982.4	-402651921	0	-17170492.	0	-3.721E+10	-2.041E+09	0	0	233194435.	-4.381E+09	-74488001.	0	-1.387E+09
3	0	-21514197.9	-4.5660E+10	-208482603	0	0	0	-9.190E+10	-1.846E+10	0	-7035370.1	107194450.	-940713855	-1101807.7	0	-69597492.
4	-68569824.	-258368212.	-87284194.4	-1.250E+10	0	0	0	-2.290E+09	-8.073E+09	0	0	0	-3.152E+09	-203109557	0	-1.167E+09
5	-7702777.8	-51197838.1	-324878271.	-26236194.	-2.332E+09	-82754978.	-25793782.	-639118657	-2.987E+10	0	-2.470E+10	5028373.10	-124249213	-47493712.	0	-33242023
6	0	0	0	-7626373.71	0	-2.193E+09	0	-4.122E+10	0	0	0	0	-2.183E+09	-17512943.	0	-257697527
7	0	-27976.8503	-70608889.5	-2164241.11	0	-11797305.	-527096872	-853359175	-2.122E+11	-28179111.	-1.752E+10	5725950.87	-16907530.	-29835793.	0	0
8	0	0	-4874915.11	-489350392	0	-103465450	0	-4.397E+10	-1.154E+10	0	0	0	-1.184E+10	-832415742	-26232500.	-1.098E+09
9	-40024237.	-42982234001	-5692778851	-2350520521	-652261850	-487024061	-5.162E+09	-1.472E+10	-4.476E+11	-971604209	-2.177E+10	5050201471	-1.714E+09	-1.355E+10	-1.144E+09	-1.462E+10
11	0	-1370865.66	-126024556.	-21230175.	-128014008	-6100147.2	-3.685E+09	-7.846E+09	-2.733E+10	-130168555	-307431510	313997194.	-409246772	-753723474	-273402921	-595482465
12	-494035018	-478180325.	-1529214444	-195245473	-554832416	-40298900.	-1.146E+09	-1.722E+09	-7.319E+09	-149364808	-944533857	978672547.	-486964854	-2.129E+09	-8.080E+09	-1.474E+09
13	-168100533	-1401248525	-433704948	-1.068E+09	-836772175	-739982629	-2.016E+09	-4.453E+10	-5.162E+10	-117868617	-4.306E+10	980387425.	-3.082E+09	-2.586E+09	-404255243	-2.224E+09
14	0	0	-319848597.	-63226780	-80104485.	-31836131.	-603095402	-1.664E+09	-3.151E+09	-15633066.	-3.868E+09	3830486738	-168399002	-1.422E+09	-1.053E+09	-243327777
15	-510781005	-851671277.	-2474058111	-706376754	-1.034E+09	-227838919	-1.701E+09	-1.508E+10	-3.076E+10	-188559826	-2.600E+10	5773444291	-1.716E+09	-1.043E+10	-1.775E+09	-999272458
16	-2.292E+09	-279069082.	-1501705994	-196971713	-882699757	-151500159	-1.898E+10	-8.109E+09	-1.466E+10	-79235360.	-8.881E+09	2241055788	-1.695E+09	-6.461E+09	-2.354E+09	-676623657
18	0	-4560226.60	-113746019.	-57481215.	-24801408.	-12800827.	-545072732	-1.105E+10	-2.798E+09	-4012594.1	-731347976	738647862.	-203376456	-940914609	-670634766	-490008406

C3IJ

1980 -- 1985

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	-1.041E+09	273209998221	0	-184590354	0	0	0	-8.280E+10	-338854233	0	-2.299E+09	-1517884.0	0	0	0	7868054.73
2	0	3515111695.	36356266.31	-293595181	0	4785913.25	0	-1.242E+10	-285725497	0	0	-20320102.	-3.061E+09	-12021972.	0	1202476295
3	0	11105368.44	18286960785	-316533247	0	0	0	-2.678E+10	-3.192E+10	0	-21200771.	-16188629.	-1.981E+09	-818063.23	0	75345587.1
4	-98109239.	478987248.71	141458439.8	-1.565E+10	0	2278570.551	0	-795372036	-6.121E+09	0	0	0	-8.491E+09	-3.641E+09	0	1187212403
5	-3979542.4	49788428.061	243250625.1	-31458942.	1829985641	81017367.1	-663821.32	-88104280.	-3.572E+10	0	-5.569E+10	-16272945.	-282225085	-97705204.	0	57347284.7
6	0	0	0	-7057868.4	0	757862633.	0	-940087636	-19729504.	0	0	0	-2.249E+09	-12093106.	0	267988993
7	0	0	134007861	-557993.71	0	5074166.15	-2.481E+09	-165033613	-6.520E+10	-88807619.	-3.846E+10	-14502314.	-70411.046	-79529973.	-42365.427	18728.7017
8	0	0	214412.1861	-3.161E+09	0	100661062.	-25049.861	-1.009E+10	-4.258E+09	0	0	0	-1.229E+10	-707786967	-80871394	1306233303
9	-3.742E+09	2874663588.	5374080636.	-325898493	1787813378	516676780.	-1.250E+10	-3.996E+09	-6.862E+09	-809738432	-2.668E+11	-1.078E+10	-1.714E+09	-1.353E+09	-3.754E+09	3.934E+10
11	0	0	141297830.6	-20932304.	136029927.	6725901.04	-23584444.	-380516181	-8.313E+09	-1.663E+09	-759470663	-5.583E+09	-1.843E+09	-1.575E+09	-14792514.	3028052527
12	-37797431.	189021824.71	517121990.6	-117389813	687871600.	16512773.3	-1.553E+09	-117018354	-2.062E+09	-267955357	-1.599E+09	-5.812E+09	-898832241	-566978153	-1.353E+10	1905364472
13	-131111124	975107708.61	2027990861.	-1.825E+09	257412009.	273652663.	-309678912	-8.468E+09	-6.479E+10	-185542177	-1.252E+11	-1.815E+09	-3.772E+09	-1.892E+09	-668508876	0
14	0	0	65757537.33	-21264084.	85001290.6	5051268.94	-1.360E+09	-234839551	-1.871E+09	-46117731.	-3.400E+09	-8.408E+09	-146789433	-3.231E+09	-1.972E+09	678634507
15	-345315754	462505932.71	2617543988.	-936298379	353797223.	122850641.	-16695732.	-2.603E+09	-4.025E+10	-173580388	-3.964E+10	-2.525E+10	-2.447E+09	-3.440E+10	-4.043E+09	1275349674
16	-449260745	270678945.6	1020052574.	-354974490	1129535998	108122290.	-1.054E+10	-1.165E+09	-9.625E+09	-124760032	-1.368E+10	-3.750E+10	-1.871E+09	-9.677E+09	-5.977E+09	4074129406
18	-25192506.	28128478.46	1283109525.	-73868303.	2001659008	13987128.8	-3.095E+09	-199138846	-2.725E+09	-167420960	-1.189E+09	-1.120E+10	-910602120	-3.459E+10	-3.818E+09	5645186552

BEST AVAILABLE DOCUMENT

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C4ij = 0Tij . (fij − fj)

1971 – 1975

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	−14367.771	8251.45.3300	0	−8210.7526	0	0	0	−6856405.0	−874.51331	0	−6781.0893	0	0	0	0	0
2	0	95504.81466	273.0784959	−10463.086	0	−8129.4348	0	−997795.88	−1060.8453	0	0	−3703.1189	17866.6298	−4771.2590	0	1483.12416
3	0	457.1840734	557730.1755	−7373.4616	0	0	0	−4679956.1	−69173.219	0	−60.129570	−19455.043	3186.43187	−352.80702	0	43.0017263
4	−2578.3116	5127.751700	2946.851634	−435681.25	0	0	0	−23332.076	−2747.2638	0	0	0	12056.3663	−7879.7650	0	1844.13141
5	0	2908.369193	8432.328017	0	−7443.9280	−12367.095	−2095.8982	−49367.926	−53718.834	0	−408527.72	−22810.155	500.575231	−1084.3245	−136.95958	−164.42482
6	0	0	0	−342.33482	0	−1201001.1	0	−35270.347	−42.711604	0	0	0	7879.06377	−1900.9386	0	158.034663
7	0	0	5490.620472	0	0	−16246.071	−23209.966	−15287.876	32898.6992	−4445.5753	−134177.70	0	0	−645.97475	0	0
8	0	1521.136293	0	−5911.3270	0	−6825.9208	0	−672823.22	−30266.577	0	0	0	−55266.472	51279.1240	−10216.577	−18.559581
9	−73320.329	37272.08600	71893.78002	−7022.3052	−3505.4341	−115162.25	−48345.624	−733356.69	−875985.10	−5135.6308	−978733.10	−667148.21	7643.43769	−269113.24	−59071.743	12994.0670
11	0	744.3412539	4295.192504	−537.49103	−836.67749	−2903.7767	−118059.68	−488508.00	−49806.376	−18929.368	−7151.9753	−163517.67	1443.27189	−9867.7816	−9517.3271	−2797.5818
12	−8250.4855	3081.32115	15744.59041	−5928.8488	87.8921989	−88.195344	−6728.2357	−48574.757	−11041.022	−2917.1087	−3851.9065	−83136.943	2076.97182	−1787.5398	−88063.865	1607.68907
13	−15485.668	24339.70706	82029.53389	−46075.173	−2923.3314	−187081.56	−24389.720	−1135347.3	−254915.76	−53412.720	−474608.99	−272959.36	12699.0943	−47709.095	−11665.918	−825.38109
14	0	1563.390079	10168.30437	−250.51282	−1123.4597	−48167.020	−22607.552	−191456.69	−17929.268	−10020.667	−22274.605	−120181.69	727.987535	−1584.7478	−10999.751	76.8658468
15	−5489.5021	16649.91907	56351.4047	−25641.609	−207.31265	−116653.76	−40607.693	−1004954.7	−97123.463	−39364.494	−204320.32	−528193.37	7082.80362	−35167.001	−44238.660	−1048.5113
16	2449.55814	2011.590862	22594.20445	−2562.9115	2868.95467	−27594.369	−17617.114	−210927.83	−46333.635	−7634.8381	−33154.862	−731779.12	7585.54366	2739.83507	−59910.684	−645.26903
18	0	459.9647523	1839.402162	0	−34.641288	−2520.6790	−6633.6652	−44091.666	−4938.0942	−1029.9500	−5203.7613	−161.95135	662.313734	−2781.5587	−10942.977	−2506.2904

C4ij

1975 – 1980

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	−1591803.4	−3509787.13	0	−13048.378	0	0	0	−2104991.7	−4536.7273	0	−24504.684	−3145.6643	0	0	0	−1755.9982
2	0	−739328.5021	−4352.09160	−35749.453	0	−462.46093	0	−167801.41	−16640.390	0	0	−10317.304	−348970.12	−11473.198	0	−236838.57
3	0	−1251.90296	−5092788.60	−17417.377	0	0	0	−449271.55	−108645.78	0	−169.21988	−4734.5207	−67417.166	−167.90861	0	−11805.603
4	−77934.711	−12471.8115	−8868.63544	−1066609.3	0	0	0	−9972.9795	−58735.804	0	0	0	−215335.59	−21139.613	0	−198330.33
5	−8837.6885	−2820.58924	−35123.5433	−2434.6584	−945728.79	−962.30925	−3100.1187	−4003.8425	−197134.04	0	−621942.82	−203.69178	−8787.6837	−7062.1870	0	−5524.6914
6	0	0	0	−667.18073	0	−55871.614	0	−300681.24	0	0	0	0	−169781.39	−2871.4211	0	−43771.111
7	0	−1.75370996	−8028.14897	−198.91815	0	−278.70974	−43654.651	−4921.4300	−1679364.9	−15664.797	−442903.50	−238.72705	−1413.5797	−4385.4700	0	0
8	0	0	−552.679107	−24855.259	0	−1212.5792	0	−239416.76	−90384.638	0	0	0	−920360.94	−126602.70	−216.46590	−185705.37
9	−661.31289	−248988.631	−607167.625	−19844.561	−258133.94	−4748.0235	−521649.73	−74812.126	−3728745.1	−571954.97	−220618.32	−211171.89	−133587.31	−2089475.8	−8900.3997	−2388891.2
11	0	−65.9317885	−13502.0251	−1848.7879	−51741.340	−54.459290	−443412.47	−55433.956	−216501.04	−59363.508	−7643.4245	−7303.0411	−23755.580	−112007.62	−4209.7463	−88294.634
12	−569469.62	−28498.71061	−170013.177	−17500.471	−223879.12	−969.98391	−125627.67	−11867.908	−58204.816	−86332.794	−24578.080	−36508.003	−33948.153	−327192.73	−93212.073	−248301.34
13	−190022.57	−80223.6175	−477990.245	−87665.635	−341385.09	−18457.260	−240441.52	−275886.91	−339211.97	−68415.920	−1042395.1	−41324.652	−236289.52	−394228.50	−4651.7602	−390098.40
14	0	0	−35876.1680	−5778.2662	−24187.144	−940.99829	−61595.025	−10375.399	−23662.288	−8835.1583	−105260.90	−159897.56	−13249.338	−210640.48	−11668.756	−39057.953
15	−585048.05	−49775.6388	−261768.245	−60109.697	−421781.72	−4839.4523	−204715.35	−89798.823	−199757.79	−110817.31	−662960.13	−226084.83	−129609.84	−1514728.2	−18025.471	−168470.02
16	−2803909.7	−15380.05891	−183132.459	−16066.682	−355893.36	−2640.2406	−2200837.5	−50377.744	−108758.16	−45991.190	−232528.83	−54908.140	−130250.67	−970836.87	−22441.339	−96931.266
18	0	−66.25472501	−3358.279161	−4891.5885	−98.178197	−117.05136	−40914.838	−81079.226	−19497.383	−539.44455	−19133.333	−19470.390	−11834.209	−48105.076	−1876.5665	−55800.136

C4ij

1980 – 1985

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	−58203.508	−990914.9571	0	−18981.013	0	0	0	−3076378.3	−3495.9567	0	−11338.013	−6.9773647	0	0	0	−4624.2651
2	0	−91373.52461	335.84005831	−31199.735	0	−1338.6296	0	−869040.90	−2739.1113	0	0	−93.154202	−105928.91	−144.49014	0	−710578.46
3	0	−61.98251201	68142.64729	−30388.469	0	0	0	−1394456.1	−224251.42	0	−111.11906	−74.299276	−69638.959	−9.9459812	0	−44366.295
4	−5545.3149	−12033.02071	1030.048232	−1644121.8	0	−629.04556	0	−44602.168	−62298.481	0	0	0	−298090.05	−55151.679	0	−700859.89
5	−236.69724	−1807.60249	1002.489977	−3224.1167	20476.9996	−23641.459	−555.64195	−4666.3588	−292876.96	0	−398019.48	−76.080731	−10278.764	−1365.4250	0	−33791.668
6	0	0	0	−774.09663	0	−221657.43	0	−44613.100	−189.35548	0	0	0	−61454.183	−147.16716	0	−158378.78
7	0	0	0.094778439	−61.354570	0	−26.308050	−2079443.7	−9870.9408	−631200.26	−7489.3342	−190938.85	−67.922242	−2.5391078	−1105.9579	−3.2178744	−11.001427
8	0	0	1.505139576	−316500.50	0	−29009.117	−20.999340	−482187.04	−37123.940	0	0	0	−417321.09	−9412.6205	−6123.9390	−770544.04
9	−200541.59	−63578.9405	42519.05011	−32060.049	25358.1699	−143106.27	−10564656.	−203183.72	−81308.506	−156271.28	−1310374.1	−45162.508	−58388.267	−48171.012	−274392.40	−23230626
11	0	0	903.3314095	−1778.27401	1891.41364	−1813.9270	−19566.131	−19207.687	−65475.214	−308481.88	−4195.8648	−21550.309	−61790.383	−18179.673	−362.66101	−1778982.2
12	−2106.8275	−5836.283001	5945.349710	−12104.251	9176.39777	−4329.3524	−1302103.9	−5395.4048	−16718.548	−50054.606	−7914.8003	−24722.384	−30975.989	9614.73207	−1004020.0	−1121670.0
13	−5504.7551	−30277.9867	10934.19294	−185333.54	4361.24021	−72263.533	−256507.39	−319349.07	−546008.29	−28216.612	−665273.56	−4169.6215	−116834.09	−6200.3594	−50694.367	0
14	0	0	507.97309061	−2297.6050	1334.28962	−1265.9002	−1158091.9	−10744.478	−12837.586	−9303.3895	−17332.511	−30953.580	−3782.7140	−38238.189	−144348.71	−398808.38
15	−22968.682	−14350.11441	6447.877354	−99246.850	5061.38660	−33013.304	−75.409746	−128125.36	−368810.67	−30796.568	−199836.16	−109770.42	−63441.894	−423216.88	−296924.57	−742646.35
16	−24832.717	−7196.675931	8920.789771	−37635.734	14416.2629	−28476.365	−8872126.9	−49346.429	−70272.627	−24194.968	−45305.452	−212003.07	−50904.297	−99616.657	−383363.23	−2393407.6
18	−1517.0234	−687.3426901	3935.928079	−7940.6699	23920.2630	−3733.0503	−2606507.5	−9826.2793	−24293.015	−33251.570	−8987.5755	−56020.088	−34184.867	−446736.91	−271651.53	−3331443.0

BEST AVAILABLE DOCUMENT

97

C5ij = 0Tij . (tij − fij)

1971 – 1975

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	0	0	0	0	0	0	0	0	−2.248E−14	0	0	0	0	0	0	0
2	0	0	−1.1102E−14	0	0	0	0	−2.628E−12	1.044E−13	0	0	0	1.546E−12	0	0	2.176E−13
3	0	0	−1.0885E−11	0	0	0	0	−8.311E−12	−2.021E−12	0	0	0	−1.367E−12	0	0	5.829E−15
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.507E−13
5	0	0	0	0	0	0	0	6.328E−14	0	0	0	0	4.718E−14	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	0	0	0	0	0	0	0	6.216E−14	0	0	0	0	0	0	0	0
8	0	0	0	−2.798E−13	0	0	0	7.305E−12	0	0	0	0	3.844E−12	−1.019E−13	0	−9.936E−14
9	0	1.7270E−12	0	−3.553E−14	0	0	6.415E−13	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	0	−4.885E−13	0	0	0	0	0	4.041E−13	0	−1.638E−14
15	0	−7.1498E−13	0	6.356E−14	1.329E−13	0	−2.778E−13	0	0	0	0	0	0	−4.430E−12	−5.824E−13	0
16	0	−1.0658E−13	0	5.995E−14	0	0	−6.182E−12	0	0	0	0	0	0	0	−1.144E−12	0
18	0	0	0	0	0	0	0	0	1.216E−13	0	0	0	0	0	1.132E−13	0

C5IJ

1975 – 1980

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	0	1.1801E−11	0	0	0	0	0	0	6.188E−14	0	0	0	0	0	0	0
2	0	2.4271E−12	2.3337E−13	0	0	0	0	9.401E−12	0	0	0	0	0	0	0	0
3	0	6.4032E−15	9.0474E−12	0	0	0	0	0	0	0	0	0	0	0	0	0
4	0	0	0	0	0	0	0	−5.761E−13	8.315E−13	0	0	0	1.977E−12	0	0	0
5	0	0	−1.8645E−13	0	0	0	0	−2.019E−14	−6.113E−12	0	0	0	−6.622E−12	0	0	−5.409E−13
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.062E−14
7	0	0	0	0	0	0	0	0	6.195E−12	0	0	0	−1.433E−12	0	0	0
8	0	0	0	0	0	0	0	0	−2.973E−13	0	0	0	0	0	0	0
9	−6.025E−12	−2.5585E−12	3.2671E−12	0	0	−6.843E−13	0	0	−6.916E−11	0	0	0	−6.220E−12	1.594E−13	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	−1.125E−12	0	5.731E−13	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	4.5891E−14	0	0	0	−2.014E−12	−5.255E−14	−1.623E−13	3.244E−14	−4.545E−13	7.316E−13	0	−5.446E−13	1.646E−13	0
15	0	−8.4494E−14	−2.6398E−12	0	0	0	0	0	0	−1.958E−13	0	2.205E−12	9.014E−13	7.988E−12	6.672E−13	0
16	0	0	4.3092E−13	−3.395E−13	2.581E−13	0	7.924E−12	7.683E−13	0	0	−5.209E−13	−6.848E−12	8.649E−13	0	0	0
18	0	0	0	0	0	0	3.641E−12	0	−2.882E−13	0	0	0	−8.547E−13	−1.153E−11	0	0

C5IJ

1980 – 1985

	1	2	3	4	5	6	7	8	9	11	12	13	14	15	16	18
1	62.1742687	−194.7719141	0	223.571777	0	0	0	104.574953	−128.38705	0	104.502364	1.09069548	0	0	0	−18.514624
2	0	−4.519658341	61.11693966	114.105060	0	−69.932192	0	1590.24778	−19.782317	0	0	3.41046363	12.4814630	31.1156045	0	−139.17122
3	0	634.63016481	−74.6349903	433.606329	0	0	0	−2329.3565	−52124.067	0	60.5342126	2.47480451	24.8049295	20.6746366	0	−57.557965
4	31.3770563	103.6365161	5.813911258	−121.549401	0	−34.870015	0	−54.401024	−50.842317	0	0	0	12.2732077	−203.64892	0	−115.90625
5	0.48804934	−37.1665932	−83.5481669	237.538351	−182.45241	−186.79840	33.2644475	5.63257348	4.24294987	0	−209.12194	−12.551888	−13.130698	−115.68725	0	−72.658739
6	0	0	0	5.56555469	0	−193.26436	0	140.250354	−21.358525	0	0	0	−5.5050024	19.8081632	0	−141.56623
7	0	0	−0.09995262	−3.2431299	0	2580.30910	−0.3844255	−109.13453	1377.72210	2130.86522	−252.05046	−14.239263	0.19962157	−100.57362	0	−0.0999526
8	0	0	−1.58795860	−3914.3852	0	−146.32152	−0.1998106	−4263.0354	−739.24729	0	0	0	−2408.1781	−64.961424	17.4345445	1.86551897
9	−4018.1948	−2958.11821	−847.347020	319.5793051	18.2514761	12.3530911	13543.9714	−3122.7397	1014341.99	−144.79404	−765.42315	−500.10764	−178.52403	57366.6462	−231.27177	30344.9839
11	0	0	−19.3091512	795.3819321	−68.454106	26.6991620	229.230653	69.5405166	234.546934	211.863022	20.4087118	132.293822	94.3047992	66.9133096	4597.12261	−19.016464
12	64.4294021	−49.0127457	125.0063146	214.5401251	−92.143129	99.2094771	−2.4862700	172.493170	200.180004	188.258454	101.693215	62.2108278	59.5793650	21[illegible]	152.658138	−50.701362
13	303.972751	−53.73370651	−47.6253979	283.4290351	59.1316139	80.9800545	264.090068	98.7602368	152.503558	847.714625	50.3798398	410.205856	189.202370	687.11[illegible]	178.633623	0
14	0	0	17.42734770	57.365625	6.16456106	210.934349	58.0825324	124.845689	218.120465	−86.574705	7.31640356	−301.39971	335.320443	−39.190532	−78.821529	−1.3383564
15	−121.59719	−53.0640180	−123.132090	122.364607	−47.216810	36.0215469	1305.37551	20.3954324	12.2003847	288.662415	60.0381516	−600.65968	63.0757557	−713.27067	−12.677448	132.650338
16	73.4205638	66.69895017	47.20386301	121.757014	−116.38425	87.5443844	23066.6256	260.597151	320.007108	52.6938443	−868.70830	3013.65994	−215.68338	−2645.4111	−7656.6128	−1.0491103
18	−12.315809	125.05155591	−113.343044	74.8797069	−150.56576	53.7402748	−104.17276	98.2552636	80.2449740	−36.172010	−31.206296	−70.669061	−54.454393	−36.173463	2.21471755	4332.87296

BEST AVAILABLE DOCUMENT

C1ij = 0Tij . g *SECTOR 7, 10, 17 and 19 REMOVED*

1971 – 1975

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	598.438343	35746.88055	0	87.0678737	0	0	20283.5147	33.1103181	0	144.704353	0	0	0	0	0
2	0	3005.681108	6.1315404041	118.951883	0	34.3366262	2902.67122	57.6364798	0	0	18.3946212	3415.26800	172.909439	0	240.356383
3	0	22.07354545	16031.525541	80.9383333	0	0	13352.0423	2231.86070	0	1.22630808	80.9383333	1509.58524	12.2630808	0	17.1683131
4	80.9383333	244.0353080	99.330954551	4791.18567	0	0	72.3521787	186.398828	0	0	0	3409.13646	288.182399	0	99.3309545
5	0	158.1937424	277.1456262	0	2049.16080	55.1838838	139.799121	1937.56678	0	7531.98423	93.1994141	104.236188	42.9207828	2.45261616	39.2416585
6	0	0	0	3.67892424	0	5054.84190	229.319611	1.22630808	0	0	0	3162.64854	67.4269444	0	63.7880202
8	0	88.29418182	0	77.2574090	0	41.6944747	2017.27879	1022.74093	0	0	225.640588	5661.86440	450.055065	2.45261616	219.509146
9	2024.63484	1271.681479	2087.178353	78.4837171	721.069151	499.107388	2093.30789	31112.6623	310.255944	18750.1420	2794.75611	554.291252	10661.4106	1150.27697	3010.58633
11	0	42.92078283	144.70435351	6.13154040	156.987434	12.2630808	1388.18074	1794.08872	284.503474	127.536040	672.016828	588.627878	421.849979	192.530388	678.148388
12	299.219171	78.48371717	430.43413631	78.0311010	294.313939	2.45261616	141.025429	414.492131	78.0311010	95.6520303	353.178727	158.193742	313.934868	2192.63884	248.487924
13	450.055065	1122.071894	2585.0574341	498.654772	781.537318	808.137025	3309.80551	8006.56546	740.690080	9247.58923	1128.20343	2246.59840	1947.37723	241.582691	884.166126
14	0	90.74879798	340.91364641	4.90523232	149.809585	199.688217	539.575555	556.743888	137.346505	497.881080	544.480787	82.1626414	223.188070	282.050858	72.3521787
15	225.640588	789.7424040	1823.52011161	280.824550	587.401570	491.749540	2852.39259	3198.21147	571.459565	4239.34703	2229.42809	1237.34485	2446.48482	935.673065	526.088168
16	282.429929	58.88278788	683.05360101	33.1103181	185.172520	121.404500	814.380348	1525.52725	121.404500	848.605191	3019.17049	459.885530	872.016828	1263.09732	378.929196
18	0	25.75246569	58.41017172	0	17.1683131	11.0367727	160.648358	179.040979	14.7156969	110.367727	11.0367727	358.081959	207.248065	250.168848	592.306803

C1ij

1975 – 1980

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	5383.37405	155138.0425	0	432.391598	0	0	295787.495	203.683238	0	1514.43019	178.451966	0	0	0	15.6382967
2	0	31950.94031	78.80303702	1142.03412	0	158.794480	30939.85881	691.885018	0	0	588.289977	15147.0788	187.732837	0	2115.77388
3	0	56.19556161	86619.795131	591.259155	0	0	78421.1410	6256.70716	0	10.8883488	269.504853	3252.69265	2.77589382	0	106.179650
4	265.412588	874.8582748	164.85980161	35457.7187	0	0	1895.88771	2736.62888	0	0	0	10897.4082	511.898453	0	1780.13509
5	29.8150705	133.7293603	613.62045841	80.0914639	8972.87469	765.326552	531.482862	10059.2978	0	38221.6780	12.6421745	429.614704	119.698738	0	50.7148503
6	0	0	0	21.6305413	0	20284.1132	34275.2004	0	0	0	0	7547.74358	44.1379965	0	393.149704
8	0	0	9.2075953041	1387.93537	0	958.859150	36568.8416	3913.15492	0	0	0	40939.0148	2097.94328	88.5221653	1875.85542
9	154.9214441	11227.054791	10752.352101	666.673745	2509.94663	4504.04870	12242.74021	151743.362	13270.9217	33885.0374	12897.0546	5924.88834	34151.1171	3772.41025	22604.5003
11	0	3.5807315071	241.80899091	60.2147502	492.606348	56.4147902	6524.82356	9266.56775	1777.94280	475.798833	789.441683	1415.04683	1899.81460	901.759730	908.482736
12	1912.25677	1249.0178101	2888.334955	553.771089	2134.26213	372.688381	1432.21952	2461.30078	2040.14004	1461.81536	2460.54715	1614.61760	5364.95886	26583.6430	2248.11477
13	542.923995	3660.0922091	8191.690622	3022.42989	3219.95453	6843.43559	37034.3367	17500.4963	1609.94073	86837.4133	2484.85864	10855.3800	6518.46594	1333.3[illegible]9	3392.92579
14	0	0	604.12055851	179.3268791	231.286024	294.423821	1383.55080	1068.22720	213.528519	5983.00898	9630.48700	582.270788	3584.75069	347[illegible]35573	371.226858
15	1977.07532	2224.5842551	4872.92769291	2009.15575	3979.94653	2107.07780	12542.4986	10428.7978	2575.49594	40233.4845	14515.4088	5933.34518	28289.9499	5655.73830	1524.51470
16	8755.10778	728.9346282	2836.377810	558.667191	3337.45651	1401.08908	6743.10203	4988.88611	1082.25782	13713.1786	5634.39064	5824.75401	16282.7553	7783.24513	1032.27374
18	0	11.91141297	214.84389041	163.032897	95.4374560	118.383368	9188.37627	948.382316	54.8071149	1131.87653	1857.08428	703.211822	2371.39424	2211.94208	747.569047

C1ij

1980 – 1985

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	2661.45240	44848.59381	0	257.352367	0	0	118268.932	101.111728	0	720.502526	0.37845938	0	0	0	8.83071849
2	0	5769.949412	57.04223638	409.324827	0	21.9926941	23384.96201	85.2584844	0	0	5.06715037	3658.02258	7.10662583	0	1349.94352
3	0	18.22912603	25557.04548	441.304643	0	0	50442.95631	9524.56068	0	8.84406439	4.03689988	2386.40127	0.48358696	0	84.5858678
4	245.787305	782.9272965	221.94539141	21820.0115	0	10.4707090	1497.98421	1828.31873	0	0	0	10142.1432	2152.38250	0	1332.80772
5	10.1763517	81.72619710	381.65524301	43.9012862	1933.29658	372.298888	165.933405	10659.0348	0	17451.3920	4.05792540	337.102165	57.7571040	0	64.3801429
6	0	0	0	9.63994348	0	3482.6[illegible]409	1770.53803	5.88714588	0	0	0	2685.79905	7.14867687	0	300.854168
8	0	0	0.33640832[illegible]	4406.46545	0	483.486[illegible]67	19000.7628	1270.63528	0	0	0	14680.1864	418.386826	40.1166925	1466.42490
9	9569.02963	4718.673401	8431.82232[illegible]	454.361491	1668.74350	2383.47399	7526.27419	2047.52823	1891.24554	84239.5247	2688.72250	2047.04464	799.384836	1662.14622	44161.9185
11	0	0	221.69308652	29.1834220	143.709430	30.9075147	716.654856	2480.65395	3882.99307	238.006986	1392.24687	2201.32991	931.115163	7.33790655	3397.15837
12	96.6543164	310.2736019	811.35379981	163.662649	726.705055	75.8811024	220.389502	615.353900	625.886660	501.038146	1449.26808	1073.60511	346.984160	6711.13579	2139.03129
13	335.272945	1600.609777	3181.876077	2543.81461	271.944078	1257.51533	12215.3648	19332.0617	433.356997	39241.1899	452.532271	4505.66385	1118.20024	341.538550	0
14	0	0	103.17222771	29.6459835	89.7999968	23.2121743	441.914384	558.332689	107.713740	1065.48928	2096.64385	175.33[illegible]3	1910.25261	978.128228	761.859725
15	883.029798	759.1894841	4106.872813	1305.36942	373.770872	564.535217	4901.61845	12011.0388	405.372029	12423.6014	6296.84894	2922.23192	20332.4980	2005.39309	1431.75382
16	1148.83442	444.3112933	1600.441573	494.686694	1193.30340	496.654068	2193.63457	2872.02298	291.392684	4287.31292	9351.16319	2235.26510	5720.66559	2984.76855	4573.76551
18	64.4221939	48.17204240	2013.172535	102.982998	2114.87297	84.2750153	375.053229	813.225071	391.032625	366.369689	2793.49268	1087.90246	20447.0240	1794.57020	6337.49127

BEST AVAILABLE DOCUMENT

$$C2ij = 0Tij \cdot (gj - g)$$

1971–1975

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	1138.38167	8572.277318	0	32.4068022	0	0	104922.014	−126.48238	0	673.592358	0	0	0	0	0
2	0	552.6124084	−10.7992977	44.2740820	0	−42.388601	15029.6785	−220.17303	0	0	−22.55376	−4028.6279	−84.851963	0	888.993288
3	0	4.058353060	−26235.8439	30.1248331	0	0	69135.2513	−8525.8494	0	5.70840979	−99.23889	−2178.5066	−6.0178897	0	47.7852347
4	153.888259	44.88734772	−174.948823	1783.28899	0	0	374.630770	−712.04896	0	0	0	−4919.7793	−141.41993	0	276.471715
5	0	29.08488380	−488.128258	0	−2599.3583	−88.092395	723.862845	−7401.5816	0	35061.0523	−114.27255	−150.42490	−21.062544	11.7344731	109.223393
6	0	0	0	1.36930150	0	−623.2634	1187.38905	−4.6845326	0	0	0	−4584.0667	−33.098283	0	177.488014
8	0	18.23341224	0	28.7553316	0	−51.447587	10445.2138	−3906.9002	0	0	−276.65988	−8170.7271	−220.85581	11.7344731	810.988358
9	3844.53508	233.8062291	−3878.08095	29.2117854	−1020.2403	−815.85789	10838.8938	−118851.27	−747.97318	77971.1894	−3426.6730	−799.50657	−5330.0272	5503.46792	8379.482231
11	0	7.891242062	−254.883427	2.28216917	−222.09312	−15.131843	7187.83105	−6853.4712	−685.88845	593.674818	−823.96526	−849.45831	−207.01471	921.156145	1867.51677
12	568.180838	14.42989977	−758.110702	28.2988977	−416.42481	−3.0283267	730.212519	−1583.3720	−183.29777	445.255984	−433.03283	−228.29192	−154.05746	10490.6190	686.059441
13	854.599865	208.2996139	−4552.98393	184.855703	−1077.4986	−997.17530	17137.7703	−30585.313	−1785.6751	43047.1182	−1383.2993	−3242.0992	−955.63771	1155.84560	2460.93958
14	0	16.68434036	−800.4409551	1.82573534	−211.68251	−246.84578	2793.85659	−2126.7778	−331.11856	2317.81437	−687.59229	−118.57022	−109.52522	1349.46441	201.380632
15	428.484237	145.1988539	−3211.71115	104.523348	−831.11412	−606.77890	14789.3419	−12217.251	−1377.8897	19733.9728	−2733.5197	−1785.6321	−1200.5650	4478.70152	1464.27812
16	498.322537	10.82227482	−1203.04177	12.3237135	−262.00048	−149.80327	3181.18671	−5827.5586	−292.68515	3950.21957	−3701.8293	−683.63930	−329.77926	6043.25369	1054.68839
18	0	4.734745237	−99.35353041	0	−24.291435	−13.618479	831.807304	−883.94177	−35.478988	513.758881	−13.532278	−516.75380	−101.70199	1196.91626	1848.59059

C2Ij

1975–1980

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−3171.0822	−84355.7258	0	357.801831	0	0	30053.0619	445.512129	0	−457.59082	−282.38293	0	0	0	9.454893961
2	0	−17373.2033	11.072583841	945.026854	0	−79.494503	3143.59972	1513.49438	0	0	−861.97290	2580.66102	−62.218420	0	1279.16707
3	0	−30.5581249	12487.942031	489.263647	0	0	7784.65984	13688.5098	0	−3.2899552	−398.23034	554.172870	−0.9203191	0	64.1947211
4	−158.34158	−358.951643	23.787773201	29341.0641	0	0	192.628938	5986.3 343	0	0	0	1856.62971	−160.65357	0	1076.24480
5	−17.582599	−72.7148358	88.46542182	66.2752368	5383.40968	−383.13204	54.00[illegible]	22004.6545	0	−11548.824	−18.588727	73.1949659	−39.670800	0	30.6814641
6	0	0	0	17.8991520	0	−10154.480	3482.48232	0	0	0	0	1285.93557	−14.628231	0	237.692773
8	0	0	1.327455418	1148.50876	0	−479.01566	3715.52442	8560.00324	0	0	0	6974.92373	−695.30114	−21.131884	1013.19656
9	−91.256641	−8104.68872	1550.182403	551.668789	1505.87983	−2254.7831	1243.90597	331937.7081	940.697888	−10178.081	−18667.412	1009.44062	−11318.375	−921.36065	13668.3824
11	0	−1.94700929	34.86150777	49.8273893	295.546508	−28.241949	662.945290	20270.5621	126.027948	−143.78441	−1130.6497	241.086463	−629.57097	−220.24277	549.255868
12	−1126.4188	−679.148517	418.41012231	458.242461	1280.48232	−186.57246	145.518599	5427.83077	144.613574	−441.69304	−3817.5357	275.068071	−1778.0566	−6492.6999	1359.17852
13	−378.71508	−1990.16134	1180.9928371	2501.04363	1931.65963	−3425.9094	3762.82038	38282.2322	114.119268	−20134.748	−3623.6746	1815.39451	−2160.3524	−325.65232	2051.31514
14	0	0	87.09582498	148.393646	138.783492	−147.39224	140.573665	2336.74069	15.1357857	−1807.7972	−14158.898	99.2035191	−1168.0594	−847.88115	224.438529
15	−1164.5983	−1209.60930	673.69416021	1662.56516	2387.82814	−1054.8295	1274.38248	22808.5585	182.581816	−12156.693	−21340.785	1010.88485	−8713.0249	−1430.1859	921.700119
16	−5157.2055	−396.3554561	408.91948101	482.293978	2038.35458	−701.40272	685.123159	10889.4089	76.7149167	−4143.4838	−6283.7712	992.383798	−5396.4368	−1898.0690	624.098163
18	0	−8.47878590	30.97395976	134.908811	57.25912181	−59.284195	933.571723	2074.58070	3.88495526	−342.00078	−2730.31501	119.808867	−785.92838	−540.23732	451.969716

C2Ij

1980–1985

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−1388	−69255	0	152	0	0	−88397	9	0	924	2	0	0	0	−18
2	0	−89121	−1001	242	0	−38	−17083	7	0	0	32	3020	7	0	−2705
3	0	−28	−44729	261	0	0	−36850	835	0	9	25	1955	0	0	−169
4	−128	−1299	−3881	12915	0	−18	−1094	160	0	0	0	6379	1969	0	−2671
5	−5	−128	−668	28	−7127	−648	−121	935	0	22379	25	278	53	0	−129
6	0	0	0	6	0	−8047	−1293	1	0	0	0	2219	7	0	−603
8	0	0	−11	2608	0	−805	−13881	111	0	0	0	12128	383	90	−2938
9	−4991	−7288	−14757	269	−6963	−4138	−5498	180	4753	108028	16731	1691	732	4168	−88486
11	0	0	−3881	17	−530	−54	−524	218	9759	305	8683	1819	852	18	−6807
12	−50	−479	−14201	97	−2879	−132	−181	54	1573	643	9018	887	317	15014	−4288
13	−175	−2472	−5569	1506	−1003	−2183	−6924	1698	1089	50322	2816	3722	1023	784	0
14	0	0	−181	18	−331	−40	−323	49	271	1368	13047	451	1748	2168	−1527
15	−461	−1173	−7188	773	−1378	−980	−3581	1053	1019	15932	39183	2414	18602	4487	−2869
16	−599	−688	−2801	293	−4399	−683	−1603	252	732	5498	58189	1847	5234	6633	−9164
18	−34	−71	−3523	61	−7797	−112	−274	71	983	470	17383	699	18707	4015	−12698

BEST AVAILABLE DOCUMENT

C3ij = 0Tij . (fj − gj)

1971 – 1975

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−804601155	−3.1009E+10	0	−19729858	0	0	−7.775E+10	132089846.	0	−447403890	0	0	0	0	0
2	0	−2607272993	2382320.2651	−26954876.	0	1790450.64	−1.114E+10	229933829.	0	0	3618445.14	395450604.	−49187257.	0	−253745078.
3	0	−19147859.6	6226514566.	−18340431.	0	0	−5.123E+10	6903820630	0	−3791558.3	15921158.6	174793515.	−3488457.9	0	−18124648.
4	−108819006	−211688015.	38593588.30	−1.086E+09	0	0	−277811644	743815788.	0	0	0	394740838.	−81978761.	0	−104864037.
5	0	−137224894	107860878.0	0	145491520.	2877509.95	−538402161	7729890437	0	−2.329E+10	18333455.3	12069414.1	−12209802.	−3329561.2	−41427767.
6	0	0	0	−833655.98	0	263579912.	−879887755	4892209.13	0	0	0	386200224.	−19186516.	0	−67320122.
8	0	−76590638.7	0	−17506775.	0	2174118.63	−7.740E+09	4080102420	0	0	44386260.4	655582177.	−128028406	−3329561.2	−231736577
9	−2.722E+09	−1103117949	810941818.4	−17784661.	51198298.2	26025478.9	−8.032E+09	1.241E+11	36187811.1	−5.179E+10	54876243.1	64180884.5	−3.090E+09	−1.562E+09	−3.178E+09
11	0	−37231560.4	56222758.27	−1389426.6	11144772.4	639446.657	−5.326E+09	7157301968	33184079.7	−394322072	132193862.	68156691.5	−120002953	−261370555	−715923615
12	−402300577	−68080567.7	167238882.6	−17228890	20898448.2	127889.331	−541107443	1653568668	8868159.24	−295741554	69474146.7	18317110.8	−89304523.	−2.977E+09	−260218167
13	−605099639	−973339387.	1004386224.	−112543558	54069559.8	42139534.7	−1.270E+10	3.194E+10	86393035.2	−2.859E+10	221931302.	260131372.	−553967123	−327961779	−933419306
14	0	−78718158.4	132457006.7	−11115413	10622361.1	10422980.5	−2.070E+09	2221062948	16019900.5	−1.539E+09	107105978.	9513538.19	−63489934.	−382999539	−78382447.
15	−303374206	−685060713	708502047.0	−63635740	41705827.9	25841810.9	−1.094E+10	1.276E+10	66654229.1	−1.311E+10	438555551.	143271045.	−695947362	−1.270E+09	−555391014
16	−352837391	−51080425.8	265390477.6	−7502903.8	13147348.8	6330521.91	−2.357E+09	6085908167	14180447.8	−2.624E+09	593907462.	53247415.2	−191167495	−1.715E+09	−400036884
18	0	−22338938.2	21917348.44	0	1218959.48	575501.991	−618391957	714282534.	1716417.91	−341240255	2171067.08	41461987.3	−58954939	−339615243	−625300372

C3Ij

1975 – 1980

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−1.391E+09	−5.9394E+10	0	−152450180	0	0	−3.557E+11	−600772073	0	−978529982	70978538.2	0	0	0	−10250422.
2	0	−1.2232E+10	−40662982.2	−402851920	0	−17170492.	−3.721E+10	−2.041E+09	0	0	233194435.	−4.381E+09	−74468001.	0	−1.387E+09
3	0	−2151419[illegible].91	−4.5860E+10	−208482803	0	0	−9.190E+10	−1.846E+10	0	−7035388.0	107194450.	−940713852	−1101807.7	0	−69597492.
4	−68589824.	−258365[illegible]12.	−87284194.1	−1.250E+10	0	0	−2.280E+09	−8.073E+09	0	0	0	−3.152E+09	−203109557	0	−1.167E+09
5	−7702777.8	−511276[illegible]8.1	−324878270.	−28238194	−2.332E+09	−82754976.	−639118657	−2.987E+10	0	−2.470E+10	5028373.10	−124249213	−47493712.	0	−33242023.
6	0	0	0	−76263737	0	−2.193E+09	−4.122E+10	0	0	0	0	−2.183E+09	−17512943.	0	−257697527
8	0	0	0	−4874915.09	−489350392	0	−103485450	−4.397E+10	−1.154E+10	0	0	0	−1.184E+10	−832415742	−26232500.	−1.093E+09
9	−40024237.	−4298223400	−5692778828	−235052052	−652261850	−487024060	−1.472E+10	−4.476E+11	−971604402	−2.177E+10	5050201475	−1.714E+09	−1.355E+10	−1.144E+09	−1.482E+10
11	0	−1370865.68	−128024555.	−21230175.	−128014006	−61001472	−7.846E+09	−2.733E+10	−130168581	−307431418	313997194.	−409246771	−753723474	−273402921	−595482485
12	−494035018	−478150325.	−1529214437	−195245473	−554632416	−40298900.	−1.722E+09	−7.319E+09	−149364838	−944533573	978672548.	−468964852	−2.129E+09	−8.000E+09	−1.474E+09
13	−168100583	−1401248525	−4337049483	−1.066E+09	−836772175	−739982626	−4.453E+10	−5.162E+10	−117888840	−4.306E+10	980387426.	−3.082E+09	−2.566E+09	−404255243	−2.224E+09
14	0	0	0	−319848596.	−83228760.	−60104485.	−1.664E+09	−3.151E+09	−15833070.	−3.868E+09	3830486741	−168399001	−1.422E+09	−1.053E+09	−243327777
15	−5107810051	−851671277.	−2474058101	−708376753	−1.034E+09	−227838918	−1.508E+10	−3.076E+10	−188558664	−2.600E+10	5773444298	−1.716E+09	−1.043E+10	−1.775E+09	−999272458
16	−2.262E+09	−279069082.	−1501705988	−196971713	−882899757	−151500159	−8.109E+09	−1.466E+10	−79235375.	−8.881E+09	2241055788	−1.685E+09	−8.481E+09	−2.354E+09	−678623657
18	0	−4560228.60	−113746018.	−57481215	−24801408.	−12000827.	−1.105E+10	−2.798E+09	−40125949	−731347758	738847683.	−203376455	−940914809	−670634766	−400008408

C3Ij

1980 – 1985

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−1.041E+09	273209996221	0	−184590354	0	0	−6.280E+10	−338853782	0	−2.299E+09	−1517884.0	0	0	0	78860547.3
2	0	3515111695.	38356268.31	−293595181	0	4785903.82	−1.242E+10	−285725117	0	0	−20320102.	−3.061E+09	−12021972.	0	1202476295
3	0	11105368.44	182869607.85	−316533247	0	0	−2.678E+10	−3.192E+10	0	−21200771.	−16188829.	−1.981E+09	−818063.22	0	753455671
4	−98109239.	475967248.7	141458439.8	−1.565E+10	0	2278586.06	−795372026	−6.121E+09	0	0	0	−6.491E+09	−3.641E+09	0	1187212403
5	−3979542.4	49788428.06	243250625.1	−31488942.	1829965841	81017207.4	−88104258.	−3.572E+10	0	−5.569E+10	−18272945.	−282225085	−97705204.	0	573472847
6	0	0	0	−7057866.4	0	757861139.	−940087625	−19729477.	0	0	0	−2.249E+09	−12093108	0	287988993
8	0	0	214412.1861	−3.161E+09	0	100860864	−1.009E+10	−4.258E+09	0	0	0	−1.229E+10	−707766965	−80671394	1306233303
9	−3.742E+09	2874663688	5374080636	−325898493	1787813378	518675758.	−3.996E+09	−8.882E+09	−809740985	−2.668E+11	−1.078E+10	−1.714E+09	−1.353E+09	−3.754E+09	3.934E+10
11	0	0	141297830.6	−20932304	136029927.	6725887.78	−380516178	−8.313E+09	−1.663E+09	−759470875	−5.583E+09	−1.843E+09	−1.575E+09	−14792514	3028052527
12	−37797431.	189021624.7	517121990.6	−117389813	687871600.	16512740.8	−117018353	−2.082E+09	−267986202	−1.599E+09	−5.812E+09	−898832241	−586978151	−1.353E+10	1905364472
13	−131111124	975107708.8	2027990861.	−1.825E+09	257412009.	273652124.	−6.486E+09	−6.479E+10	−185542762	−1.252E+11	−1.815E+09	−3.772E+09	−1.892E+09	−688508876	0
14	0	0	65757537.33	−21264084	85001290.8	5051278.98	−234639548	−1.871E+09	−46117877.	−3.400E+09	−8.408E+09	−146789433	−3.231E+09	−1.972E+09	678634507
15	−345315754	462505932.7	2617543968.	−936298378	353797223.	122850399.	−2.603E+09	−4.025E+10	−173560936	−3.964E+10	−2.525E+10	−2.447E+09	−3.440E+10	−4.043E+09	1275340674
16	−449260745	270678945.6	1020052574	−354974490	1129535998	108122077.	−1.165E+09	−9.625E+09	−124760426	−1.368E+10	−3.750E+10	−1.871E+09	−9.677E+09	−5.977E+09	4074129406
18	−25192806.	28128476.48	1283109525	−73868303.	2001859006	13987101.3	−199138845	−2.725E+09	−167421488	−1.169E+09	−1.120E+10	−910802120	−3.459E+10	−3.618E+09	5645188552

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BEST AVAILABLE DOCUMENT

C4ij = 0Tij . (fij − fj)

1971 – 1975

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−14367.771	828145.3300	0	−8210.7526	0	0	−6587957.0	587.751421	0	−6042.7597	0	0	0	0	0
2	0	95504.81466	226.8538124	−10463.068	0	−8333.4275	−959341.73	1484.7764	0	0	−3703.1189	17888.6296	−5490.3590	0	1463.12416
3	0	457.1840734	442100.31791	−7373.4816	0	0	−4503070.2	29394.2550	0	−53.872540	−19455.043	3186.43187	−403.80702	0	43.0017263
4	−2578.3116	5127.751700	2230.411781	−435881.25	0	0	−22373.565	5484.74503	0	0	0	12058.3663	−8878.2650	0	1644.13141
5	0	2908.389193	6433.372321	0	−7443.9280	−12694.940	−47515.688	31950.7313	0	−370097.04	−22810.155	500.575231	−1282.8245	−138.95958	−184.42462
6	0	0	0	−342.33482	0	−1231031.7	−32232.356	11.4483489	0	0	0	7879.06377	−2181.4386	0	158.034983
8	0	1521.136293	0	−5911.3270	0	−9073.6263	−646098.64	14901.1550	0	0	−55268.472	51279.1240	−12088.277	−18.559581	985.343501
9	−73320.329	37272.08800	58839.69774	−7022.3052	−3505.4341	−118127.43	−705624.86	498058.318	−5197.9438	−893268.33	−687146.21	7643.43769	−314283.94	−59071.743	12994.0670
11	0	744.3412539	3251.489973	−537.49103	−836.67749	−2976.6312	−470117.59	29426.7084	−18986.506	−6501.2442	−163517.87	1443.27189	−11422.181	−9517.3271	−2797.5818
12	−8250.4855	3081.32115	12640.01763	−6928.6468	87.8921989	−100.75625	−46706.474	7284.38594	−2932.3791	−3363.8581	−83136.943	2076.97182	−3093.1398	−88063.865	1807.68907
13	−15465.668	24339.70706	63384.40731	−46075.173	−2923.3314	−191882.68	−1091499.5	98881.5122	−53561.483	−427424.72	−272959.36	12899.0943	−55807.895	−11665.918	−625.38109
14	0	1563.390079	7707.411970	−250.51282	−1123.4597	−49374.549	−184308.47	6858.44241	−10048.252	−19734.251	−120181.69	727.987535	−2512.9478	−10999.751	78.6858468
15	−5489.5021	18849.91907	43198.98381	−25841.809	−207.31265	−119575.23	−987166.71	44120.4780	−39499.268	−182689.77	−526193.37	7082.80362	−45341.501	−44236.860	−1048.5113
16	2449.65814	2011.590862	17887.57470	−2582.9115	2866.95467	−28315.629	−202788.61	21038.8580	−7659.2214	−28824.998	−731779.12	7585.54368	−54.964928	−59910.684	−845.26903
18	0	459.9647523	1432.535074	0	−34.641288	−2586.4481	−42863.6471	2968.96694	−1032.9058	−4640.6256	−161.95135	662.313734	−3843.4587	−10942.977	−2508.2904

C4Ij

1975 – 1980

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−1591803.4	−3722083.53	0	−13379.448	0	0	−1893584.7	−4553.4098	0	−23376.252	−3178.8541	0	0	0	−1755.9982
2	0	−783051.302	−4457.13401	−36623.876	0	−518.35054	−145687.89	−16697.063	0	0	−10419.119	−369594.28	−11171.858	0	−238638.57
3	0	−1338.80296	−5211257.25	−17870.088	0	0	−394651.37	−109358.25	0	−161.10875	−4781.3227	−71848.011	−163.45127	0	−11805.603
4	−77934.711	−13395.3115	−9094.11182	−1093758.3	0	0	−8617.9392	−58959.965	0	0	0	−230173.43	−20317.939	0	−198330.33
5	−8837.8885	−3003.58924	−35962.7832	−2498.1822	−945728.79	−1231.6750	−3623.9779	−197958.01	0	−593463.08	−205.88721	−9372.6442	−6870.05231	0	−5524.6914
6	0	0	0	−683.74264	0	−63010.850	−276183.86	0	0	0	0	−180058.341	−2600.5729	0	−43771.111
8	0	0	−565.2722031	−25917.963	0	−1549.3572	−213280.061	−90685.171	0	0	0	−976103.231	−123235.18	−216.46590	−185705.37
9	−681.31289	−262352.131	−621873.462	−20355.015	−258133.94	−6333.2773	−65861.923	−3741174.6	−558177.11	−195518.92	−213376.85	−141834.57	−2034858.11	−8900.3997	−2388891.2
11	0	−90.8317885	−13832.7438	−1894.8727	−51741.340	−74.315151	−50770.494	−217260.08	−57249.701	−7288.8972	−7440.1350	−25682.298	−108958.45	−4209.7483	−68294.634
12	−569469.62	−30207.9108	−173963.511	−17924.478	−223879.12	−1101.1560	−10844.261	−58408.063	−83007.262	−23488.851	−36935.300	−38144.608	−318581.16	−93212.073	−248301.34
13	−190022.57	−85232.2175	−489193.903	−89979.825	−341385.09	−20865.889	−249417.51	−340645.46	−68501.854	−992742.27	−41752.698	−250797.81	−383785.37	−4851.7802	−390098.40
14	0	0	−36702.4151	−5915.5933	−24187.1441	−1044.6242	−9388.5400	−23749.788	−8581.2933	−100822.82	−161569.99	−14042.1541	−204888.41	−11688.756	−39057.953
15	−585048.05	−52819.8388	−268159.342	−81648.051	−421781.72	−5581.0635	−80834.172	−200611.88	−107755.29	−652981.38	−228605.36	−137688.641	−1472528.81	−18025.471	−168470.02
16	−2503909.7	−16377.5569	−167011.732	−16514.438	−355893.38	−3133.3707	−45558.274	−109165.17	−44704.489	−222310.87	−55886.605	−138181.61	−944700.57	−22441.339	−96931.286
18	0	−82.5547250	−3652.11807	−5016.41831	−98.178197	−158.71780	−74512.0541	−19575.0671	−474.28452	−18289.949	−19792.890	−12791.697	−44298.8271	−1878.5865	−55809.136

C4Ij

1980 – 1985

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	−60113.734	−1018653.41	0	−19252.235	0	0	−3410812.3	−3577.7552	0	−9775.4748	−7.2140573	0	0	0	−4885.8977
2	0	−94936.7150	335.9599956	−31641.659	0	−87.042938	−735170.52	−2804.7893	0	0	−96.310922	−106311.481	−165.30073	0	−750555.40
3	0	−83.2486249	85370.39773	−30849.728	0	0	−1537098.7	−231453.89	0	−98.345553	−76.816106	−69886.652	−11.385790	0	−46874.781
4	−5720.6094	−12511.9714	1023.631401	−1667959.2	0	−23.410119	−48841.395	−83696.138	0	0	0	−297158.83	−61538.018	0	−740328.09
5	−244.00844	−1651.13429	987.0975956	−3265.7678	20534.0415	−2103.2139	−5155.3570	−300993.97	0	−380357.04	−78.661628	−10314.907	−1539.9532	0	−35700.163
6	0	0	0	−784.79690	0	−20109.631	−49812.725	−193.98050	0	0	0	−81737.597	−168.18875	0	−167293.12
8	0	0	1.494373199	−321297.49	0	−2191.5796	−535910.60	−38084.989	0	0	0	−418864.03	−10654.681	−6321.5981	−813987.94
9	−20747.458	−86484.9659	42267.16580	−32538.956	25420.00901	−5163.1986	−224442.23	−62868.906	−65685.857	−1128515.5	−46843.330	−58599.962	−50430.257	−283574.50	−24538206.
11	0	0	895.8232028	−1791.1786	1893.56494	−24.548579	−21230.845	−67354.042	−122453.22	−3681.1570	−22416.206	−62017.602	−20933.680	−383.28951	−1879568.1
12	−2173.9753	−8030.37308	5927.163838	−12274.206	9196.79754	65.6345015	−6011.0784	−17177.826	−20062.791	−6828.2892	−25627.562	−31088.169	8687.74250	−1037152.7	−1185006.3
13	−5731.7145	−31270.3814	10838.12435	−188099.96	4373.24324	519.919995	−353868.98	−560738.01	−7416.0319	−580558.70	−4433.8798	−117299.261	−9477.2022	−52572.659	0
14	0	0	505.5628888	−2328.7681	1337.62255	81.4278700	−11985.327	−13243.862	−4148.9407	−15028.171	−32258.725	−3784.6999	−43892.687	−149166.00	−421364.48
15	−23809.776	−14822.1378	6317.727781	−100687.181	5071.77470	−338.78133	−141981.181	−377963.90	−11359.250	−173011.98	−113714.35	−83746.179	−483427.62	−306815.98	−785028.23
16	−25654.965	−7470.21376	8875.093003	−38170.713	14451.3765	281.535551	−55536.338	−72445.352	−10233.178	−36032.291	−217874.47	−51122.508	−116547.86	−397942.07	−2528830.4
18	−1563.7274	−712.478624	3869.642554	−8050.4399	23985.1698	−11.406080	−10882.358	−24908.909	−14520.557	−8178.5990	−57774.542	−34302.277	−507289.29	−280509.55	−3519095.0

BEST AVAILABLE DOCUMENT

C5ij = 0Tij . (tij − fij)

1971 – 1975

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	0	0	0	0	0	0	0	−2.248E−14	0	0	0	0	0	0	0
2	0	0	−1.1102E−14	0	0	0	−2.628E−12	1.044E−13	0	0	0	1.548E−12	0	0	2.176E−13
3	0	0	−1.0885E−11	0	0	0	−6.311E−12	−2.021E−12	0	0	0	−1.367E−12	0	0	5.629E−15
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.597E−13
5	0	0	0	0	0	0	6.328E−14	0	0	0	0	4.718E−14	0	0	0
6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	0	0	0	−2.798E−13	0	0	7.305E−12	0	0	0	0	3.844E−12	−1.019E−13	0	−9.936E−14
9	0	1.7270E−12	0	−3.553E−14	0	0	0	0	0	0	0	0	0	0	0
11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	0	0	0	0	−4.885E−13	0	0	0	0	0	4.041E−13	0	−1.638E−14
15	0	−7.1498E−13	0	6.358E−14	1.329E−13	0	0	0	0	0	0	0	−4.430E−12	−5.824E−13	0
16	0	−1.0658E−13	0	5.995E−14	0	0	0	0	0	0	0	0	0	−1.144E−12	0
18	0	0	0	0	0	0	0	1.216E−13	0	0	0	0	0	1.132E−13	0

C5ij

1975 – 1980

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	0	1.1601E−11	0	0	0	0	0	6.183E−14	0	0	0	0	0	0	0
2	0	2.4271E−12	2.3337E−14	0	0	0	9.401E−12	0	0	0	0	0	0	0	0
3	0	6.4032E−15	9.0474E−12	0	0	0	0	0	0	0	0	1.977E−12	0	0	0
4	0	0	0	0	0	0	−5.781E−13	8.315E−13	0	0	0	−6.622E−12	0	0	−5.409E−13
5	0	0	−1.8645E−13	0	0	0	−2.019E−14	−6.113E−12	0	0	0	0	0	0	3.082E−14
6	0	[illegible]	0	0	0	0	0	0	0	0	0	−1.433E−12	0	0	0
8	0	[illegible]	0	0	0	0	0	−2.973E−13	0	0	0	−6.220E−12	1.594E−13	0	0
9	−6.025E−12	−2.5585E− [illegible]	3.2671E−12	0	0	−6.843E−13	0	−6.916E−11	0	0	0	−1.125E−12	0	5.731E−13	0
11	0	[illegible]	0	0	0	0	0	0	0	0	0	0	0	0	0
12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14	0	0	4.5891E−14	0	0	0	−5.255E−14	−1.623E−13	3.244E−14	−4.545E−13	7.316E−13	0	−5.448E−13	1.648E−13	0
15	0	−8.4494E−14	−2.6398E−12	0	0	0	0	0	−1.956E−13	0	2.205E−12	9.014E−13	7.988E−12	6.672E−13	0
16	0	0	4.3092E−13	−3.395E−13	2.581E−13	0	7.683E−13	0	0	−5.209E−13	−6.848E−12	8.849E−13	0	0	0
18	0	0	0	0	0	0	0	−2.882E−13	0	0	0	−6.547E−13	−1.153E−11	0	0

C5ij

1980 – 1985

	1	2	3	4	5	6	8	9	11	12	13	14	15	16	18
1	58.9833724	−184.627440	0	213.553370	0	0	99.1251168	−123.65988[illegible]	0	99.3548031	1.09018830	0	0	0	−18.347107
2	0	−8.84835723	59.28283471	108.710639	0	−68.682238	1591.02339	−19.091659	0	0	3.52134315	9.68253808	30.8810949	0	−132.13503
3	0	824.6250438	−70.1963889	412.598780	0	0	−2331.1476	−5218.[illegible]588	0	60.1038289	2.48350364	23.0530721	20.6823826	0	−55.553710
4	29.9802781	98.50900032	5.559095253	−129.53123	0	−34.507806	−51.227658	−45.278248	0	0	0	9.95977661	−193.23560	0	−110.05048
5	0.48309178	−84.1854934	−79.6248511	231.213307	−173.14316	−178.04840	5.39830165	−5.4816662	0	−198.23571	−12.494300	−[illegible]2.521435	−112.19717	0	−70.367443
6	0	0	0	5.51053484	0	−183.30917	133.083995	−21.2[illegible]8917	0	0	0	−5.2031171	19.6581198	0	−135.09105
8	0	0	−1.58730158	−3932.6666	0	−139.32789	−4270.5176	−748.72619	0	0	0	−2412.6656	−61.8841[illegible]4	16.9907881	7.00675335
9	−4024.7332	−2970.21316	−843.866139	301.952163	21.2344691	14.1022984	−3127.2970	1014[illegible]1.66	−148.66511	−771.30441	−504.44423	−182.60890	57257.7571	−244.75016	30353.5532
11	0	0	−18.4830102	778.394332	−65.693265	26.1095100	66.1161147	222.5[illegible]1190	200.936381	19.5045045	125.599190	89.4805900	[illegible]0.5758724	4561.51553	−18.037206
12	62.0688282	−48.7625469	118.8105151	205.641864	−87.602220	95.8616188	164.941515	190.4[illegible]816	179.060030	98.8021680	59.0590590	56.5904036	2061.66023	144.749213	−48.109124
13	289.891897	−51.0041342	−45.1758905	249.919097	56.4617651	78.8949505	93.6292621	144.[illegible]0392	807.430011	47.7562140	390.638949	179.429945	652.592283	170.532777	0
14	0	0	18.73715830	58.1290322	5.91358839	207.023195	116.032934	198.[illegible]13734	−82.894932	3.10949228	−310.30731	318.824486	−41.591222	−89.686937	−0.8206190
15	−115.54618	−50.4618452	−118.397515	116.169522	−44.777012	34.2738301	15.2451467	9.94[illegible]78472	269.199039	55.4139188	−603.28200	59.3265132	−713.87236	−24.230382	122.538543
16	69.7281073	63.5223932[illegible]	44.80600110	115.900587	−110.52335	83.3365846	247.267050	303.595012	50.2932089	−868.59612	3024.20798	−233.07340	−2655.0133	−7720.4764	−0.9315812
18	−11.9273301	121.6396568	−107.555064	72.1078573	−142.86939	52.0466679	91.7431192	78.2672697	−34.489365	−39.279279	−67.040382	−51.721188	−34.291513	−1.6543801	4340.70288

BEST AVAILABLE DOCUMENT

/03

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	2,938.03	48,523.81	0.00	264.19	0.00	0.00	0.00	130,601.68	111.66	0.00	0.00	795.66	0.42	0.00	0.00	0.00	8.78
2	Other Farm Food Crops	0.00	6,371.73	62.99	482.02	0.00	24.29	0.00	25,623.92	94.15	0.00	0.00	0.00	5.60	4,037.53	7.66	0.00	1,480.74
3	Other Agricultural Products	0.00	20.13	26,222.54	487.33	0.00	0.00	0.00	56,703.96	10,517.93	0.00	0.00	7.34	4.46	2,613.21	0.63	0.00	68.41
4	Livestock & its Products	271.40	884.84	245.09	24,096.75	0.00	11.56	0.00	1,664.22	2,016.60	0.00	0.00	0.00	0.00	11,199.93	2,376.67	0.00	1,471.81
5	Forestry	11.24	80.25	421.46	48.48	2,134.85	411.15	1.23	163.24	11,770.73	1.30	0.00	19,271.50	4.46	372.28	63.78	0.00	71.08
6	Fishery	0.00	0.00	0.00	10.87	0.00	3,646.63	0.00	1,956.20	6.60	0.00	0.00	0.00	0.00	2,968.92	7.88	0.00	332.23
7	Mining & Quarrying	0.00	0.00	0.02	0.66	0.00	25.75	4,696.33	343.24	21,463.33	61,735.71	228.64	13,309.71	3.99	0.09	81.92	0.02	0.02
8	Food, Beverage & Tobacco	0.00	0.00	0.37	4,666.04	0.00	511.63	0.06	20,962.46	1,400.18	0.00	0.00	0.00	0.00	18,211.27	462.02	44.30	1,818.37
9	Other Manufacturing	10,567.04	5,210.81	8,311.23	501.75	2,066.73	2,632.06	23,160.55	8,311.23	2,261.06	2,183.50	2,066.46	93,025.35	2,969.14	2,280.64	663.08	2,056.36	48,787.82
10	Petroleum Refinery	14.21	34.67	1,207.50	75.41	1,367.38	669.06	4,401.37	2,567.20	7,400.16	86.81	7,469.87	28,113.81	1,818.21	2,000.33	28,498.04	295.48	16,428.87
11	Electricity, Gas & Water	0.00	0.00	244.81	32.23	158.70	34.13	43.77	791.40	2,736.36	862.30	4,287.97	282.83	1,637.46	2,430.92	1,026.23	8.10	3,751.47
12	Construction	108.73	342.63	895.87	160.73	602.50	63.00	2,879.10	243.38	679.63	272.28	691.14	583.29	1,600.42	1,166.86	383.17	7,411.08	2,382.12
13	Trade	370.24	1,787.58	3,513.73	2,609.12	300.31	1,366.67	574.07	13,489.38	21,348.31	280.25	478.55	43,353.66	490.73	4,875.69	1,234.62	377.16	0.00
14	Restaurant & Hotel	0.00	0.00	113.93	32.74	99.17	25.65	2,567.30	468.00	616.56	1,284.88	116.95	1,176.62	2,315.32	193.62	2,109.46	1,080.14	841.32
15	Transport & Communication	875.13	836.37	4,536.20	1,441.51	412.75	623.41	30.98	5,412.63	13,265.74	876.08	447.65	12,719.33	6,963.56	3,227.01	22,453.00	2,214.56	1,581.08
16	Finance, R. Estate, Business	1,266.65	480.66	1,787.38	548.51	1,317.78	548.67	19,536.17	2,422.42	3,171.56	1,466.09	321.76	4,734.46	10,328.46	2,466.39	6,317.31	3,273.98	5,050.79
18	(General) Service	71.14	50.98	2,223.14	113.72	2,336.45	70.96	5,736.96	414.17	596.04	393.71	431.62	404.56	3,084.64	1,201.37	22,578.56	1,861.74	8,898.47

#2 C1ij = 0Tij . g SECTOR 10, 17 and 19 REMOVED

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	2,570.66	43,317.10	0.00	246.56	0.00	0.00	0.00	114,233.43	97.66	0.00	0.00	695.83	0.37	0.00	0.00	0.00	8.53
2	Other Farm Food Crops	0.00	5,573.17	56.10	395.38	0.00	21.24	0.00	22,567.42	82.36	0.00	0.00	0.00	4.69	3,331.53	6.68	0.00	1,303.90
3	Other Agricultural Products	0.00	17.61	24,666.42	426.25	0.00	0.00	0.00	46,722.60	9,199.73	0.00	0.00	6.43	3.90	2,265.70	0.47	0.00	81.70
4	Livestock & its Products	237.38	756.23	214.36	21,075.64	0.00	10.11	0.00	1,446.90	1,764.03	0.00	0.00	0.00	0.00	9,796.25	2,078.96	0.00	1,267.38
5	Forestry	8.63	75.94	358.64	42.40	1,667.38	359.60	1.06	160.27	10,295.51	0.00	0.00	16,856.21	3.92	325.61	56.78	0.00	62.18
6	Fishery	0.00	0.00	0.00	9.50	0.00	3,383.63	0.00	1,710.15	5.69	0.00	0.00	0.00	0.00	2,594.20	6.90	0.00	290.58
7	Mining & Quarrying	0.00	0.00	0.02	0.75	0.00	22.52	4,022.03	300.22	16,790.63	0.00	199.90	11,641.61	3.49	0.06	45.41	0.02	0.02
8	Food, Beverage & Tobacco	0.00	0.00	0.32	4,256.18	0.00	447.66	0.04	16,362.74	1,227.30	0.00	0.00	0.00	0.00	14,179.52	404.12	36.75	1,418.41
9	Other Manufacturing	9,242.66	4,557.74	5,144.25	430.87	1,624.33	2,302.19	20,275.34	7,269.59	1,877.70	0.00	1,626.74	61,386.53	2,597.02	1,977.23	772.41	1,796.64	42,865.77
10	Petroleum Refinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Electricity, Gas & Water	0.00	0.00	714.13	28.18	138.61	29.66	36.74	692.21	2,396.05	0.00	3,750.66	229.69	1,344.78	2,120.25	899.36	7.09	3,261.50
12	Construction	93.38	259.69	783.66	158.06	701.92	73.29	2,518.27	212.67	594.37	0.00	604.62	463.95	1,399.64	1,056.99	335.16	6,402.25	2,066.08
13	Trade	323.84	1,546.02	3,073.36	2,457.06	262.67	1,214.63	502.13	11,798.76	16,672.74	0.00	416.58	37,902.67	437.10	4,362.00	1,050.06	329.69	[illegible]
14	Restaurant & Hotel	0.00	0.00	99.65	25.63	88.74	22.42	2,230.79	426.64	539.29	0.00	104.04	1,029.15	2,025.14	169.35	1,646.10	944.77	[illegible]
15	Transport & Communication	662.81	733.50	3,988.61	1,260.65	361.02	545.26	27.07	4,734.46	11,601.40	0.00	391.65	11,999.69	6,082.09	2,622.57	18,639.06	1,857.00	1,392.92
16	Finance, R. Estate, Business	1,109.65	429.16	1,545.66	478.02	1,152.61	479.91	17,087.71	2,116.62	2,774.07	0.00	261.48	4,141.09	9,032.24	2,159.00	5,525.56	2,863.65	4,417.78
18	(General) Service	[illegible]	44.60	1,944.51	98.47	2,042.75	62.06	5,017.96	362.26	765.49	0.00	377.70	353.67	2,696.22	1,060.60	18,749.66	1,733.37	6,121.36

#3 C1ij = 0Tij.. g SECTOR 7, 10, 17 and 19 REMOVED

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	2,661.46	44,645.58	0.00	279.65	0.00	0.00	0.00	116,265.93	101.11	0.00	0.00	720.50	0.36	0.00	0.00	0.00	8.63
2	Other Farm Food Crops	0.00	5,759.95	57.04	409.32	0.00	21.99	0.00	23,364.96	65.26	0.00	0.00	0.00	5.07	3,656.02	7.11	0.00	1,349.94
3	Other Agricultural Products	0.00	18.23	25,567.05	441.30	0.00	0.00	0.00	50,442.96	9,524.56	0.00	0.00	6.64	4.04	2,366.40	0.46	0.00	34.58
4	Livestock & its Products	245.77	782.83	221.95	21,620.01	0.00	10.47	0.00	1,497.96	1,626.32	0.00	0.00	0.00	0.00	10,142.14	2,152.36	0.00	1,332.81
5	Forestry	10.18	81.73	361.66	43.90	1,933.30	372.30	0.00	165.93	10,659.03	0.00	0.00	17,461.39	4.06	337.10	57.76	0.00	64.36
6	Fishery	0.00	0.00	0.00	9.64	0.00	3,462.60	0.00	1,770.54	5.69	0.00	0.00	0.00	0.00	2,665.60	7.15	0.00	300.66
7	Mining & Quarrying	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
8	Food, Beverage & Tobacco	0.00	0.00	0.34	4,406.47	0.00	463.49	0.00	19,000.76	1,270.64	0.00	0.00	0.00	0.00	14,660.19	416.38	40.12	1,466.42
9	Other Manufacturing	8,569.00	4,718.67	6,431.62	464.36	1,666.74	2,363.47	0.00	7,526.27	2,047.63	0.00	1,691.25	64,239.52	2,666.72	2,047.04	799.66	1,662.18	44,181.92
10	Petroleum Refinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Electricity, Gas & Water	0.00	0.00	221.69	29.18	143.71	30.91	0.00	716.65	2,460.66	0.00	3,662.99	236.01	1,392.25	2,201.53	831.12	7.54	3,397.18
12	Construction	96.65	310.27	611.35	163.66	726.71	75.60	0.00	220.39	615.55	0.00	625.67	501.04	1,449.27	1,073.61	346.96	6,711.14	2,139.03
13	Trade	335.27	1,600.81	3,181.66	2,543.81	271.94	1,257.52	0.00	12,216.36	19,332.06	0.00	433.36	39,241.19	462.53	4,606.66	1,116.80	341.64	0.00
14	Restaurant & Hotel	0.00	0.00	103.17	29.65	69.60	23.21	0.00	441.91	568.33	0.00	107.71	1,065.49	2,096.64	178.33	1,810.29	878.13	781.66
15	Transport & Communication	863.03	758.18	4,108.67	1,305.37	373.77	564.54	0.00	4,901.62	12,011.04	0.00	408.37	12,423.60	6,296.06	2,822.73	20,332.50	[illegible]	[illegible]
16	Finance, R. Estate, Business	1,148.63	444.31	1,600.44	494.90	1,193.30	496.85	0.00	2,193.63	2,672.02	0.00	291.38	4,257.31	9,361.16	2,236.27	5,720.67	2,984.77	4,575.77
18	(General) Service	64.42	48.17	2,013.17	102.96	2,114.87	64.26	0.00	375.05	613.23	0.00	391.03	366.37	2,793.49	1,087.90	20,447.02	1,794.67	6,337.46

#4 C1ij = 0Tij . g *SECTOR 8, 9, 17 and 19 REMOVED*

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	3,110.64	52,418.68	0.00	300.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	642.11	0.44	0.00	0.00	0.00	10.38
2	Other Farm Food Crops	0.00	6,743.77	69.67	478.41	0.00	25.70	0.00	0.00	0.00	0.00	0.00	0.00	5.92	4,273.07	8.81	0.00	1,577.79
3	Other Agricultural Products	0.00	21.31	29,870.44	515.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.77	4.72	2,765.79	0.67	0.00	66.66
4	Livestock & its Products	267.25	915.07	258.40	25,502.69	0.00	12.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11,663.69	2,615.65	0.00	1,567.75
5	Forestry	11.69	86.82	446.07	51.31	2,259.59	435.13	1.30	0.00	0.00	1.38	0.00	20,386.76	4.74	394.00	67.81	0.00	75.26
6	Fishery	0.00	0.00	0.00	11.50	0.00	4,070.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3,139.10	8.36	0.00	361.63
7	Mining & Quarrying	0.00	0.00	0.02	0.81	0.00	27.25	4,666.83	0.00	0.00	66,508.25	241.66	14,056.66	4.23	0.10	64.66	0.02	0.02
8	Food, Beverage & Tobacco	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02
9	Other Manufacturing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.02
10	Petroleum Refinery	15.04	39.69	1,278.00	62.99	1,486.40	940.87	4,656.37	0.00	0.00	91.66	7,626.98	29,756.36	2,030.21	2,180.63	28,048.31	312.73	17,306.18
11	Electricity, Gas & Water	0.00	0.00	258.11	34.11	167.96	36.12	46.27	0.00	0.00	1,038.66	4,636.38	278.16	1,627.22	2,872.66	1,066.98	8.66	3,970.61
12	Construction	112.87	382.84	846.29	181.26	649.35	66.69	3,047.21	0.00	0.00	260.16	731.60	866.60	1,695.67	1,264.00	405.66	7,643.81	2,600.08
13	Trade	391.86	1,679.75	3,718.90	2,875.15	317.64	1,469.75	607.54	0.00	0.00	296.81	606.60	45,864.13	678.81	6,266.11	1,300.92	390.16	0.02
14	Restaurant & Hotel	0.00	0.00	120.66	34.66	104.96	27.13	2,706.62	0.00	0.00	1,856.62	125.66	1,246.32	2,480.81	204.92	2,232.98	1,143.21	880.44
15	Transport & Communication	1,032.08	867.52	4,600.01	1,695.66	436.86	658.81	92.76	0.00	0.00	1,083.97	473.79	14,620.40	7,399.60	3,416.43	23,784.17	2,343.83	1,673.42
16	Finance, R. Estate, Business	1,342.73	518.30	1,870.56	578.43	1,394.70	560.71	20,676.66	0.00	0.00	1,643.13	340.67	8,010.81	10,989.41	2,612.69	6,666.17	3,465.18	5,346.70
18	(General) Service	75.50	65.86	2,352.95	120.36	2,471.91	75.12	6,071.94	0.00	0.00	418.70	457.05	426.20	3,294.97	1,271.51	23,697.86	2,097.46	7,407.18

BEST AVAILABLE DOCUMENT

1980 – 1985

A. C1ij = 0Tij . g (#1 – #2)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	368.33	6,206.81	0.00	35.62	0.00	0.00	0.00	16,368.24	13.99	0.00	0.00	99.72	0.05	0.00	0.00	0.00	1.22
2	Other Farm Food Crops	0.00	798.57	7.89	56.65	0.00	3.04	0.00	3,236.50	11.80	0.00	0.00	0.00	0.70	506.00	0.96	0.00	188.83
3	Other Agricultural Products	0.00	2.52	3,537.12	61.06	0.00	0.00	0.00	6,981.35	1,318.21	0.00	0.00	0.92	0.56	327.51	0.07	0.00	11.71
4	Livestock & Its Products	34.01	108.36	30.72	3,019.91	0.00	1.45	0.00	207.32	252.78	0.00	0.00	0.00	0.00	1,403.68	297.60	0.00	184.46
5	Forestry	1.41	11.31	52.82	6.08	267.57	51.53	0.15	22.97	1,475.22	1.30	0.00	2,415.29	0.56	46.65	7.99	0.00	8.91
6	Fishery	0.00	0.00	0.00	1.38	0.00	462.00	0.00	245.04	0.81	0.00	0.00	0.00	0.00	371.72	0.99	0.00	41.64
7	Mining & Quarrying	0.00	0.00	0.00	0.11	0.00	3.23	576.31	43.02	2,692.49	81,735.71	28.64	1,666.10	0.50	0.01	6.51	0.00	0.00
8	Food, Beverage & Tobacco	0.00	0.00	0.05	609.66	0.00	64.15	0.01	2,629.72	175.86	0.00	0.00	0.00	0.00	2,031.75	57.91	5.55	202.95
9	Other Manufacturing	1,324.35	653.07	1,166.97	62.88	261.40	329.87	2,905.21	1,041.64	283.38	2,183.50	261.75	11,658.82	372.12	283.31	110.66	857.72	6,112.05
10	Petroleum Refinery	14.21	34.87	1,207.50	78.41	1,387.39	669.06	4,401.37	2,587.20	7,403.18	66.81	7,489.67	26,113.61	1,918.21	2,060.33	26,499.04	295.48	16,428.67
11	Electricity, Gas & Water	0.00	0.00	30.68	4.04	19.69	4.26	5.43	99.19	343.32	992.30	537.41	32.94	192.60	304.07	128.87	1.02	470.17
12	Construction	13.38	42.94	112.29	22.65	100.58	10.50	360.84	30.50	85.17	272.28	86.62	69.34	200.58	146.59	46.02	928.63	296.04
13	Trade	45.40	221.53	440.37	352.07	37.64	174.04	71.95	1,600.52	2,075.57	280.25	59.96	5,431.01	62.63	623.59	154.76	47.27	0.00
14	Restaurant & Hotel	0.00	0.00	14.28	4.10	12.43	3.21	320.50	61.16	77.27	1,264.96	14.91	147.46	290.18	24.27	264.38	135.37	105.44
15	Transport & Communication	122.21	105.07	568.39	180.66	51.73	78.13	3.88	678.30	1,602.34	978.06	56.10	1,719.44	671.49	404.44	2,814.33	277.55	198.16
16	Finance, R. Estate, Business	159.00	61.49	221.50	68.49	165.15	66.77	2,448.46	303.60	397.49	1,458.09	40.33	593.37	1,294.21	309.36	791.74	410.33	633.01
18	(General) Service	8.92	6.39	278.62	14.25	292.70	8.90	719.01	51.91	112.55	393.71	54.12	50.71	386.62	150.57	2,629.89	248.37	877.11

B. C1ij = 0Tij . g (#1 – #3)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	277.58	4,677.31	0.00	26.84	0.00	0.00	0.00	12,334.74	10.55	0.00	0.00	75.15	0.04	0.00	0.00	0.00	0.92
2	Other Farm Food Crops	0.00	601.78	5.95	42.69	0.00	2.29	0.00	2,438.95	8.89	0.00	0.00	0.00	0.53	381.31	0.74	0.00	140.79
3	Other Agricultural Products	0.00	1.90	2,665.49	46.03	0.00	0.00	0.00	5,260.99	993.37	0.00	0.00	0.69	0.42	246.81	0.05	0.00	8.82
4	Livestock & Its Products	25.63	81.66	23.15	2,275.74	0.00	1.09	0.00	156.23	190.48	0.00	0.00	0.00	0.00	1,057.78	224.46	0.00	139.01
5	Forestry	1.06	8.52	39.81	4.58	201.63	38.83	1.23	17.31	1,111.69	1.30	0.00	1,820.11	0.42	35.16	6.02	0.00	6.71
6	Fishery	0.00	0.00	0.00	1.03	0.00	348.22	0.00	184.66	0.61	0.00	0.00	0.00	0.00	280.12	0.75	0.00	31.38
7	Mining & Quarrying	0.00	0.00	0.02	0.08	0.00	25.75	4,598.33	343.24	21,483.33	81,735.71	228.54	13,309.71	3.99	0.09	51.92	0.02	0.02
8	Food, Beverage & Tobacco	0.00	0.00	0.04	459.58	0.00	48.34	0.05	1,981.70	132.52	0.00	0.00	0.00	0.00	1,531.08	43.64	4.18	152.94
9	Other Manufacturing	998.01	492.14	879.40	47.39	196.99	248.59	23,180.55	784.96	213.55	2,183.50	197.25	8,785.63	280.42	213.50	83.40	194.21	4,605.90
10	Petroleum Refinery	14.21	34.87	1,207.50	78.41	1,387.39	669.06	4,401.37	2,587.20	7,403.18	66.81	7,489.67	26,113.61	1,918.21	2,060.33	26,499.04	295.48	16,428.67
11	Electricity, Gas & Water	0.00	0.00	23.12	3.04	14.99	3.22	43.72	74.74	258.72	982.30	404.96	24.82	145.21	229.59	97.11	0.77	354.31
12	Construction	10.08	32.36	84.62	17.07	75.79	7.91	2,879.10	22.99	64.18	272.28	65.28	52.28	151.15	111.97	36.19	699.94	223.09
13	Trade	34.97	166.94	331.86	265.31	28.36	131.15	574.07	1,274.01	2,016.25	280.25	45.20	4,092.69	47.20	469.92	116.62	35.62	0.00
14	Restaurant & Hotel	0.00	0.00	10.76	3.09	9.37	2.42	2,557.30	46.09	58.23	1,264.96	11.23	111.13	218.67	18.29	199.23	102.01	79.46
15	Transport & Communication	92.10	79.18	428.33	136.14	38.98	58.86	30.95	511.22	1,252.70	978.06	42.28	1,296.73	656.73	304.78	2,120.59	209.15	149.33
16	Finance, R. Estate, Business	119.82	46.34	166.92	51.62	124.46	51.82	19,536.15	228.79	299.54	1,458.09	30.39	447.15	975.29	233.13	596.64	309.21	477.02
18	(General) Service	6.72	4.82	209.97	10.74	220.57	6.70	5,736.96	39.12	84.82	393.71	40.78	38.21	291.35	113.46	2,132.54	187.17	660.97

C. C1ij = 0Tij . g (#1 – #4)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(171.61)	(2,891.88)	0.00	(16.59)	0.00	0.00	0.00	130,601.68	111.66	0.00	0.00	(46.46)	(0.02)	0.00	0.00	0.00	(0.57)
2	Other Farm Food Crops	0.00	(372.04)	(3.68)	(26.39)	0.00	(1.42)	0.00	25,820.92	94.15	0.00	0.00	0.00	(0.33)	(235.74)	(0.46)	0.00	(87.04)
3	Other Agricultural Products	0.00	(1.18)	(1,647.90)	(28.46)	0.00	0.00	0.00	55,700.95	10,517.93	0.00	0.00	(0.43)	(0.26)	(152.58)	(0.03)	0.00	(5.45)
4	Livestock & Its Products	(15.85)	(50.48)	(14.31)	(1,406.94)	0.00	(0.68)	0.00	1,654.22	2,016.60	0.00	0.00	0.00	0.00	(653.96)	(138.78)	0.00	(85.94)
5	Forestry	(0.66)	(5.27)	(24.61)	(2.83)	(124.66)	(24.01)	(0.07)	183.24	11,770.73	(0.08)	0.00	(1,125.26)	(0.26)	(21.74)	(3.72)	0.00	(4.15)
6	Fishery	0.00	0.00	0.00	(0.63)	0.00	(224.66)	0.00	1,955.20	6.50	0.00	0.00	0.00	0.00	(173.18)	(0.46)	0.00	(19.40)
7	Mining & Quarrying	0.00	0.00	(0.00)	(0.05)	0.00	(1.50)	(266.50)	343.24	21,483.33	(4,772.52)	(13.34)	(777.15)	(0.23)	(0.01)	(3.03)	(0.00)	(0.00)
8	Food, Beverage & Tobacco	0.00	0.00	0.37	4,666.04	0.00	611.63	0.05	20,982.46	1,400.16	0.00	0.00	0.00	0.00	16,211.27	462.02	44.30	1,619.37
9	Other Manufacturing	10,567.04	5,210.81	9,311.23	501.75	2,085.73	2,632.06	23,180.55	8,311.23	2,261.08	2,183.50	2,088.49	93,025.35	2,969.14	2,260.54	883.00	2,056.36	48,767.82
10	Petroleum Refinery	(0.83)	(2.02)	(70.51)	(4.58)	(81.01)	(51.91)	(256.99)	2,587.20	7,403.18	(5.07)	(437.32)	(1,641.56)	(112.00)	(120.30)	(1,547.27)	(17.25)	(959.28)
11	Electricity, Gas & Water	0.00	0.00	(14.29)	(1.88)	(9.27)	(1.99)	(2.55)	791.40	2,739.38	(57.38)	(250.37)	(15.38)	(89.77)	(141.94)	(60.04)	(0.47)	(219.06)
12	Construction	(5.23)	(20.01)	(52.32)	(10.55)	(46.86)	(4.89)	(168.11)	243.38	679.53	(15.90)	(40.36)	(32.31)	(93.45)	(69.23)	(22.37)	(432.73)	(137.92)
13	Trade	(21.62)	(103.21)	(205.17)	(164.02)	(17.53)	(81.08)	(33.52)	13,469.38	21,346.31	(16.38)	(27.94)	(2,530.25)	(29.18)	(290.52)	(72.10)	(22.02)	0.00
14	Restaurant & Hotel	0.00	0.00	(6.65)	(1.91)	(5.79)	(1.50)	(149.32)	488.00	616.66	(73.86)	(6.95)	(68.70)	(135.19)	(11.31)	(123.17)	(63.07)	(49.12)
15	Transport & Communication	(56.94)	(48.95)	(264.81)	(84.17)	(24.10)	(36.40)	(1.81)	5,412.83	13,263.74	(56.99)	(26.14)	(801.07)	(406.02)	(188.42)	(1,311.03)	(129.28)	(92.37)
16	Finance, R. Estate, Business	(74.08)	(28.65)	(103.20)	(31.91)	(76.94)	(32.04)	(1,140.71)	2,422.42	3,171.56	(85.14)	(18.79)	(276.44)	(602.96)	(144.13)	(368.87)	(191.17)	(294.91)
18	(General) Service	(4.15)	(2.98)	(129.81)	(6.64)	(136.37)	(4.14)	(334.98)	414.17	898.04	(22.99)	(25.21)	(23.62)	(180.12)	(70.18)	(1,318.41)	(115.71)	(408.64)

BEST AVAILABLE DOCUMENT

1980 – 1985

D. C1ij = 0Tij . g (#2 – #3)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(90.77)	(1,529.46)	0.00	(8.78)	0.00	0.00	0.00	(4,033.50)	(3.46)	0.00	0.00	(24.57)	(0.01)	0.00	0.00	0.00	(0.30)
2	Other Farm Food Crops	0.00	(196.78)	(1.96)	(13.96)	0.00	(0.75)	0.00	(797.56)	(2.91)	0.00	0.00	0.00	(0.17)	(124.69)	(0.24)	0.00	(46.04)
3	Other Agricultural Products	0.00	(0.62)	(871.62)	(15.05)	0.00	0.00	0.00	(1,720.36)	(324.64)	0.00	0.00	(0.23)	(0.14)	(80.71)	(0.02)	0.00	(2.68)
4	Livestock & Its Products	(8.38)	(29.70)	(7.57)	(744.17)	0.00	(0.36)	0.00	(51.06)	(62.29)	0.00	0.00	0.00	0.00	(345.90)	(73.41)	0.00	(45.48)
5	Forestry	(0.35)	(2.79)	(13.02)	(1.50)	(65.94)	(12.70)	1.08	(5.66)	(343.53)	0.00	0.00	(506.18)	(0.14)	(11.50)	(1.97)	0.00	(2.20)
6	Fishery	0.00	0.00	0.00	(0.34)	0.00	(116.77)	0.00	(60.38)	(0.20)	0.00	0.00	0.00	0.00	(91.60)	(0.24)	0.00	(10.29)
7	Mining & Quarrying	0.00	0.00	0.02	0.75	0.00	22.52	4,022.03	390.22	18,790.63	0.00	199.90	11,641.61	3.49	0.08	48.41	0.02	0.02
8	Food, Beverage & Tobacco	0.00	0.00	(0.01)	(150.28)	0.00	(15.61)	0.04	(648.02)	(43.34)	0.00	0.00	0.00	0.00	(500.67)	(14.27)	(1.37)	(50.01)
9	Other Manufacturing	(329.35)	(160.93)	(267.57)	(15.50)	(64.42)	(81.29)	20,275.34	(256.65)	(69.83)	0.00	(64.50)	(2,872.99)	(91.70)	(69.61)	(27.27)	(63.51)	(1,506.14)
10	Petroleum Refinery	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
11	Electricity, Gas & Water	0.00	0.00	(7.56)	(1.00)	(4.90)	(1.05)	38.24	(24.44)	(54.60)	0.00	(132.43)	(6.12)	(47.48)	(75.08)	(31.70)	(0.25)	(115.86)
12	Construction	(3.30)	(10.58)	(27.67)	(5.58)	(24.78)	(2.50)	2,516.27	(7.52)	(20.99)	0.00	(21.35)	(17.09)	(49.43)	(36.62)	(11.63)	(228.66)	(72.95)
13	Trade	(11.43)	(54.50)	(106.52)	(66.76)	(9.27)	(42.89)	502.13	(416.61)	(659.32)	0.00	(14.76)	(1,336.32)	(15.43)	(153.67)	(38.14)	(11.65)	0.00
14	Restaurant & Hotel	0.00	0.00	(3.52)	(1.01)	(3.06)	(0.79)	2,236.79	(15.07)	(19.04)	0.00	(3.67)	(36.34)	(71.51)	(5.98)	(65.15)	(33.36)	(25.98)
15	Transport & Communication	(30.12)	(25.89)	(140.07)	(44.52)	(12.75)	(19.25)	27.07	(167.17)	(409.64)	0.00	(13.63)	(423.71)	(214.75)	(99.66)	(693.44)	(68.39)	(48.63)
16	Finance, R. Estate, Business	(39.18)	(15.15)	(54.58)	(16.68)	(40.70)	(16.95)	17,067.71	(74.61)	(97.95)	0.00	(9.94)	(146.22)	(318.92)	(78.23)	(196.10)	(101.11)	(155.99)
18	(General) Service	(2.20)	(1.57)	(68.66)	(3.51)	(72.13)	(2.19)	5,017.95	(12.79)	(27.74)	0.00	(13.34)	(12.50)	(95.27)	(37.10)	(607.35)	(61.20)	(218.14)

E. C1ij = 0Tij . g (#2 – #4)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(539.96)	(9,098.49)	0.00	(52.21)	0.00	0.00	0.00	114,233.43	97.66	0.00	0.00	(146.18)	(0.08)	0.00	0.00	0.00	(1.79)
2	Other Farm Food Crops	0.00	(1,170.61)	(11.57)	(83.04)	0.00	(4.46)	0.00	22,587.41	82.35	0.00	0.00	0.00	(1.03)	(741.73)	(1.44)	0.00	(273.66)
3	Other Agricultural Products	0.00	(3.70)	(5,185.02)	(89.53)	0.00	0.00	0.00	48,722.00	9,199.73	0.00	0.00	(1.35)	(0.82)	(480.10)	(0.10)	0.00	(17.16)
4	Livestock & Its Products	(49.86)	(156.84)	(45.03)	(4,426.65)	0.00	(2.12)	0.00	1,446.96	1,764.03	0.00	0.00	0.00	0.00	(2,057.64)	(436.66)	0.00	(270.40)
5	Forestry	(2.06)	(16.58)	(77.43)	(8.91)	(392.23)	(75.53)	(0.23)	160.27	10,295.51	(1.38)	0.00	(3,540.54)	(0.82)	(68.39)	(11.72)	0.00	(13.08)
6	Fishery	0.00	0.00	0.00	(2.00)	0.00	(706.55)	0.00	1,710.15	5.69	0.00	0.00	0.00	0.00	(544.90)	(1.45)	0.00	(61.04)
7	Mining & Quarrying	0.00	0.00	(0.00)	(0.16)	0.00	(4.73)	(844.80)	300.22	(18,790.63)	(56,506.23)	(41.99)	(2,445.25)	(0.73)	(0.02)	(9.54)	(0.00)	(0.00)
8	Food, Beverage & Tobacco	0.00	0.00	0.32	4,256.16	0.00	447.66	0.04	16,352.74	1,227.30	0.00	0.00	0.00	0.00	14,179.52	404.12	38.75	1,416.41
9	Other Manufacturing	9,242.68	4,557.74	8,144.25	438.87	1,824.33	2,302.19	20,275.34	7,269.50	1,977.70	0.00	1,826.74	81,356.53	2,597.02	1,977.23	772.41	1,798.64	42,655.77
10	Petroleum Refinery	(15.04)	(36.69)	(1,278.00)	(82.99)	(1,466.40)	(940.97)	(4,658.37)	0.00	0.00	(91.58)	(7,926.99)	(29,755.36)	(2,030.21)	(2,160.63)	(28,046.31)	(312.73)	(17,368.15)
11	Electricity, Gas & Water	0.00	0.00	(44.98)	(5.92)	(29.16)	(6.27)	(8.03)	982.21	2,396.05	(1,039.66)	(787.76)	(48.29)	(282.45)	(446.61)	(186.20)	(1.48)	(689.22)
12	Construction	(19.61)	(62.95)	(164.61)	(33.20)	(147.43)	(15.39)	(526.95)	212.87	594.37	(288.15)	(126.98)	(101.65)	(294.03)	(217.61)	(70.40)	(1,361.58)	(433.97)
13	Trade	(68.02)	(324.73)	(645.54)	(518.09)	(55.17)	(255.13)	(105.47)	11,796.78	18,672.74	(296.61)	(87.92)	(7,951.26)	(91.81)	(914.11)	(226.86)	(69.29)	0.00
14	Restaurant & Hotel	0.00	0.00	(20.93)	(8.01)	(18.22)	(4.71)	(469.82)	426.64	539.29	(1,336.82)	(21.85)	(216.17)	(425.37)	(35.57)	(387.55)	(198.44)	(154.57)
15	Transport & Communication	(179.15)	(154.02)	(833.20)	(264.83)	(75.83)	(114.53)	(5.69)	4,734.45	11,601.40	(1,033.07)	(82.24)	(2,520.50)	(1,277.51)	(592.66)	(4,125.06)	(408.83)	(290.47)
16	Finance, R. Estate, Business	(233.06)	(90.14)	(324.70)	(100.41)	(242.10)	(100.80)	(3,589.17)	2,118.82	2,774.07	(1,543.23)	(59.12)	(869.81)	(1,897.17)	(463.49)	(1,166.61)	(601.49)	(927.93)
18	(General) Service	(13.07)	(9.37)	(408.43)	(20.86)	(429.07)	(13.04)	(1,053.99)	362.26	765.49	(416.70)	(79.33)	(74.33)	(566.74)	(220.71)	(4,148.30)	(364.06)	(1,285.75)

F. C1ij = 0Tij . g (#3 – #4)

Sector	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	18
1	Rice (Paddy)	(449.19)	(7,569.00)	0.00	(43.43)	0.00	0.00	0.00	118,266.93	101.11	0.00	0.00	(121.60)	(0.06)	0.00	0.00	0.00	(1.49)
2	Other Farm Food Crops	0.00	(973.82)	(9.63)	(69.08)	0.00	(3.71)	0.00	23,384.96	85.26	0.00	0.00	0.00	(0.86)	(617.05)	(1.20)	0.00	(227.64)
3	Other Agricultural Products	0.00	(3.08)	(4,313.40)	(74.48)	0.00	0.00	0.00	50,442.96	9,524.58	0.00	0.00	(1.12)	(0.68)	(399.39)	(0.08)	0.00	(14.26)
4	Livestock & Its Products	(41.48)	(132.14)	(37.46)	(3,682.66)	0.00	(1.77)	0.00	1,497.98	1,826.32	0.00	0.00	0.00	0.00	(1,711.74)	(363.27)	0.00	(224.94)
5	Forestry	(1.72)	(13.79)	(64.41)	(7.41)	(326.29)	(62.83)	(1.30)	165.93	10,659.03	(1.38)	0.00	(2,945.36)	(0.68)	(56.89)	(9.75)	0.00	(10.87)
6	Fishery	0.00	0.00	0.00	(1.66)	0.00	(587.78)	0.00	1,770.54	5.89	0.00	0.00	0.00	0.00	(453.30)	(1.21)	0.00	(50.78)
7	Mining & Quarrying	0.00	0.00	(0.02)	(0.91)	0.00	(27.25)	(4,866.63)	0.00	0.00	(56,506.23)	(241.88)	(14,086.88)	(4.23)	(0.10)	(54.95)	(0.02)	(0.02)
8	Food, Beverage & Tobacco	0.00	0.00	0.341	4,406.47	0.00	463.49	0.00	19,000.78	1,270.64	0.00	0.00	0.00	0.00	14,680.19	418.39	40.12	1,466.42
9	Other Manufacturing	9,569.03	4,718.87	8,431.82	454.36	1,888.74	2,383.47	0.00	7,526.27	2,047.53	0.00	1,891.25	84,239.52	2,688.72	2,047.04	799.68	1,862.15	44,161.92
10	Petroleum Refinery	(15.04)	(36.69)	(1,278.00)	(82.99)	(1,466.40)	(940.97)	(4,658.37)	0.00	0.00	(91.58)	(7,926.99)	(29,755.36)	(2,030.21)	(2,160.63)	(28,046.31)	(312.73)	(17,368.15)
11	Electricity, Gas & Water	0.00	0.00	(37.42)	(4.93)	(24.25)	(5.22)	(46.27)	716.65	2,480.65	(1,039.66)	(655.35)	(40.17)	(234.96)	(371.53)	(157.15)	(1.24)	(573.36)
12	Construction	(16.31)	(52.37)	(136.94)	(27.62)	(122.65)	(12.81)	(3,047.21)	220.39	615.35	(288.15)	(105.63)	(84.56)	(244.60)	(181.20)	(58.56)	(1,132.67)	(361.02)
13	Trade	(56.56)	(270.14)	(537.02)	(429.33)	(45.90)	(212.24)	(607.59)	12,215.36	19,332.06	(296.61)	(73.14)	(6,622.94)	(76.38)	(760.44)	(188.72)	(57.64)	0.00
14	Restaurant & Hotel	0.00	0.00	(17.41)	(5.00)	(15.16)	(3.92)	(2,706.02)	441.91	558.33	(1,336.82)	(18.18)	(179.83)	(353.66)	(29.59)	(322.40)	(165.06)	(128.58)
15	Transport & Communication	(149.03)	(128.13)	(693.14)	(220.31)	(63.08)	(95.28)	(32.76)	4,901.82	12,011.04	(1,033.07)	(68.42)	(2,096.60)	(1,062.75)	(493.20)	(3,431.62)	(338.44)	(241.64)
16	Finance, R. Estate, Business	(193.89)	(74.99)	(270.11)	(83.53)	(201.40)	(83.86)	(20,676.88)	2,193.63	2,872.02	(1,543.23)	(49.18)	(723.59)	(1,578.25)	(377.26)	(965.51)	(500.36)	(771.94)
18	(General) Service	(10.87)	(7.79)	(339.77)	(17.36)	(356.94)	(10.85)	(6,071.94)	375.05	813.23	(416.70)	(66.00)	(61.83)	(471.47)	(183.61)	(3,450.95)	(302.88)	(1,069.61)

BEST AVAILABLE DOCUMENT

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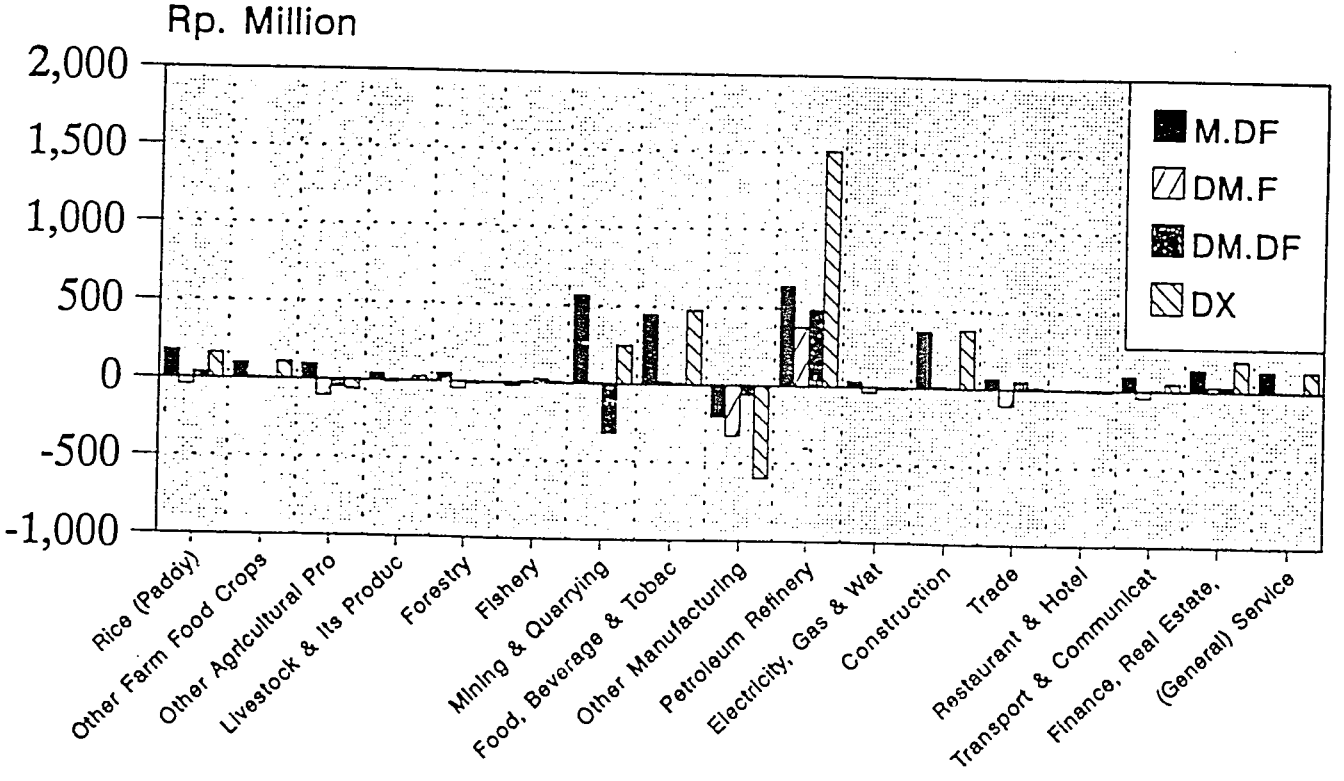
Decomposition of Changes in Gross Output

I-O Tables : 1971 - 1975

SECTOR 17 and 19 REMOVED



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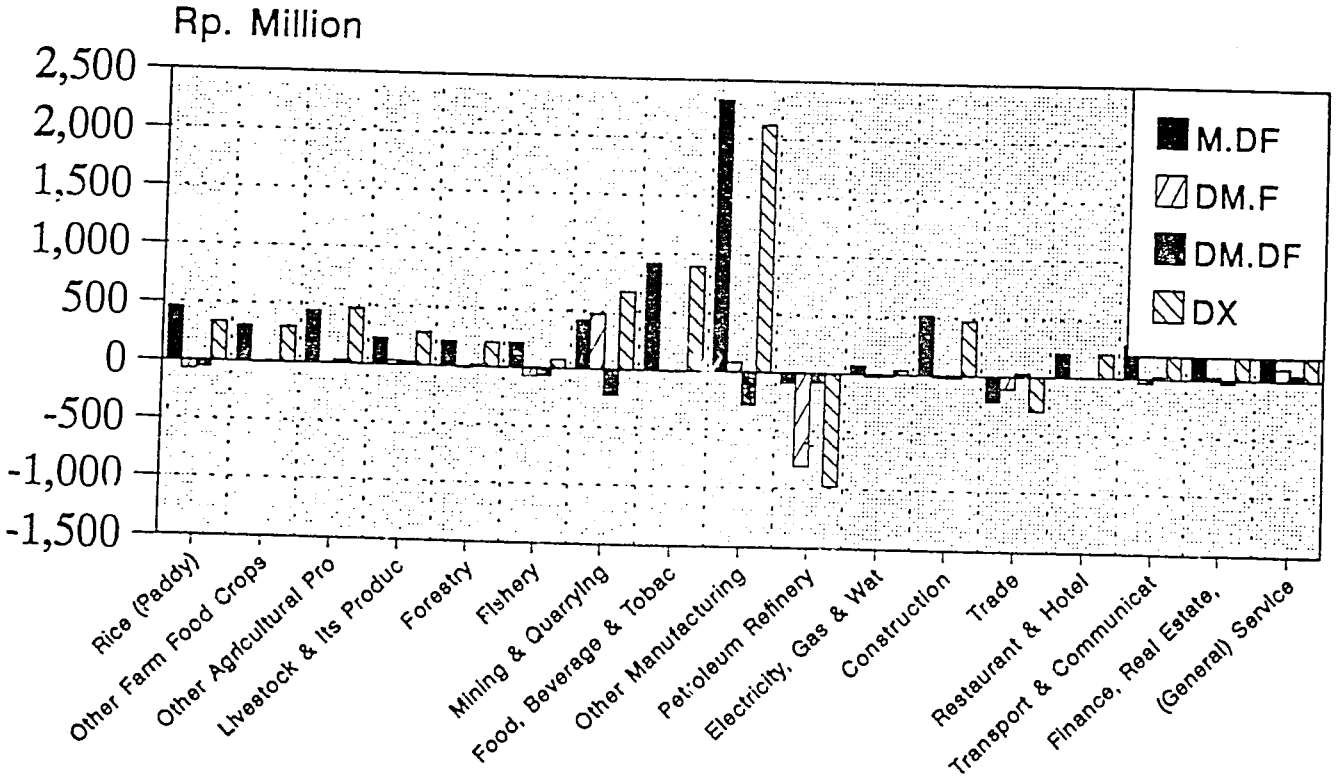
107

Decomposition of Changes in Gross Output

I-O Tables : 1975 - 1980

SECTOR 17 and 19 REMOVED



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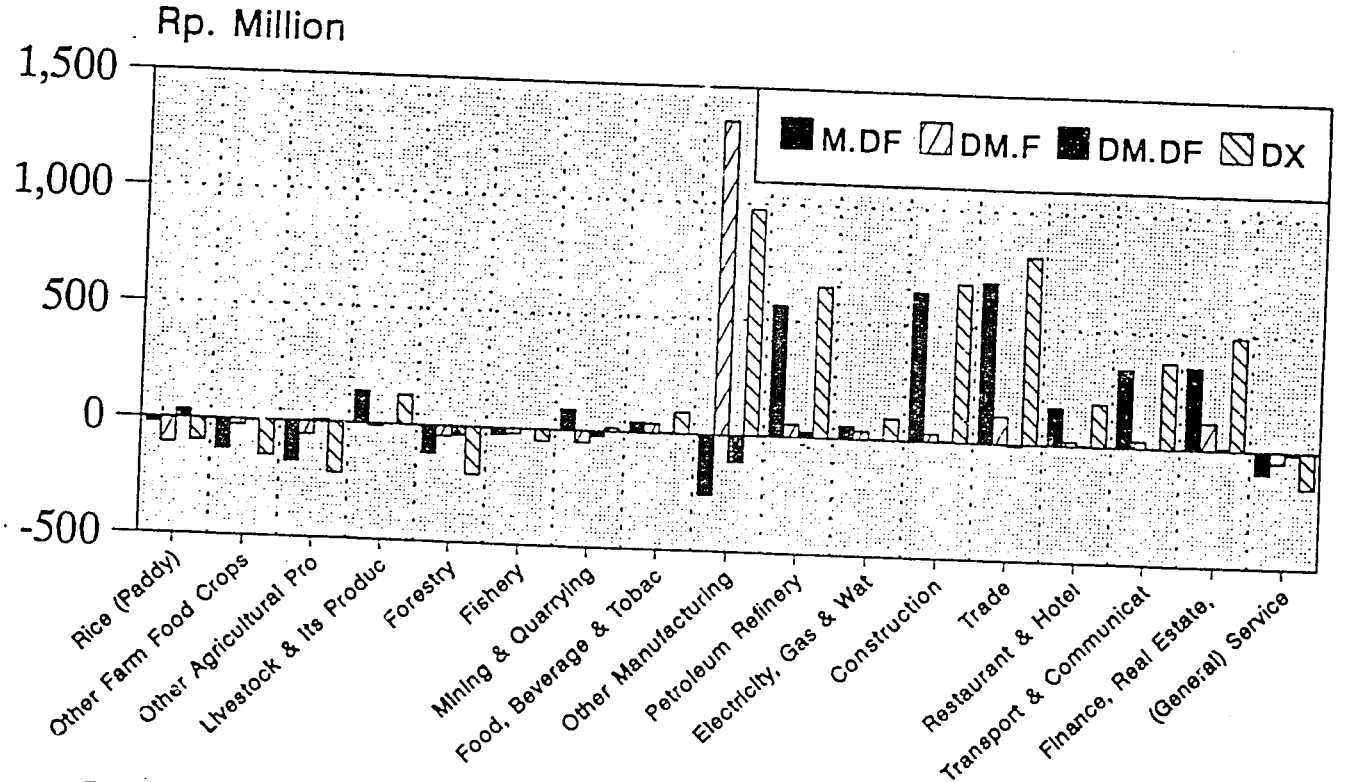
108

Decomposition of Changes in Gross Output

I-O Tables : 1980 - 1985

SECTOR 17 and 19 REMOVED



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I-O Tables : 1971 - 1975

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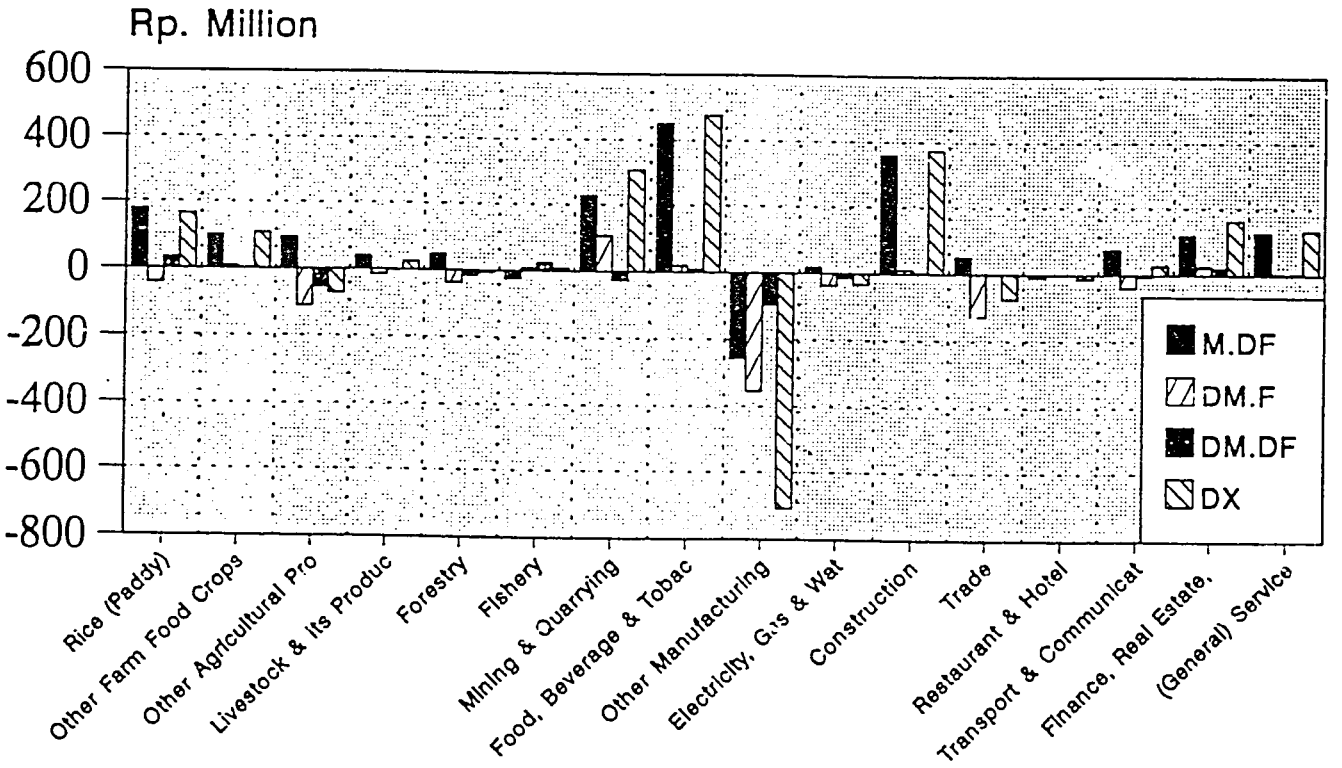

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I-O Tables : 1975 - 1980

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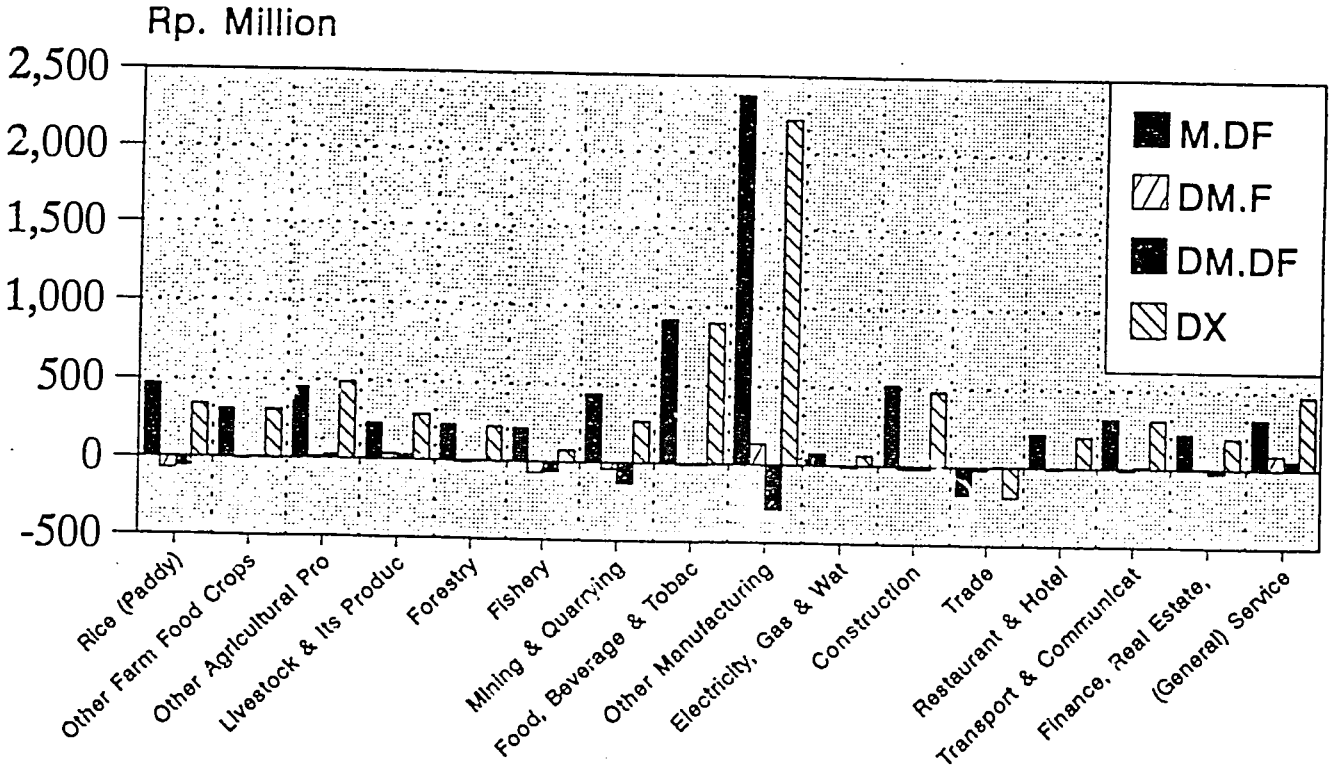

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I-O Tables : 1980 - 1985

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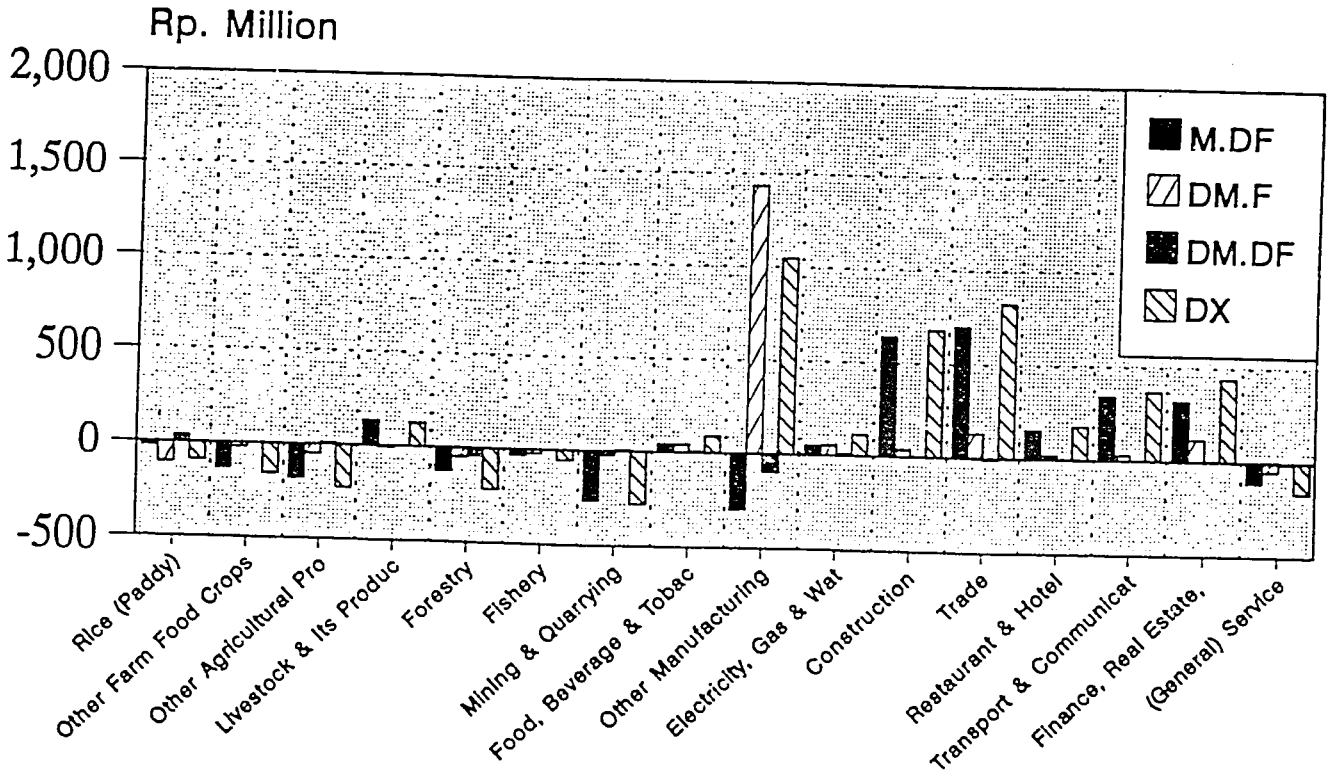

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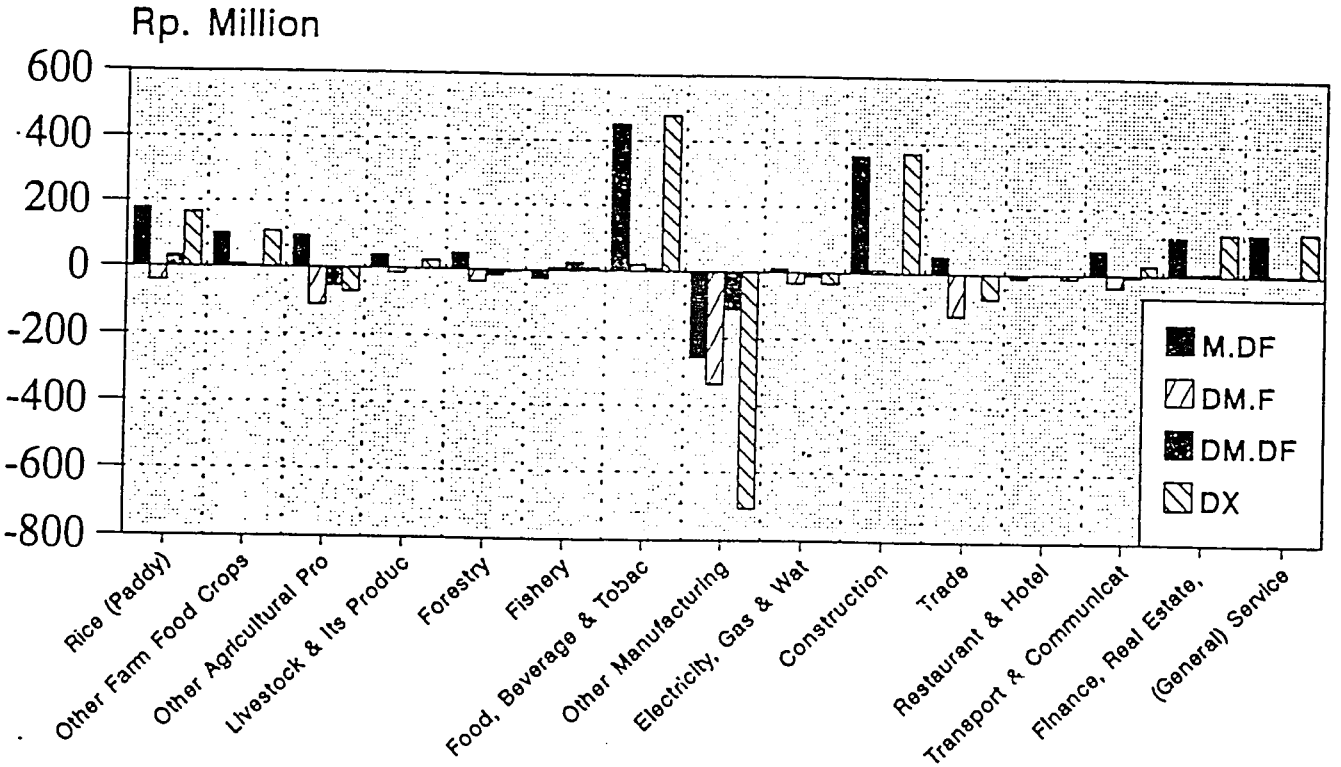
112

I-O Tables : 1971 - 1975

SECTOR 7, 10, 17 and 19 REMOVED



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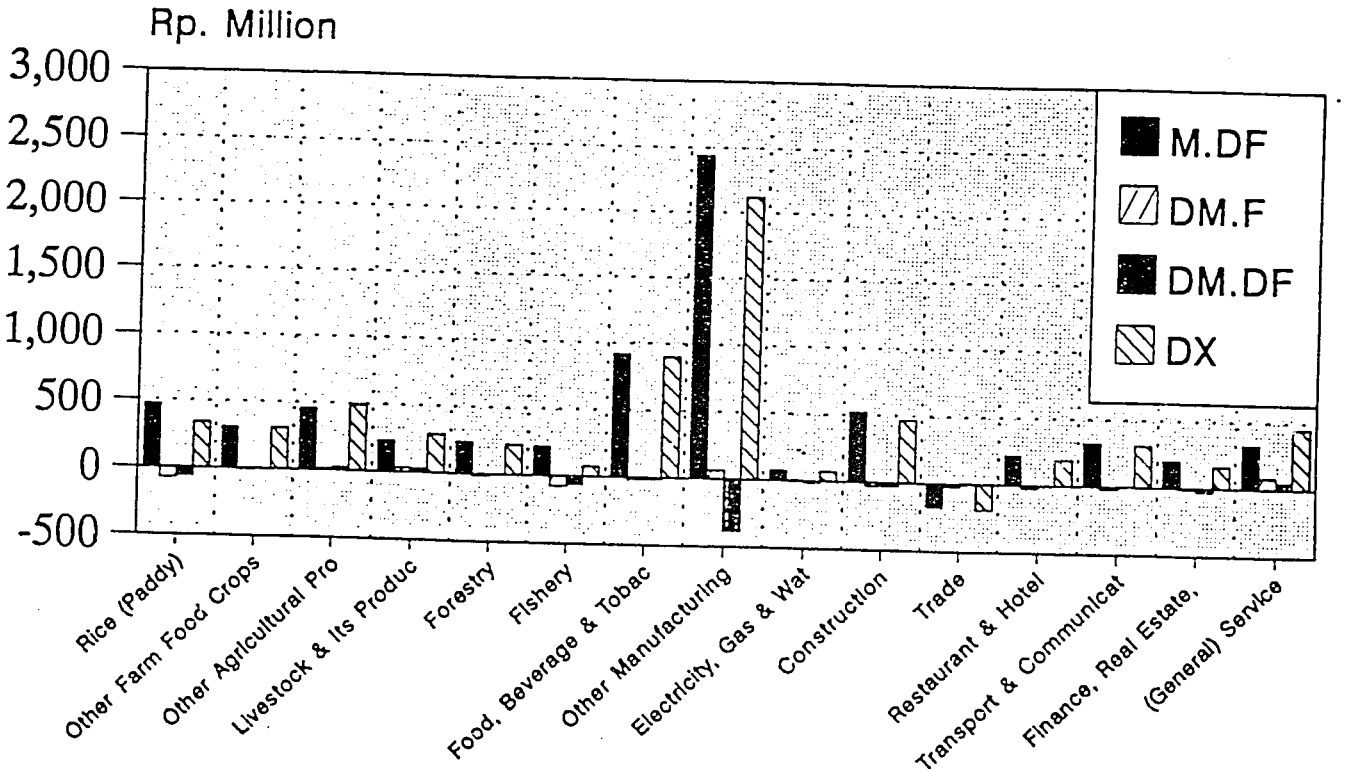
Sector

BEST AVAILABLE DOCUMENT

Position of Changes in Gross Output

I-O Tables : 1975 - 1980

SECTOR 7, 10, 17 and 19 REMOVED



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Sector

BEST AVAILABLE DOCUMENT

Decomposition of Changes in Gross Output

I-O Tables : 1980 - 1985

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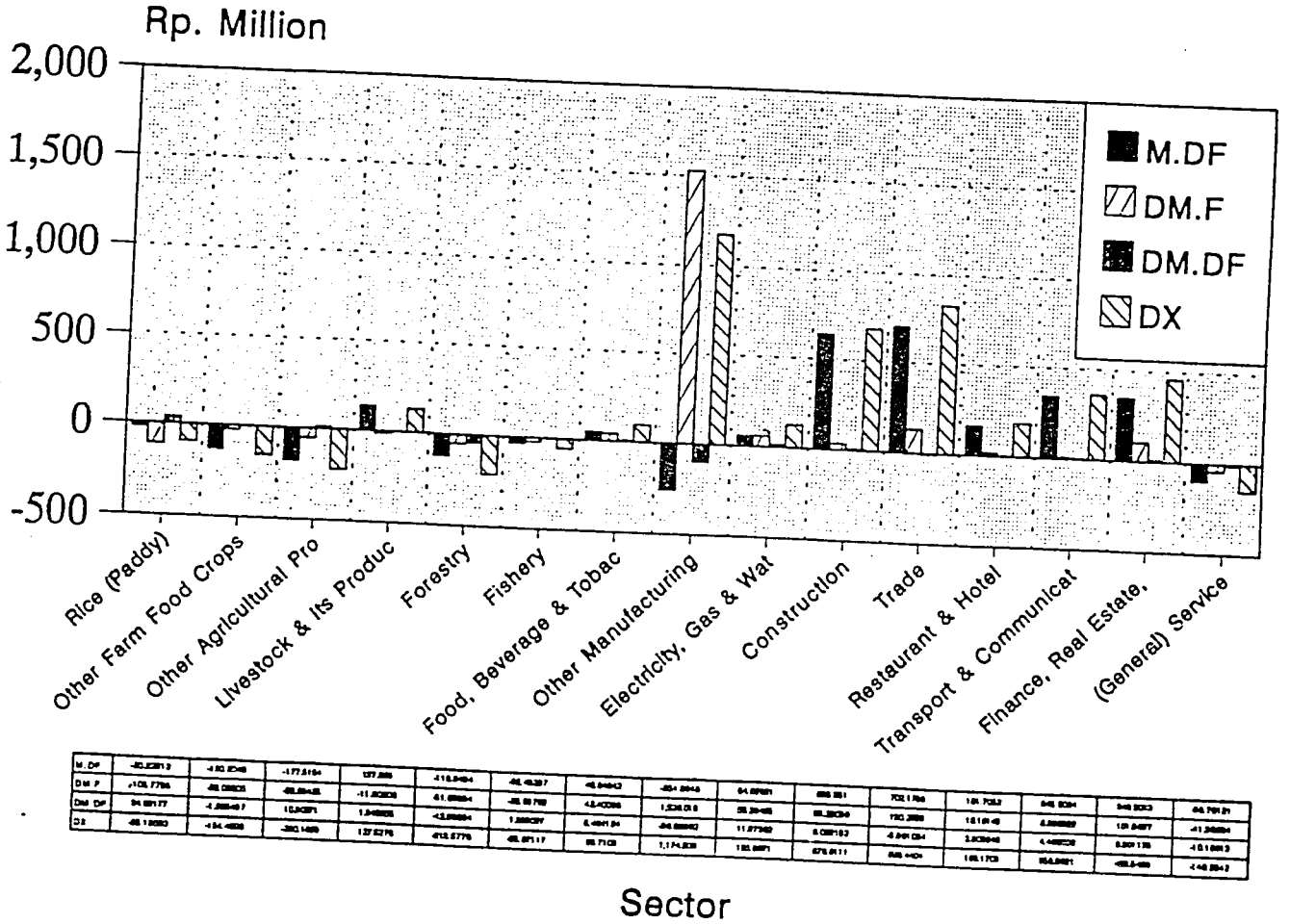

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BEST AVAILABLE DOCUMENT

Decomposition of Changes in Gross Output

I-O Tables : 1971 - 1975

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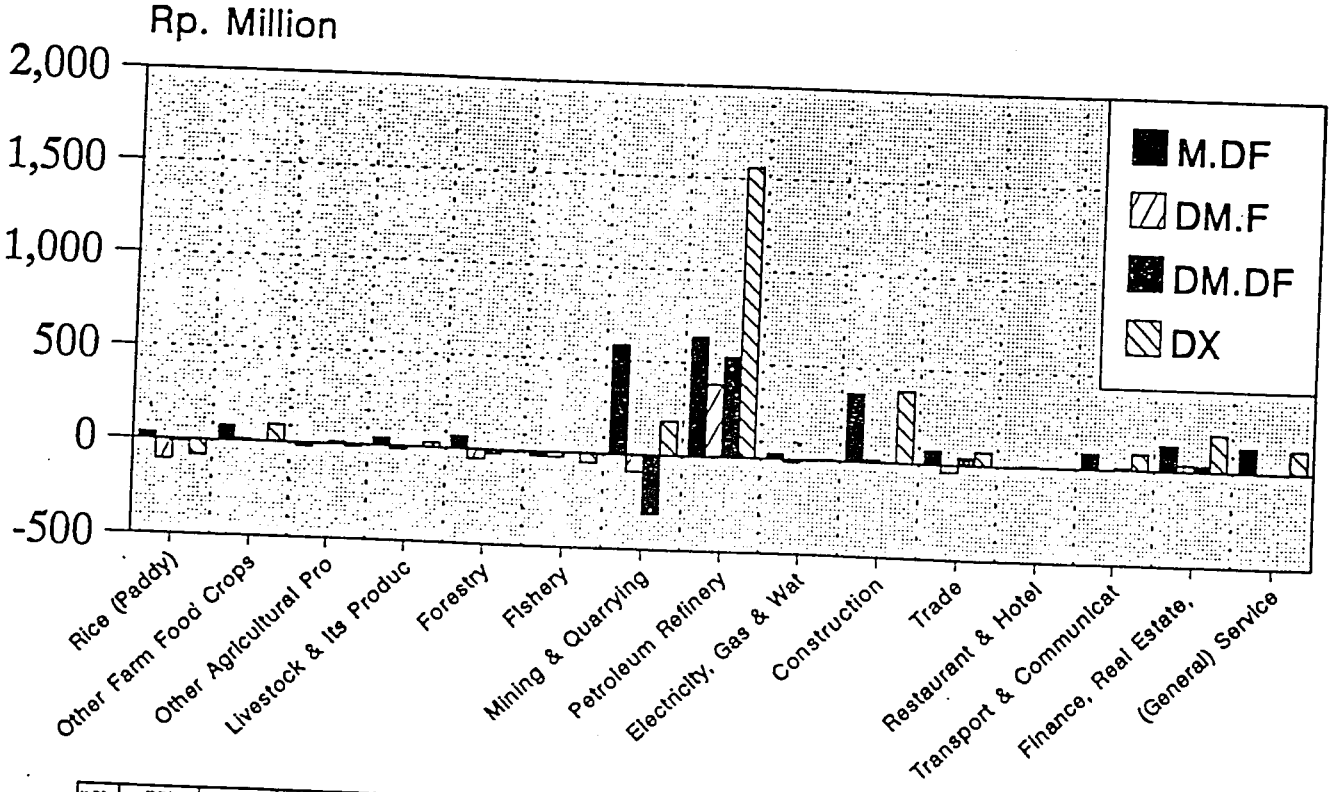

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I-O Tables : 1975 - 1980

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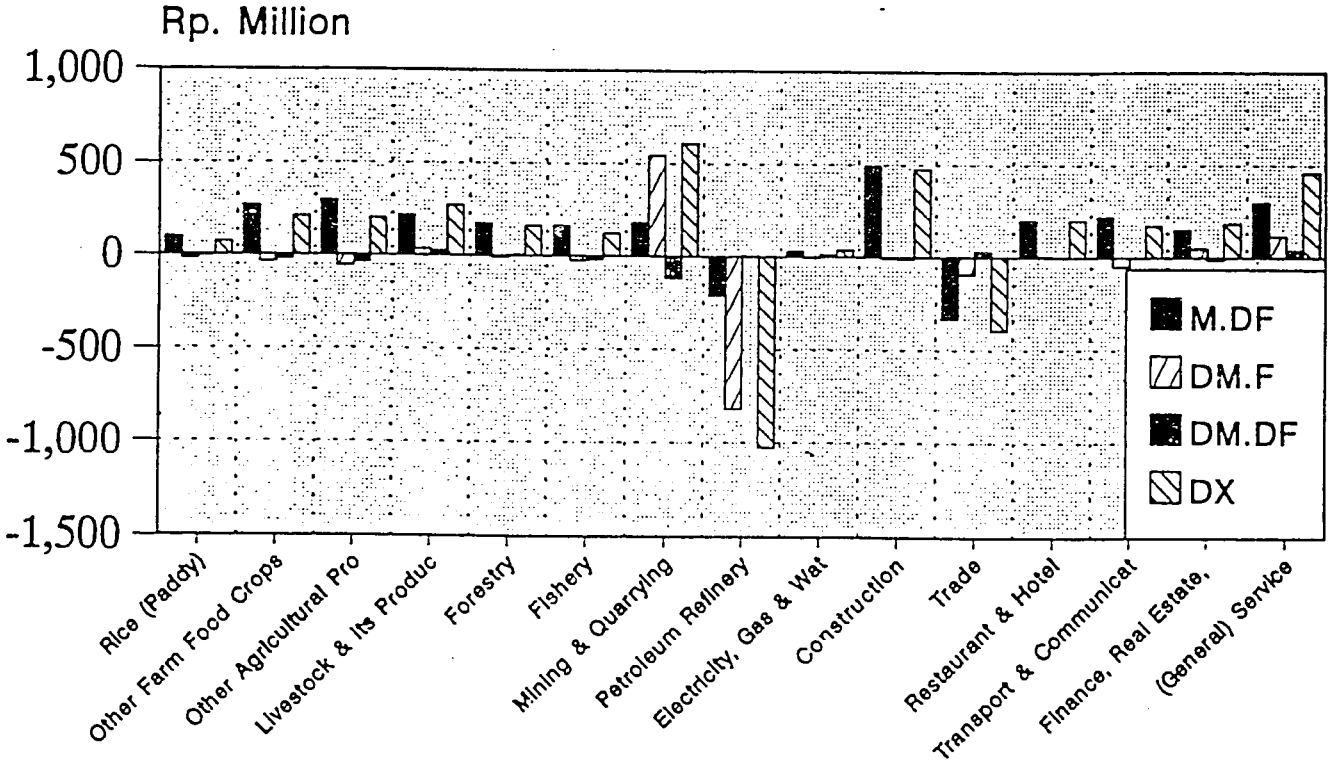

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I-O Tables : 1980 - 1985

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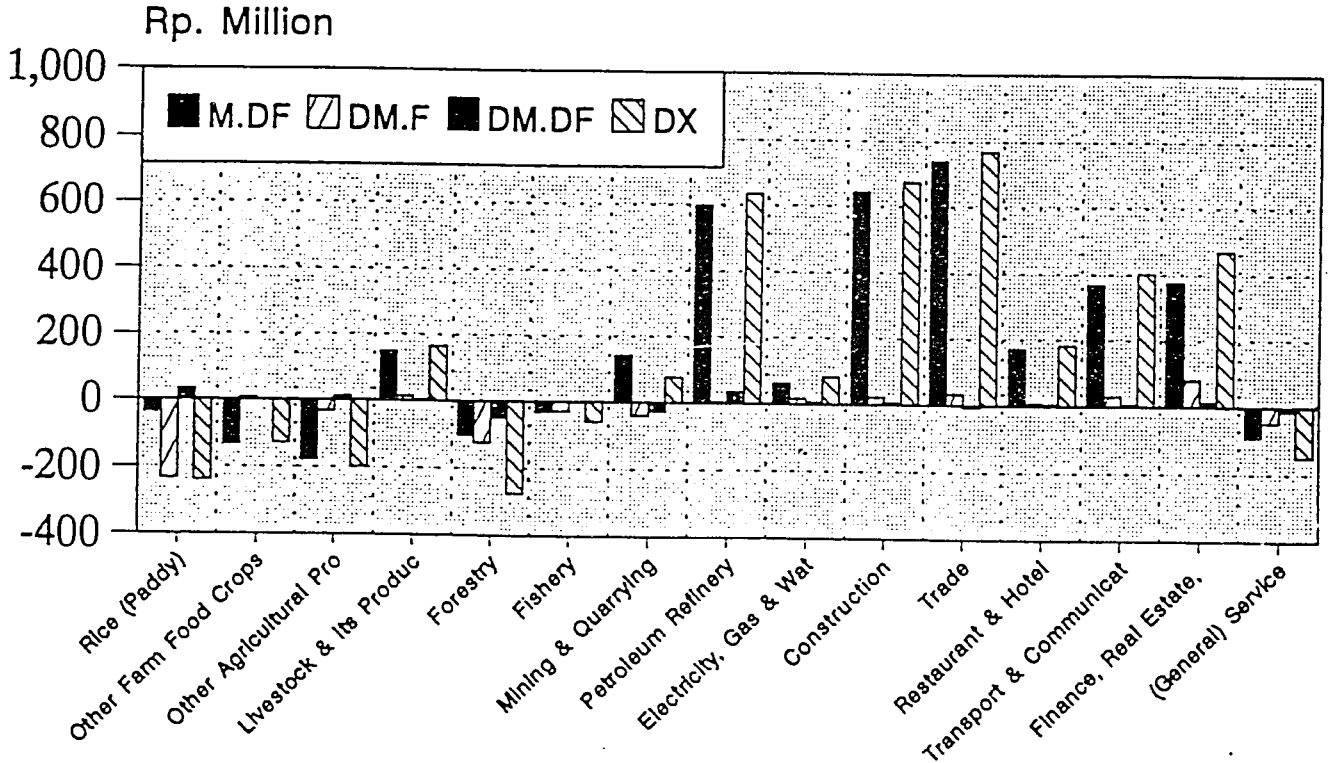

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I-O Tables : 1971 - 1975

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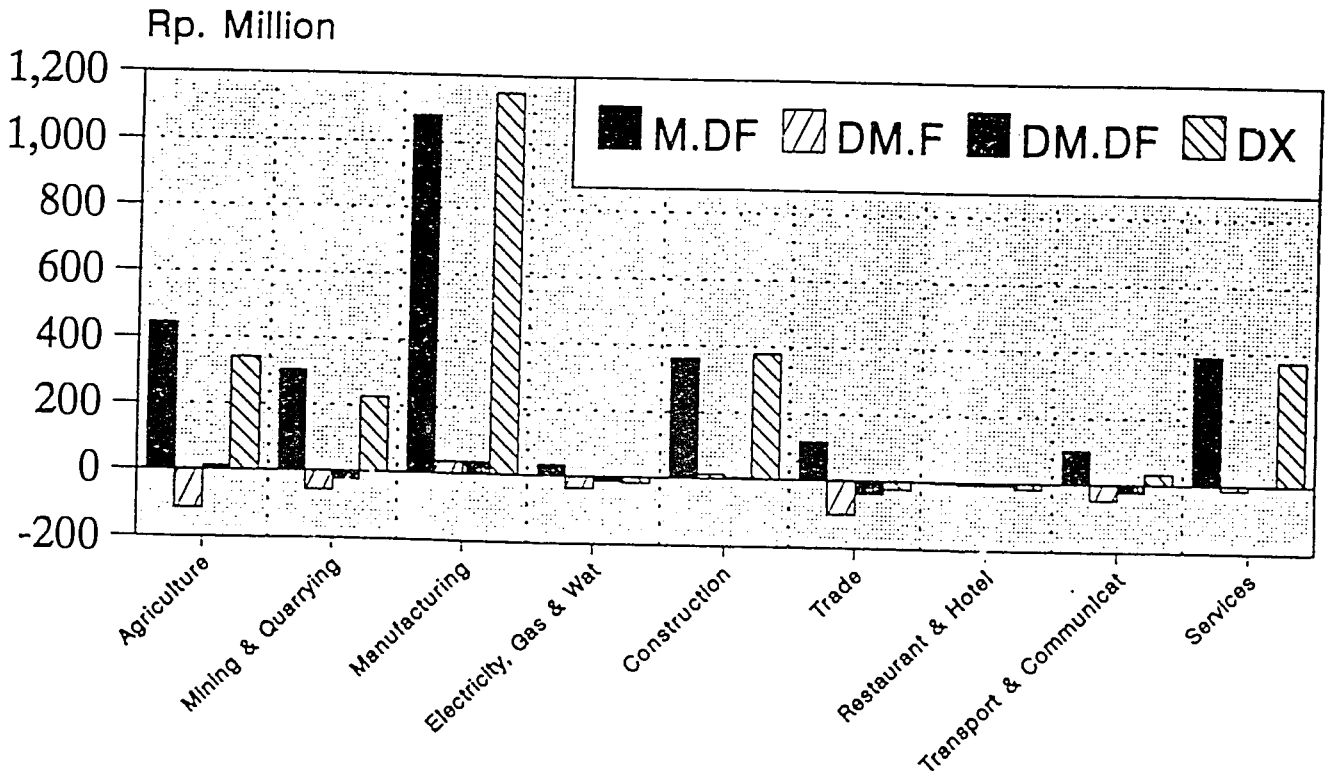

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I-O Tables : 1975 - 1980

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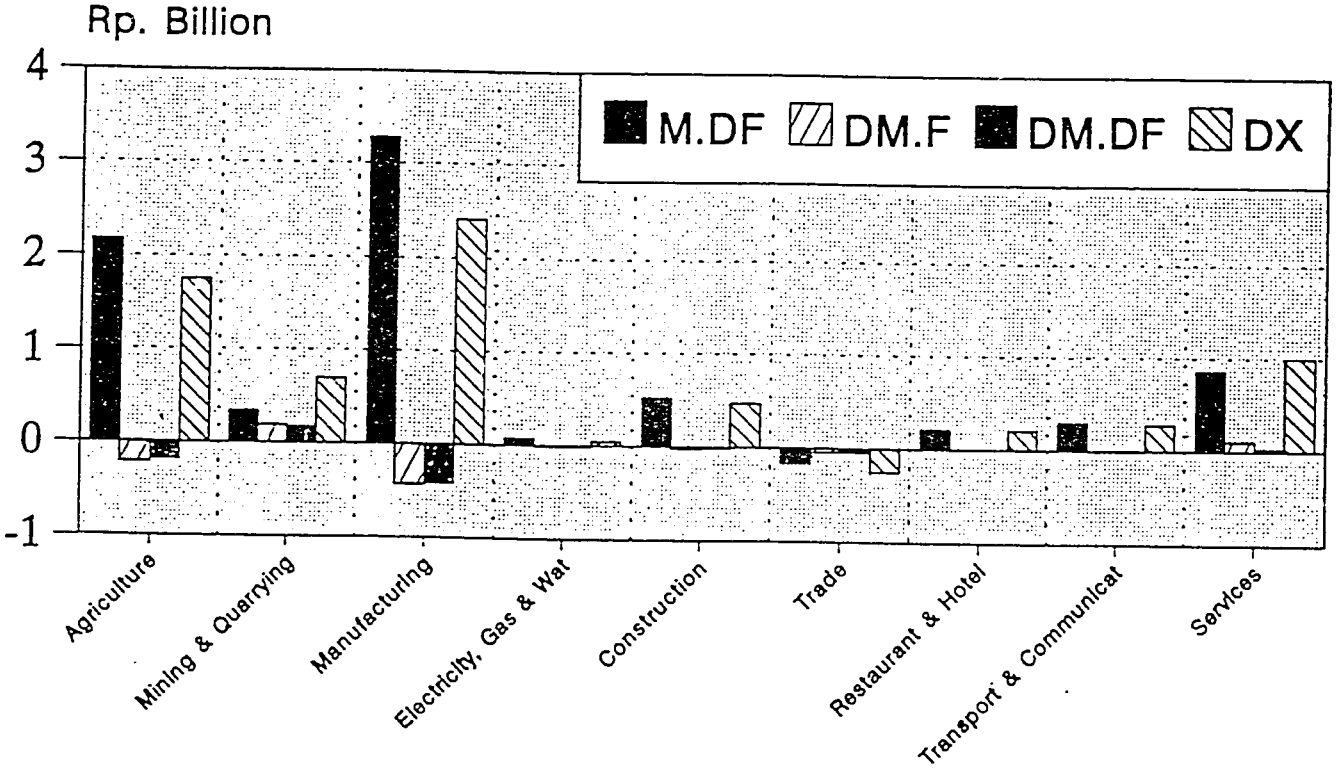

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I-O Tables : 1980 - 1985

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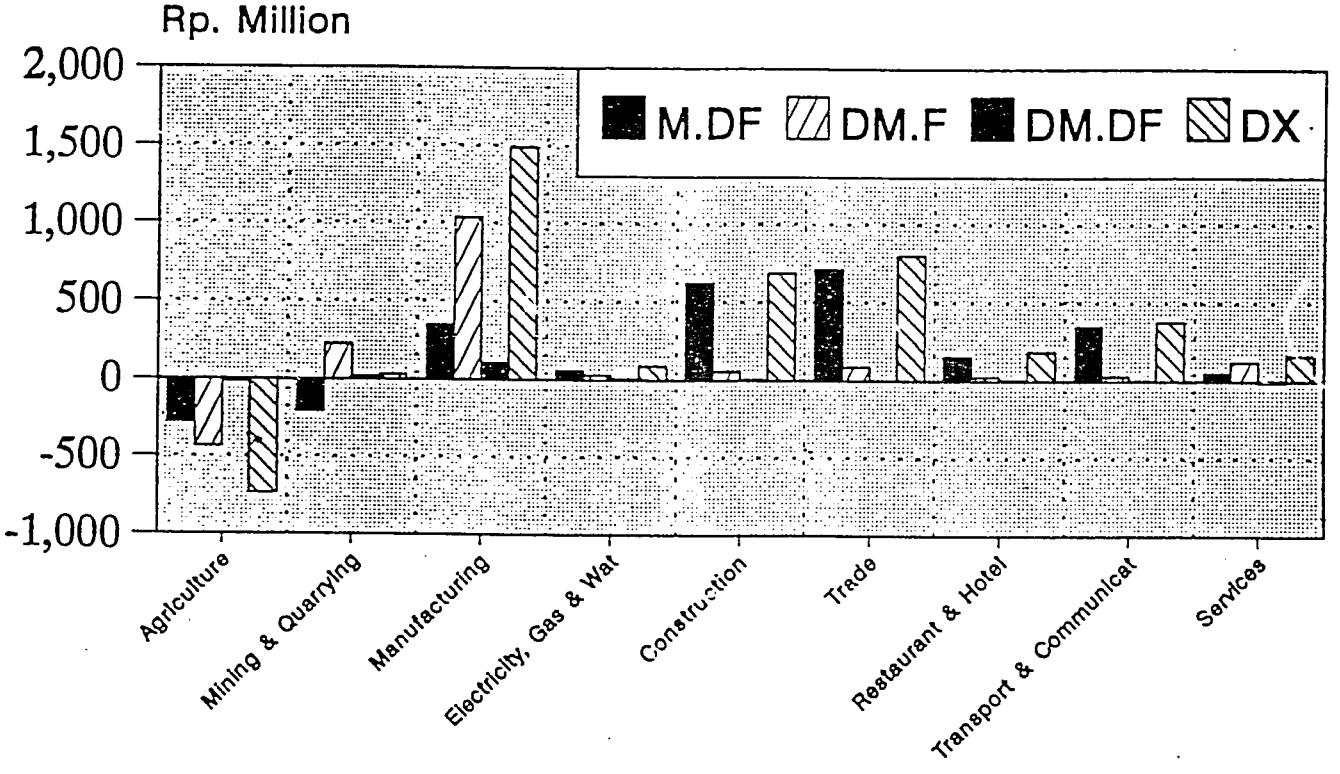

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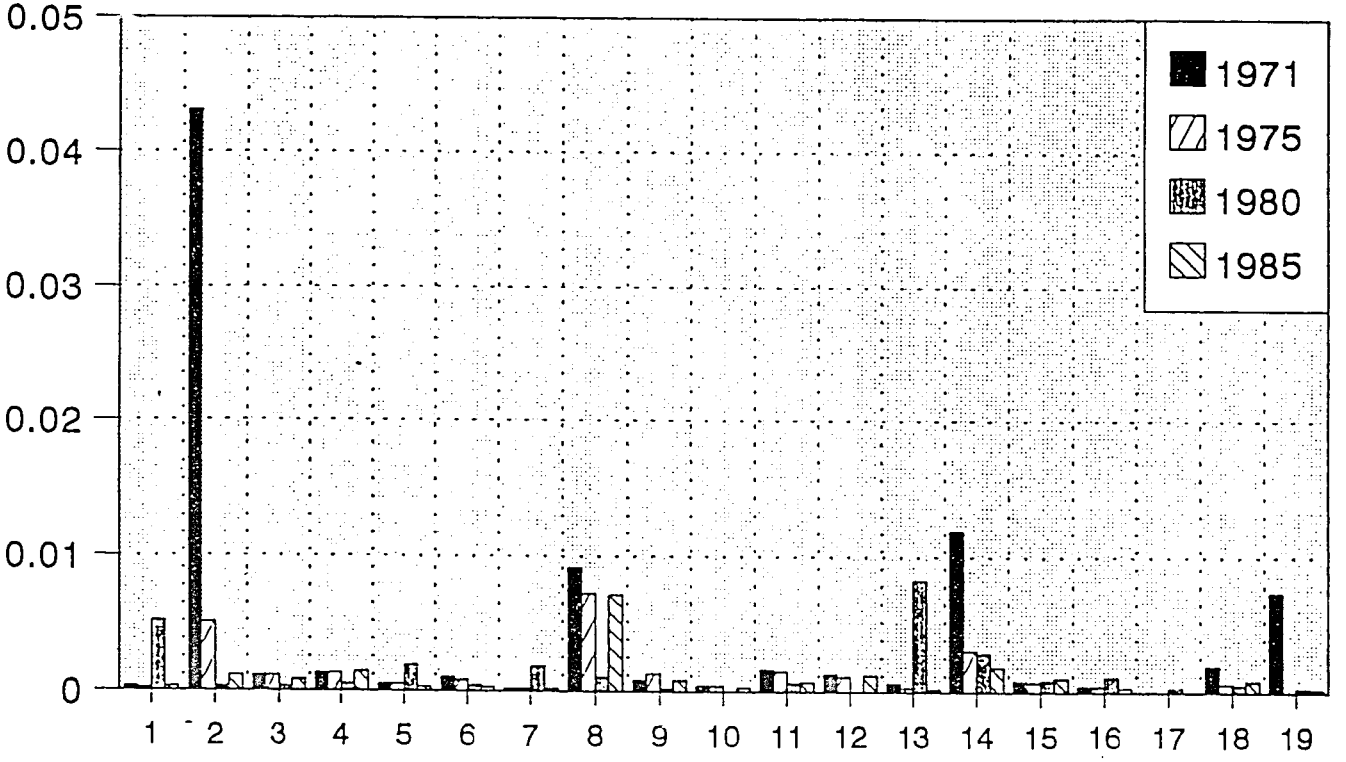
Indonesia : 1971 - 1985

FIRST



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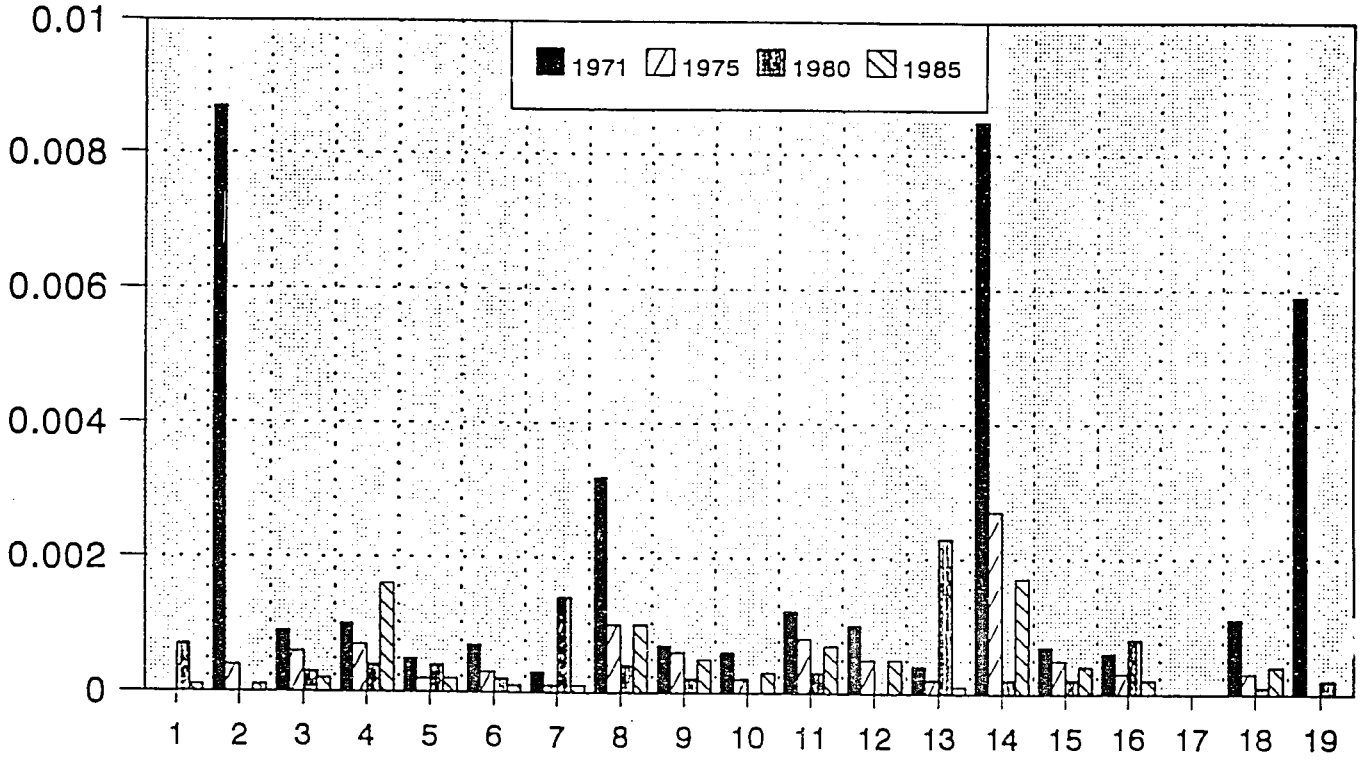
Indonesia : 1971 - 1985

INDUSTRY



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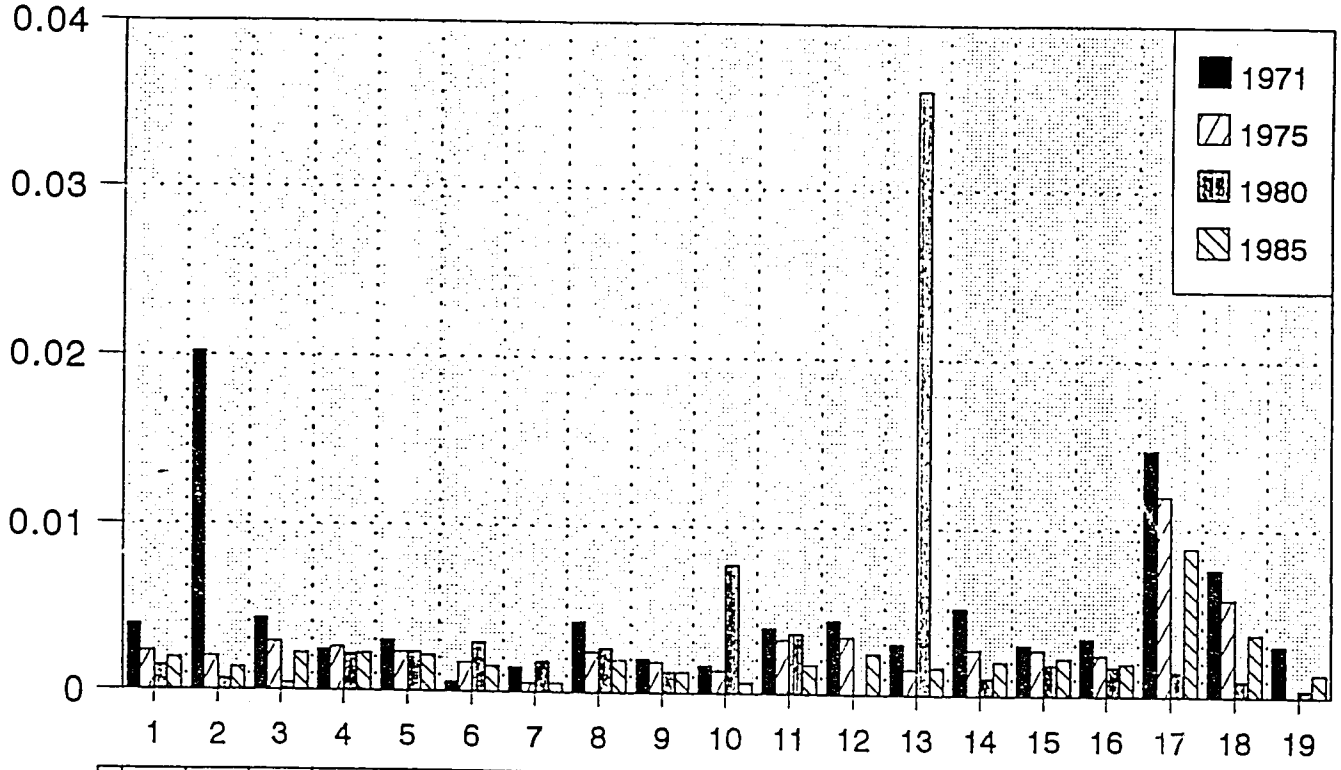
Indonesia : 1971 - 1985
CONSUMPTION



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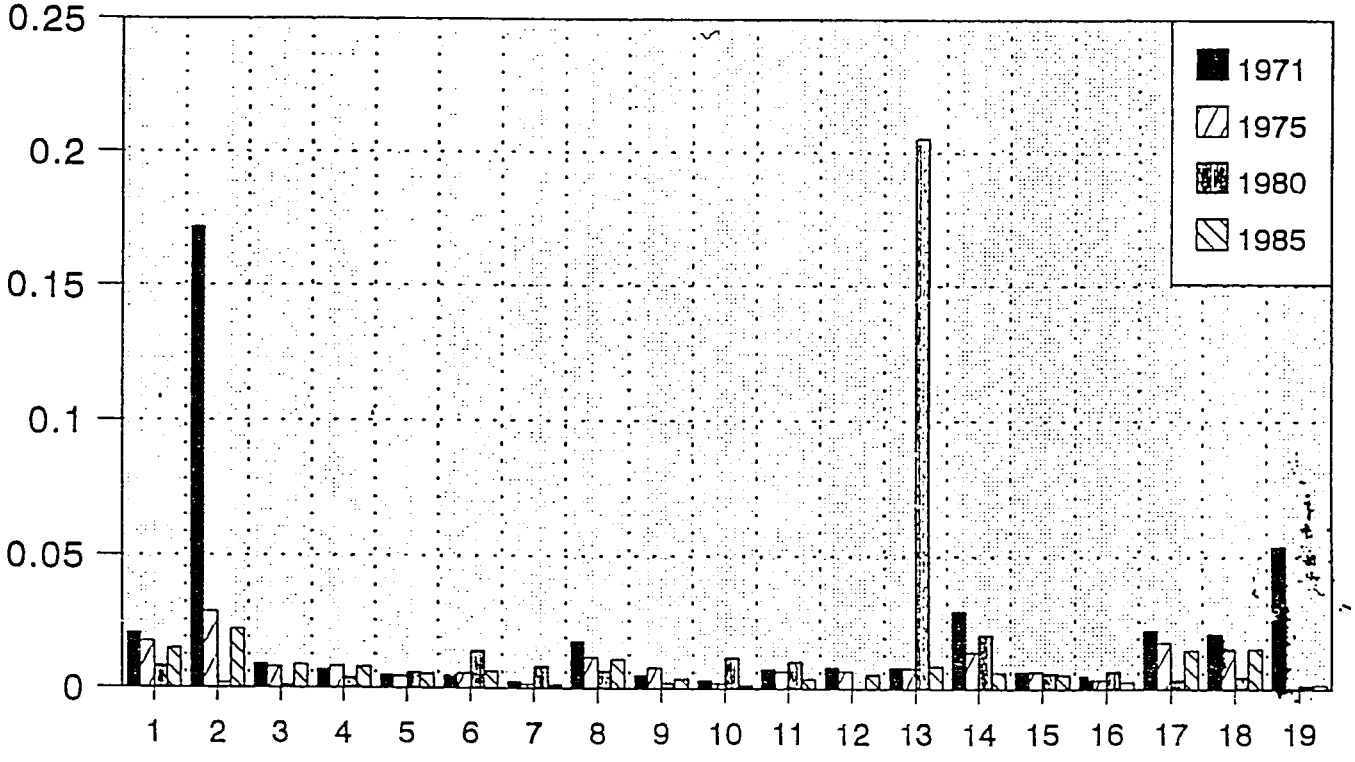
Indonesia : 1971 - 1985
TOTAL



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1980	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Sector

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GROSS OUTPUT – EMPLOYMENT MULTIPLIER

INDONESIA : 1971 – 1985

SECTOR	GROSS OUTPUT								DISAGGREGATED EMPLOYMENT MULTIPLIER															
	1971		1975		1980		1985		FIRST				INDUSTRY				CONSUMPTION				TOTAL			
	ABSOLUTE	PERCENT.	ABSOLUTE	PERCENT.	ABSOLUTE	PERCENT.	ABSOLUTE	PERCENT.	1971	1975	1980	1985	1971	1975	1980	1985	1971	1975	1980	1985	1971	1975	1980	1985
1	483 800.0	5.8603	626 677.1	6.1878	817 472.4	5.7043	899 694.7	4.5391	0.0003	0.0002	0.0051	0.0003	0.0000	0.0000	0.0007	0.0001	0.0039	0.0023	0.0014	0.0019	0.0205	0.0173	0.0078	0.0147
2	732 730.0	9.2584	839 105.7	8.2220	1 118 874.2	6.9494	990 784.0	4.9967	0.0431	0.0050	0.0003	0.0011	0.0067	0.0004	0.0000	0.0001	0.0202	0.0020	0.0006	0.0013	0.1714	0.0287	0.0019	0.0221
3	510 360.0	6.2459	462 733.4	4.5395	849 631.8	5.2012	715 623.9	3.6105	0.0011	0.0011	0.0003	0.0006	0.0009	0.0006	0.0003	0.0002	0.0043	0.0029	0.0004	0.0022	0.0067	0.0077	0.0010	0.0085
4	165 140.0	2.0666	192 928.8	1.8927	450 578.0	2.7583	601 356.0	3.0341	0.0013	0.0013	0.0005	0.0014	0.0010	0.0007	0.0004	0.0016	0.0024	0.0026	0.0021	0.0022	0.0066	0.0060	0.0036	0.0077
5	171 100.0	2.1623	162 423.0	1.5934	352 326.6	2.1555	153 306.6	0.7735	0.0005	0.0005	0.0019	0.0003	0.0005	0.0002	0.0004	0.0002	0.0030	0.0023	0.0023	0.0021	0.0047	0.0041	0.0057	0.0052
6	222 920.0	2.8167	216 525.4	2.1242	295 542.7	1.8092	249 786.0	1.2602	0.0010	0.0006	0.0004	0.0003	0.0007	0.0003	0.0002	0.0001	0.0005	0.0017	0.0029	0.0015	0.0042	0.0054	0.0136	0.0061
7	343 510.0	4.3404	574 396.9	5.6351	1 106 230.0	6.7720	1 231 479.0	6.2131	0.0002	0.0002	0.0018	0.0002	0.0003	0.0001	0.0014	0.0001	0.0014	0.0005	0.0018	0.0005	0.0022	0.0015	0.0060	0.0012
8	621 080.0	7.8476	1 091 609.1	10.7092	1 970 364.8	12.0619	2 062 002.6	10.5041	0.0091	0.0072	0.0010	0.0071	0.0032	0.0010	0.0004	0.0010	0.0042	0.0024	0.0026	0.0019	0.0174	0.0115	0.0063	0.0107
9	1 414 660.0	17.8749	925 438.8	9.0790	3 081 061.6	18.8613	3 785 689.7	19.0996	0.0008	0.0013	0.0002	0.0008	0.0007	0.0006	0.0002	0.0005	0.0020	0.0018	0.0012	0.0012	0.0049	0.0076	0.0021	0.0035
10	199 820.0	2.5248	1 301 114.3	12.7645	751 540.6	4.6007	1 361 636.7	6.8697	0.0004	0.0004	0.0000	0.0003	0.0006	0.0002	0.0000	0.0003	0.0018	0.0013	0.0077	0.0006	0.0031	0.0019	0.0114	0.0012
11	82 870.0	1.0468	68 367.2	0.6707	121 868.7	0.7460	211 690.9	1.0690	0.0016	0.0015	0.0006	0.0007	0.0012	0.0008	0.0003	0.0007	0.0026	0.0032	0.0036	0.0017	0.0071	0.0063	0.0006	0.0035
12	548 750.0	6.9084	925 905.7	9.0836	1 398 079.8	8.5566	2 068 900.6	10.4365	0.0013	0.0011	0.0000	0.0012	0.0010	0.0005	0.0000	0.0005	0.0044	0.0034	0.0000	0.0024	0.0079	0.0065	0.0000	0.0052
13	870 000.0	10.9925	845 876.8	8.2984	555 220.2	3.3969	1 398 377.9	7.0551	0.0006	0.0003	0.0062	0.0002	0.0004	0.0002	0.0023	0.0001	0.0030	0.0015	0.0060	0.0016	0.0078	0.0076	0.2053	0.0063
14	261 310.0	3.3018	247 110.5	2.4243	458 455.2	2.8065	634 483.2	3.2011	0.0119	0.0030	0.0028	0.0018	0.0065	0.0027	0.0002	0.0017	0.0052	0.0027	0.0010	0.0020	0.0292	0.0136	0.0200	0.0061
15	558 560.0	7.0579	593 484.5	5.8222	883 414.8	5.4080	1 239 094.7	6.2515	0.0008	0.0007	0.0008	0.0010	0.0007	0.0005	0.0002	0.0004	0.0030	0.0027	0.0018	0.0022	0.0062	0.0064	0.0057	0.0052
16	234 600.0	2.9654	401 168.4	3.9356	622 726.6	3.8121	1 046 582.6	5.2802	0.0004	0.0004	0.0011	0.0003	0.0006	0.0003	0.0008	0.0002	0.0034	0.0024	0.0017	0.0019	0.0048	0.0033	0.0064	0.0025
17	185 850.0	2.3483	299 045.7	2.9338	558 619.8	3.4197	438 880.3	2.2142	0.0000	0.0000	0.0003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0147	0.0120	0.0014	0.0069	0.0218	0.0172	0.0032	0.0144
18	279 040.0	3.5258	408 501.7	4.0076	887 498.4	5.4330	700 211.1	3.5327	0.0019	0.0006	0.0005	0.0008	0.0011	0.0003	0.0001	0.0004	0.0076	0.0056	0.0009	0.0037	0.0206	0.0148	0.0044	0.0149
19	50 180.0	0.6340	8 600.1	0.0563	55 874.0	0.3420	10 876.1	0.0549	0.0073	0.0000	0.0003	0.0002	0.0059	0.0000	0.0002	0.0000	0.0030	0.0000	0.0004	0.0013	0.0538	0.0000	0.0012	0.0015
Total	7 914 240.0	100.0	10 193 193.1	100.0	16 335 360.6	100.0	19 820 780.6	100.0	0.0830	0.0256	0.0261	0.0188	0.0360	0.0094	0.0061	0.0062	0.0917	0.0535	0.0098	0.0411	0.4032	0.1697	0.3174	0.1425

Sectoral Output Shares

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ANNEX II

THE EMPLOYMENT AND GROWTH IMPLICATIONS OF PROTECTIVE TRADE POLICY : The Case Of The Indonesian Log Ban

Prepared By

Tony Sinaga

Policy Secretariat

Analysis of the Indonesian Log Export Banning, 1978 - 1990

NRM Project, 25 March 1994
by Tonny Sinaga

I. Background

In the mid seventies, GOI felt a wave of optimism concerning the acceptance of forest products exports. As a result, the export tax was increased from 10 % to 20 % in 1978. It was anticipated that the increase would be able to improve the domestic wood processing facilities and increase the value added exports.

The tables on the following page indicate that between 1978 - 1990 there was a significant decrease in log exports from 1978 - 1984 (approximately 26.5% /year), whereas for plywood and sawnwood exports a significant increase was indicated (respectively 18,5% and 81% per year). Summary of the table is as follows:

Growth Per Year, 1978 1990

	PERIOD	LOG WOOD	SAWNWOOD	PLYWOOD
Volume:	(1978-1984)	-26,51%	18,47%	81,03%
	(1985-1990)	0	-12,73%	16,97%
Value:	(1978-1984)	-13,60%	30,19%	92,96%
	(1985-1990)	0	-2,09%	29,37%

In view of the above, in 1980 the GOI has decided to implement the following:

a. Gradually ban the exporting of logs.
The gradual restriction of log export can be noted by observing the tables. The restriction was converted into a **banning** through a "Surat Keputusan Bersama (SKB)" which was signed by three ministers. This decree was announced in 1980 - 1981 and implemented in 1985.

b. Increase the taxation for the exporting of logs.
For some cases the effect of export tax is equivalent with the banning especially where the increase is more than 150%.

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The objective of the banning of log exports, is to achieve a higher financial exchange. This is in relation with the large number of logs found in the group of wood being exported. Compared to other wood sortimen, the value of logs is lower than sawnwood or plywood. The second objective is to develop an "industrial tree" which in the macro framework could increase the Gross Domestic Products. Still in relation with the second objective, this working paper will try to analyze the efforts that can be implemented to generate employment opportunities that will be able to increase the absorption of unemployed labor.

In wood processing, log is the basic commodity for producing sawnwood and plywood. Sawnwood is the basic commodity for furniture making and other wood finished goods. It is therefore becomes a necessity to observe the relationship between these basic commodities. The uniqueness is the fact that the interdependency will influence the success of the government's policy regarding the banning of log exports.

II. Objectives

By observing the data and the reality in the field, there is a tendency to agree with what the government has proposed. Particularly, the part which concerns the opportunity for employment. Through this working paper the writer hopes to get a description concerning how far the objectives have been achieved, until the year 1990.

Apart from that, the writer would also like to "share" his thoughts concerning forest resource management and wood products particularly from the export point of view, with whomever needs them, however of little consequence they are.

Lastly, the writer would like to try to manipulate the existing data in a more progressive manner.

III. Scope and Methodology

The economic impact from this policy can be traced back through the calculation of actual revenue earned in comparison with the figures calculated with the assumption there is no log export banning. To generate employment opportunities alternative commodities' characteristics should be observed, particularly concerning sawnwood and plywood.

This analysis is separated into two big components, Revenue/Export Earning and Generated Employment. The revenue analysis is only a comparison between the implementation and the non-implementation of the log export banning policy. The impact is estimated through price elasticity of demand with two scenarios or directly through the comparison of financial exchanges incurred. The relationship with the human resource factor is carried out through the calculation of a certain"factor" with the actual export value and compared with the conditions before and after the log export banning.

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The data used was taken from "Statistik Kehutanan Indonesia", time series 1978 - 1990, for three export commodities (logwood, sawnwood, and plywood). The book was chosen, because forest produce data are usually made by BPS, FAO, or the Department of Forestry. 1978 was determined as the start of the analysis because the log export ban was started in that year. 1990 was chosen because of the limitation of accurate data concerning the above mentioned commodities after that year. Apart from that the number of wood commodities is too great to be mentioned one by one, therefore only three were chosen (Ministry of Forestry presented 9 export commodities, FAO, 23 commodities, and BPS 220 commodities).

This analysis will be presented in a simple format, i.e. a comparison of the existing data with the actual situation of the Indonesian Economy. Therefore, the results will not be detailed.

IV. Analysis/Discussion

IV.1. Export Earnings Analysis

Based on the "value of wood exports" table, the price of log wood increased from 1978 to 1979, but in the following year relatively it did not change, but during the subsequent years the value decreased until reaching the 0 point in 1985. During the study period, the average Indonesian log export earnings reached US$ 418 million/year, and the yearly growth is -21,97%. Comparisons between the sawnwood and plywood groups indicate a result that is more or less the same. But, when sawnwood and plywood group is compared to log, the result is contrary. Sawnwood and plywood growth per year reach 15,29% and 63,61%, or US $ 338 million and US $ 1,008 million/year. This shows that the steps taken by GOI are in the right course, because the absolute value and the yearly growth of the sawnwood and plywood group is always above those of the logs.

To clarify we should take a look at the following tables. The table on the left indicate the export earnings from the three commodities during the study period. The column "total" indicate the sum of the export earnings for the three commodities; the "AVG" indicate the average/year; and the "SUM" indicate the total export earning of each commodity. The data in this table is based on the actual data during the log exports banning without being set apart.

The two tables on the right indicate time difference before 1985 and during the log exports banning when there was no more log export. Although the data is based on the actual data (the log exports banning), the criteria studied had been calculated based on the "separation". Therefore in these two tables the "result" line is also added. The result is AVG in each period subtracted by the AVG in the left table.

The analysis is based on the static comparison from two periods after the separation and one general comparison between the table on the left and the table on the right.

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From the tables on the previous page the following could be concluded:

a. During the study period, the average export earnings/year for plywood is the highest (US $ 1,008 million) compared to the other two commodities. The second is for Logwood (US $ 418 million) and the third is for sawnwood (US $ 338 million).

b. During the period before the ban the highest average export earning/year is for logwood (US $ 774 million), second is for Plywood (US $ 243 million) and the third is for Sawnwood (US $ 234 million).

c. During the log exports banning, the composition changed indicating a big difference between plywood and sawnwood. From a mere US $9 difference into US $ 1,443. (the difference is multiplied 160 times).

d. The difference between average earning/year before and during the ban is higher for plywood than for sawnwood (US $1,658 million compared to US $ 225 million).

e. When the average export earning/year before the ban is subtracted by the general average, a positive value will be obtained for logwood , but a negative one will be obtained for plywood and sawnwood, and an absolute value for plywood which is higher than sawnwood.

f. If the same method is applied for the period after the ban a contradictory result will be obtained, i.e. only the value for logwood is negative whereas the others are positive. And still, plywood is higher than sawnwood.

g. In general, if the average export earnings/year is subtracted before and after the ban logwood will have a negative value, whereas plywood and sawnwood will have a positive value. And as always, plywood is still the highest (US $ 1,658 million) compared to sawnwood (US $ 225 million).

If we assume that there is no logwood export banning and the growth of average export earning during 1978 - 1984 is constant for the subsequent years, the next step is to make an analysis similar to the one done for the banning of log export.

To view the analysis please see the tables in the previous page. To get the table on the right, the table on the top left hand corner is manipulated as follows:

- The average growth/year during 1978 -1984 is selected as the growth /year for the consecutive years.

- The average growth/year is used to calculate actual export earnings during the period after the banning of log exports. The result is the table on the bottom left side.

- The table on the right indicates the actual export earnings as shown on the table at the bottom left side.

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Analysis from the table on the right indicate the relevant impact from the banning of the log export. This result accentuate the previous analysis (with the banning). Based on the actual data of export earning during the study period it appears that the banning of log exports is "beneficial" to plywood exporters compared to sawnwood exporters.

IV.2. Elasticity Analysis

The production of Indonesian export commodities will increase the amount of world supply. The addition to the world supply will influence the international price and the fluctuation of the value will also influence the demands. The world's recognition of Indonesian wood export commodity depends on the demand for Indonesian wood export commodity.

The response of the world's demand toward the change of the Indonesian export will indicate how far the GOI policy succeeded in managing its export. This is known as the elasticity analysis. The main focus here is when export price fluctuates, for example 1%, how many percent will the demands change? This condition is different for each commodity.

The banning on log exports will render different impacts for logwood, sawnwood, and plywood even with the same level of elasticity in the demand. This is prompted by the distinctive marketing of both commodity. If there is an export ban for logwood, the market will be taken over by sawnwood and plywood. In this case sawnwwod and plywood markets are complementary to one another. Therefore these two products are in the same market which is opposed to logwwod. This is in conjunction with the export ban policy discussed.

The elasticity analysis could be observed from the diagram on the previous page. From the diagram it is clearly indicated that the implementation of export ban policy has caused a decrease in the supply of log, and an increase in the supply of sawnwood and plywood. This is natural. What's interesting is the scenario of the two demands with different elasticity in each market. Because the reaction from the export ban policy is contradictory in these two markets, it is intriguing to study the elasticity of these demands.

Hypothetical prices are also included in the diagram. If we observed carefully it will give a clear description of the log export ban policy. To summarize the result is as follows:

Hypothetical Forgone Earnings

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The figures used in the hypothetical calculation is taken from the average figure derived during the time of study. And the analysis is based on the static difference between separate elasticity scenario.

What can be concluded from the elasticity analysis are as follows:

- For the Logwood market, the bigger the elasticity of the demand, the smaller the financial loss generated from the log export ban policy. The financial loss is calculated from the difference of revenues obtained with the log export ban and without the log export ban.

- For sawnwood and plywood market it is the contrary. The bigger the elasticity of the demands the bigger the financial loss generated from the log export ban policy.

IV.3 Employment Analysis

If the GOI would like to increase the labor absorption, by implementing the log export ban, it is necessary to examine the capacity of log export ban in shifting the labor force from the logwood export sector to the sawnwood or plywood export, or how many job opportunities can be generated from it.

Based on the World Bank report, one factor is found which could correlate the commodity export volume/m3 with the employment generated per year. Employment analysis is realized through the calculation of generated employment through actual data or by comparison with several simulation. This could be observed from the table on the next page.

The table indicates that in average the Plywood sector can generate the highest employment opportunities/year (34,632 persons), followed by logwood sector (29, 966 persons) and lastly the sawnwood sector (16,473 persons). The calculation of the export volume in this table is the actual one, i.e. with the implementation of the log export ban. In reality, eventhough the log export ban has been implemented since 1985, during the period of the study, the average employment generated by the logwood sector is still greater than those generated by the sawnwood sector.

The following simulations have been created for this analysis:

Simulation 1: likewise the export earning analysis discussed previously, with the no log export banning, it is assumed that the average growth/year of the export volume prior to the log export ban applies also for the consecutive years. (see table on p. ...).

Simulation 2: With the banning of log export it is assumed that after the implementation of the log export ban, the sawnwood export volume growth/year increased 5% (see table on p....)

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Simulation 3: With the banning of log exports, it is assumed that after the log exports banning, the plywood export volume growth/year increased 5% (see table on p.).

Based on the calculation of the simulation 1 on p...., without the banning of the log exports, the employment generated by the plywood sector is always higher than the sawnwood sector. This could be observed from the table below:

Actual Generated Employment and Simulated
Indonesia 1978 - 1990

Lastly, the final employment analysis is the comparison of simulation no 2 and simulation no 3. The results indicated that with the banning of log exports, if the average plywood export growth/year increased 5%, the employment generated will cover 10 times more in comparison when the increase is in the growth/year of sawnwood. The results can be observed in the table on p. , which is summarized below:

Employment Generating
By Increasing Sawnwood and Plywood Growth

V. Conclusion & Recommendations

V.1. Conclusion

Based on the calculations performed, the following conclusions can be provided:

1. The more elastic the curve of the logwood export demands, the effect of the log export banning in the decrease of revenue received from this sector will not be too significant.

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Whereas for the sawnwood and the plywood market, the more elastic the curve, the implementation of the log wood exports banning will decrease the revenues received by this sector significantly.

2. Through simulation it is found that with the log export banning, the average growth/year from revenues received in the plywood sector will increase significantly compared to when there is no log export banning.

3. Various evidence (either by the assumption that there is no logwood exports banning or through the assumption of increasing the growth/year from each alternative logwood commodities revenues compared to the actual data after the log wood exports banning) have shown that the plywood sector can generate more employment compared to the sawnwood sector when the logwood exports banning is still implemented.

V.2. Recommendations

1. A feasibility study should be carried out to examine the impacts of the logwood exports banning to the Indonesian economy, particularly to the factors which effects the elasticity of the demands for the three commodities studied (logwood, sawnwood, and plywood).

2. To be able to see the impact of the banning which is relatively good for the three commodities, it seems that the policy should be continued or steps should be taken in the same direction.

3. Because for plywood the benefit is greater compared to sawnwood, improvement should be done to the facilities that support plywood exports.

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Analisis Singkat Atas Pelarangan Ekspor Log Indonesia, 1978-1990

NRM. Project. 25 Maret 1984

Oleh: Tonny Sinaga

I. Latar Belakang

Pada pertengahan tahun 1970-an, pemerintah Indonesia memiliki optimisme yang besar akan penerimaan dari ekspor produk hutan. Dan hasilnya, pada tahun 1978, pajak ekspor dinaikkan dari 10% menjadi 20%. Dengan ini diharapkan dapat memperbaiki fasilitas *processing* kayu domestik serta meningkatkan *value added* ekspornya.

Grafik dan tabel di halaman berikut memperlihatkan bahwa sejak tahun 1978 sampai tahun 1984, ekspor log menurun tajam (rata-rata 26,5% per tahun), sementara plywood dan sawnwood dalam periode yang sama meningkat masing-masing 18,5% dan 81% per tahun. Lebih tepatnya grafik dan tabel tersebut disingkat sbb:

Growth Per Year, 1978-1990

	PERIODE	LOG WOOD	SAWNWOOD	PLYWOOD
Volume:	(1978-1984)	-26,51%	18,47%	81,03%
	(1985-1990)	0	-12,73%	16,97%
Value:	(1978-1984)	-13,60%	30,19%	92,96%
	(1985-1990)	0	-2,09%	29,37%

Melihat kondisi "baik" ini, maka perintah tahun 1980 memutuskan untuk:

a. Membatasi ekspor log secara bertahap.

Pembatasan ini terlihat dengan jelas dari mengikuti grafik, dan pada akhirnya pembatasan berubah menjadi **pelarangan**, melalui SKB (Surat Keputusan Bersama) yang ditandatangani oleh tiga Menteri, yang diumumkan tahun 1980-1981 dan direalisasikan mulai tahun 1985.

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Wood Export By Sortimen

Indonesia: 1978 – 1990

VOLUME:

Year	Volume (in 1000 m3)					
	Log Wood		Sawn Wood		Plywood	
	Absolute	Growht/Year	Absolute	Growht/Year	Absolute	Growht/Year
1978	19,444	0.000%	757	0.000%	70	0.000%
1979	18,205	−6.372%	1,284	69.617%	117	67.704%
1980	14,583	−19.896%	1,203	−6.308%	245	109.167%
1981	6,391	−56.175%	1,263	4.988%	772	215.240%
1982	3,103	−51.447%	1,462	15.756%	1,232	59.547%
1983	2,959	−4.641%	1,793	22.640%	2,106	70.907%
1984	1,567	−47.043%	2,198	22.588%	3,046	44.610%
1985	0	−100.000%	2,166	−1.456%	3,603	18.300%
1986	0	0.000%	2,353	8.633%	4,210	16.847%
1987	0	0.000%	2,833	20.399%	6,045	43.587%
1988	0	0.000%	2,874	1.447%	6,860	13.482%
1989	0	0.000%	2,692	−6.333%	8,010	16.764%
1990	0	0.000%	25	−99.071%	7,436	−7.166%
AVG	5,096	−21.967%	1,762	4.069%	3,366	51.461%

VALUE:

Year	Devisa (in million US $)					
	Log Wood		Sawn Wood		Plywood	
	Absolute	Growht/Year	Absolute	Growht/Year	Absolute	Growht/Year
1978	909	0.000%	86	0.000%	10	0.000%
1979	1,551	70.605%	245	186.066%	32	207.961%
1980	1,559	0.514%	258	5.205%	56	75.725%
1981	664	−57.397%	221	−14.212%	150	169.465%
1982	312	−53.013%	239	7.840%	282	87.929%
1983	286	−8.442%	285	19.306%	510	80.579%
1984	150	−47.496%	305	7.147%	658	29.055%
1985	0	−100.000%	335	9.750%	777	18.117%
1986	0	0.000%	439	31.045%	1,004	29.215%
1987	0	0.000%	633	44.191%	1,975	96.713%
1988	0	0.000%	713	12.638%	2,298	16.354%
1989	0	0.000%	623	−12.623%	2,694	17.232%
1990	0	0.000%	15	−97.592%	2,656	−1.411%
AVG	418	−15.018%	330	15.289%	1,008	63.611%

Source: "Forestry Statistics of Indonesia", Ministry of Forestry

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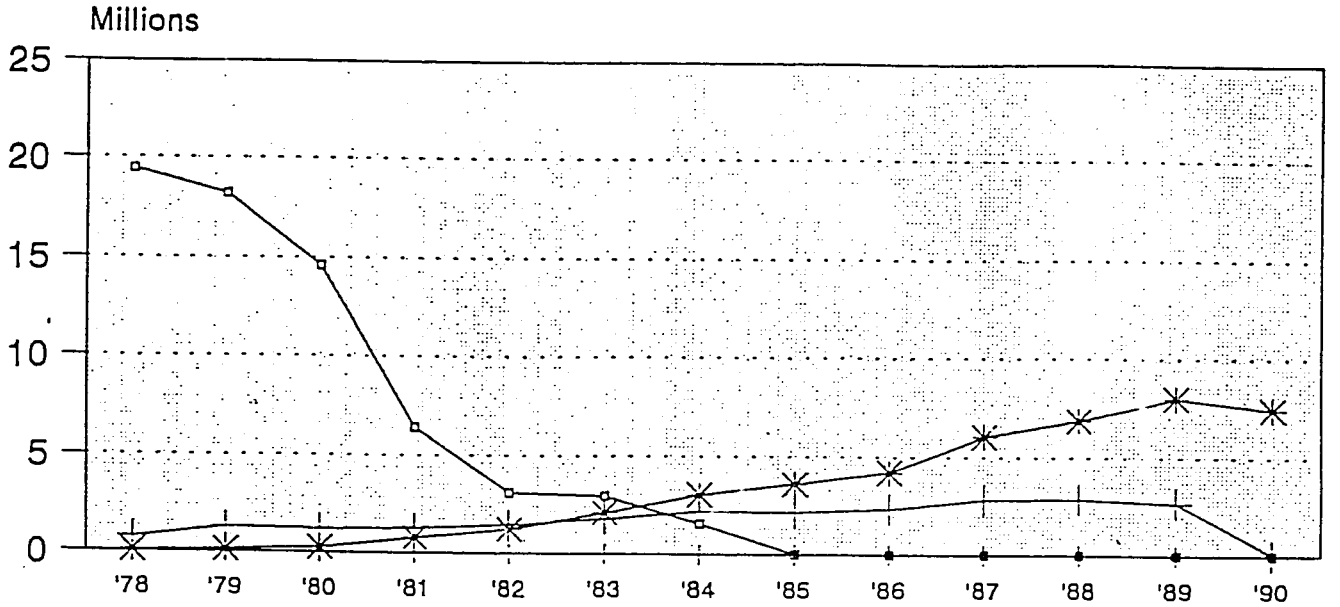
Wood Exports by Sortimen

Indonesia: 1978 - 1990

VOLUME (in M3)



Log Wood	[illegible]	[illegible]	14.582	6.381	2.103	2.859	1.567	0	0	0	0	0	0
Sawn Wood	3.757	1.284	1.283	1.283	1.442	1.793	2.186	2.188	2.353	2.823	2.874	2.692	6.033
Plywood	[illegible]	[illegible]	3.345014	3.772381	[illegible]	2.1361	3.04564	3.603	4.21	6.045	6.86	6.01	7.436

Export Year

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Log Wood *Sawn Wood* *Plywood*

Source: Ministry of Forestry

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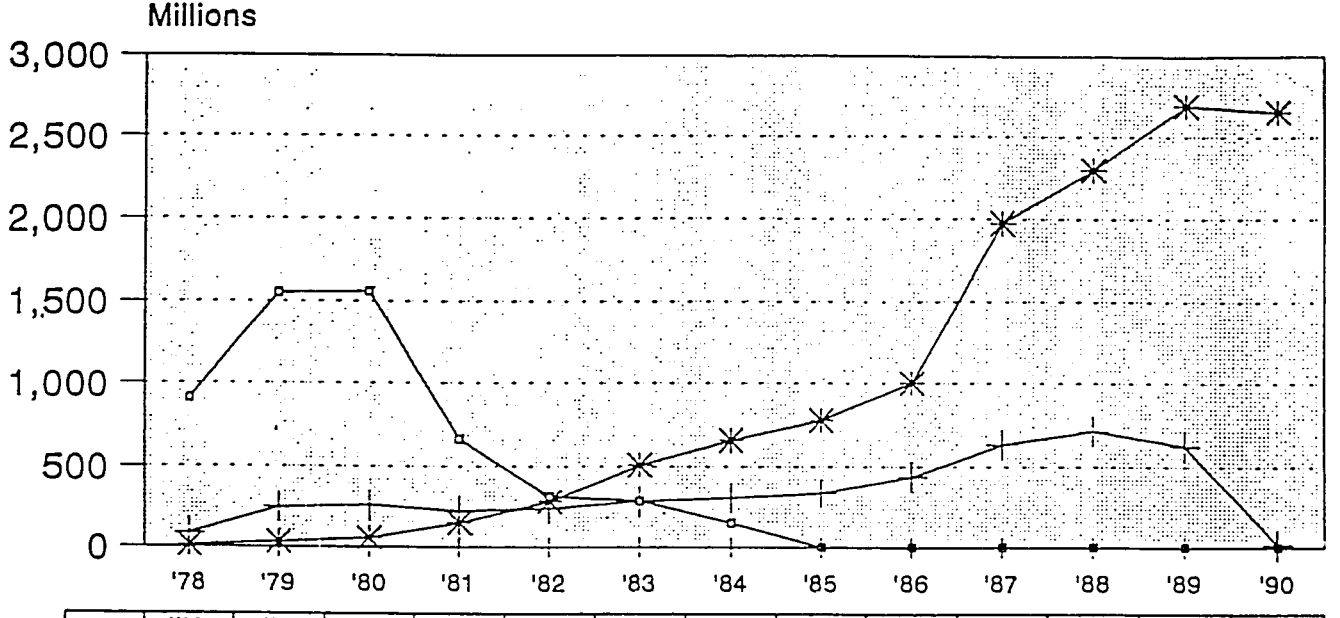
Wood Exports by Sortimen

Indonesia: 1978 - 1990

VALUE (in $ US)



	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90
Log Wood	309.31	1,551.33	1,550.3	664.31	313.14	285.78	150.35	0	0	0	0	0	0
Sawn Wood	85.76	245.33	250.1	331.42	236.76	284.68	305.24	335	438	653	715	833	15
Plywood	18.3	31.72	55.74	150.2	263.27	508.72	657.82	777	1,004	1,875	2,300	2,694	2,658

Export Year

BEST AVAILABLE DOCUMENT

Log Wood *Sawn Wood* *Plywood*

Source: Ministry of Forestry

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b. Meningkatkan pajak ekspor log.

Untuk beberapa kasus, pengenaan pajak ekspor ini, bila ditinjau dari segi akibatnya, sama saja dengan pelarangan, terutama dengan tingkat yang melebihi 150%.

Dengan melarang ekspor log, pemerintah menginginkan devisa yang lebih besar lagi, mengingat dominasi log dalam kelompok ekspor kayu yang besar, sementara harganya relatif lebih kecil bila dibandingkan dengan yang lain (misalnya sawnwood dan plywood). Tujuan lainnya adalah ide mengembangkan "pohon industri" yang dalam kerangka makro akan mengangkat Produk Domestik Bruto. Masih berhubungan dengan tujuan kedua itu, yang akan dianalisa dalam tulisan ini adalah upaya untuk memperluas lapangan kerja yang akan meningkatkan penyerapan tenaga yang selama ini menganggur.

Dalam *processing* kayu, log merupakan bahan baku untuk memproduksi sawnwood dan plywood, sementara sawnwood adalah bahan baku untuk memproduksi furniture dan *finished good* lain yang terbuat dari kayu. Dengan demikian hubungan antar komoditi ini sangat penting diteliti. Keunikannya adalah karena kenyataan *interdependency*-nya itu akan mempengaruhi berhasil tidaknya pemerintah mencapai kehendaknya dalam kebijaksanaan pelarangan ekspor salah satu komoditinya, dalam hal ini yaitu Log Wood.

II. Tujuan

Dari melihat kecenderungan pergerakan data dan kenyataan dalam masyarakat secara nyata, tentunya kita menghendaki juga apa yang diinginkan pemerintah di atas, terutama sisi penyediaan lapangan kerjanya. Melalui analisis singkat ini, penulis ingin mendapat gambaran, sejauh mana "daftar tujuan" tersebut didekati, paling tidak sampai pada tahun 1990.

Disamping itu juga, walaupun mungkin tidak besar, penulis ingin "menyumbangkan" beberapa usul bagi siapa saja yang berniat baik untuk golongan banyak, tentang penanganan sumber-sumber kehutanan secara umum dan hasil kayu secara khusus, terutama dari sisi ekspornya.

Dan tidak tertutup juga untuk tujuan pribadi penulis yang ingin mencoba memanfaatkan data-data yang selama ini diolah dalam bentuk yang lebih progresif.

III. Metodologi dan Ruang Lingkup

Dampak ekonomis kebijakan pemerintah ini dapat ditelusuri melalui penghitungan penerimaan aktual dibandingkan dengan angka melalui penetapan metoda tertentu dengan dasar asumsi belum adanya larangan ekspor log. Sementara untuk penciptaan lapangan kerjanya, dilihat juga beberapa alternatip atas perbedaan karakteristik komoditi, khususnya antara sawnwood dan plywood.

Secara garis besar analisis terdiri atas 2 bagian besar, yakni *Revenue/Export Earning* dan *Generated Employment*. Analisa revenue-nya hanya merupakan perbandingan antara memakai dengan tidak memakai kebijakan larangan ekspor log, lalu dihitung dampaknya, baik itu melalui pemakaian *price elasticity of demand* dengan dua skenario maupun terhadap perbandingan devisa-nya sendiri secara langsung. Sementara hubungan dengan masalah tenaga kerja ditempuh melalui penghitungan "faktor" tertentu terhadap angka ekspor aktualnya, kemudian dibandingkan pula dengan kondisi sebelum dan sesudah pelarangan ekspor log dan juga perbandingan di antara dua simulasi.

Data yang dipakai adalah *time series* kurun waktu 1978 hingga 1990 yang dikeluarkan oleh Departemen Kehutanan (Buku "Statistik Kehutanan Indonesia") atas 3 komoditi ekspor (log wood, sawnwood dan plywood). Langkah ini ditempuh oleh penulis berhubung karena lembaga yang mengeluarkan data-data hasil kehutanan bisa saja BPS atau FAO, juga Departemen Kehutanan atau dari sumber yang belum didapat. Pemilihan tahun 1978 sebagai tahun awal analisis disebabkan saat itulah mulai diberlakukannya pembatasan ekspor log. Tahun 1990 adalah karena keterbatasan data yang akurat atas ketiga komoditi tersebut. Sementara itu komoditi-nya sendiri hanya 3, mengingat terlalu banyaknya komoditi hasil kayu, sehingga bisa membuat analisis tidak cukup akurat (Departemen Kehutanan menyajikan sampai sekitar 9 komoditi kayu ekspor, FAO membuat sekitar 23 dan BPS membuat hampir 220 komoditi).

Analisis ini disajikan dalam bentuk yang sederhana, hanya berupa percobaan pemanfaatan data olahan selama ini terhadap situasi nyata dalam perekonomian Indonesia. Sehingga daripadanya tidak didapat langkah-langkah yang mendetail.

IV. Pembahasan/Analisa

IV.1. Analisa Export Earnings

Menurut Grafik "value of wood exports" di halaman 4, untuk log wood dari tahun 1978 nilainya naik ke tahun 1979, tetapi tahun depannya relatif tidak berubah, dan selanjutnya menurun terus hingga akhirnya nol pada tahun 1985. Sepanjang periode studi rata-rata hasil ekspor log Indonesia mencapai US$ 418 juta per tahun, dan pertumbuhan per tahunnya adalah -21,97%. Sebaliknya dengan kelompok sawnwood dan plywood, menunjukkan gejala yang hampir sama bila dibandingkan dengan sesama kelompok itu (sawnwood dan plywood), tetapi keduanya justru berlawanan dengan log. Growth sawnwood dan plywood per tahun mencapai 15,29% dan 63,61% (positip), dan secara absolut adalah sebesar US$ 338 juta dan US$ 1.008. Disini terlihat bahwa sebenarnya langkah pemerintah itu adalah langkah yang wajar, sebab baik dari segi angka absolut maupun tingkat pertumbuhan per tahunnya, kelompok sawnwood dan plywood menjadi selalu di atas log.

Untuk lebih jelas, kita perhatikan tabel-tabel di halaman 8 berikut; tabel yang di sebelah kiri adalah export earning ketiga komoditi tersebut sepanjang periode studi, lengkap dengan kolom "Total" (penjumlahan devisa ketiga komoditi), baris "AVG" (besar rata-rata absolut per tahun) dan baris "SUM" (total penerimaan/ export earning/devisa sepanjang periode per komoditi). Data dalam tabel ini adalah data aktual dengan penerapan larangan ekspor log dan belum ada pemisahan.

Sementara untuk dua tabel di sebelah kanan adalah hasil "pemisahan" periode sebelum dan sejak tahun 1985, yaitu tahun dimana ekspor log sudah tidak ada lagi. Walaupun datanya tetap data aktual (dengan adanya pelarangan ekspor log), tetapi kriteria-kriteria yang diteliti sudah dihitung berdasarkan "pemisahan" tadi. Oleh sebab itu dalam kedua tabel ini ditambahkan pula baris "Result", yaitu hasil pengurangan "AVG" masing-masing periode ini dengan "AVG" yang di tabel senelah kirinya.

Analisanya adalah pembandingan statis dua periode hasil pemisahan dengan satu periode secara menyeluruh, tepatnya pembandingan tabel-tabel sebelah kiri dengan yang di sebelah kanannya.

Wood Exports by Sortimen

VALUE (in million US $)

Indonesia: 1978 – 1990

BEST AVAILABLE DOCUMENT

With LOG Export Banning

Year	Log Wood	Sawn Wood	Plywood	Total
1978	909	86	10	1,005
1979	1,551	245	32	1,828
1980	1,559	258	56	1,873
1981	664	221	150	1,036
1982	312	239	282	833
1983	286	285	510	1,080
1984	150	305	658	1,113
1985	0	335	777	1,112
1986	0	439	1,004	1,443
1987	0	633	1,975	2,608
1988	0	713	2,298	3,011
1989	0	623	2,694	3,317
1990	0	15	2,656	2,671
AVG	418	338	1,008	1,764
SUM	5,432	4,398	13,102	22,932

Source: "Forestry Statistics of Indonesia", Ministry of Forestry

Year	Log Wood	Sawn Wood	Plywood	Total
1978	909	86	10	1,005
1979	1,551	245	32	1,828
1980	1,559	258	56	1,873
1981	664	221	150	1,036
1982	312	239	282	833
1983	286	285	510	1,080
1984	150	305	658	1,113
AVG	776	234	243	1,253
SUM	5,432	1,640	1,698	8,770
Result	358	(104)	(765)	(511)

1985	0	335	777	1,112
1986	0	439	1,004	1,443
1987	0	633	1,975	2,608
1988	0	713	2,298	3,011
1989	0	623	2,694	3,317
1990	0	15	2,656	2,671
AVG	0	460	1,901	2,360
SUM	0	2,758	11,404	14,162
Result	(418)	121	893	596

DAVG	*(776)*	*225*	*1,658*	*1,108*
DSUM	*(5,432)*	*1,118*	*9,706*	*5,392*
DR	*(776)*	*225*	*1,658*	*1,108*

Note: DAVG = AVG(1985–1990) – AVG(1978–1984)
DSUM = SUM(1985–1990) – SUM(1978–1984)
DR = Result(1985–1990) – Result(1978–1984)

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Dari tabel di halaman 8 terlihat bahwa:

a. Secara keseluruhan, selama periode studi, export earning rata-rata per tahun yang dihasilkan oleh Plywood adalah yang tertinggi (US$ 1.008 juta) dibandingkan dengan dua komoditi yang lain. Di tempat kedua ialah Log Wood (US$ 418 juta) dan terakhir, Sawnwood (US$ 338 juta).

b. Dalam periode sampai sebelum ekspor log dilarang, diantara ketiga komoditi tersebut, rata-rata export earning per tahun berubah menjadi; yang paling tinggi, ekspor Log (US$ 774 juta), kemudian diikuti oleh Plywood (US$ 243 juta) dan terakhir, Sawnwood (US$ 234).

c. Dalam periode sejak ekspor log dilarang, komposisinya berubah dengan semakin menunjukkan hasil, yakni perbedaan yang semakin besar antara Plywood dengan Swanwood, dari perbedaan yang hanya US$ 9 menjadi US$ 1.443 juta (perubahannya mencapai 160 kali).

d. Selisih export earning rata-rata per tahun antara sesudah dengan sebelum diterapkan pelarangan untuk Plywood lebih tinggi (US$ 1.658 juta) dari Sawnwood (US$ 225). Sementara secara mutlak, selisih angka sepanjang tahun sejak ekspor log dilarang sampai tahun 1990 dengan dari tahun 1978 sampai pelarangan, untuk Plywood jauh lebih besar (US$ 1.658 juta) dibandingkan dengan Sawnwood (US$ 225 juta).

e. Bila rata-rata export earning per tahun sebelum pelarangan dikurangkan dengan rata-rata keseluruhan, maka untuk Log Wood akan didapatkan angka yang positif, sementara untuk Plywood dan Sawnwood negatif, dan secara mutlak nilai angka untuk Plywood lebih tinggi dari Sawnwood.

f. Kalau metode yang sama diterapkan untuk periode sesudah pelarangan, maka akan didapatkan hasil yang terbalik, yakni angka untuk Log Wood akan negatif sendiri, sementara yang lain positif. Dan tetap Plywood melebihi Sawnwood.

g. Secara keseluruhan, bila dikurangkan perbedan export acarning rata-rata per tahun sebelum dan sesudah pelarangan, maka Log memiliki angka yang negatif, sementara Plywood dan Sawnwood positif. Dan sekali lagi, Plywood jauh lebih besar (US$ 1.658 juta) dibandingkan dengan Sawnwood (US$ 225 juta).

Wood Exports by Sortimen

VALUE (in million US $)

Indonesia: 1978 – 1990

Without LOG Export Banning

Year	Log Wood		Sawn Wood		Plywood		Total	
	Absolute	Growth/Year	Absolute	Growth/Year	Absolute	Growth/Year	Absolute	Growth/Year
1978	909	0.000%	86	0.000%	10	0.000%	1,005	0.000%
1979	1,551	70.605%	245	186.066%	32	207.961%	1,831	82.117%
1980	1,559	0.514%	258	5.205%	56	75.725%	1,873	2.308%
1981	664	−57.397%	221	−14.212%	150	169.465%	1,035	−44.735%
1982	312	−53.013%	239	7.840%	282	87.929%	833	−19.559%
1983	286	−8.442%	285	19.306%	510	80.579%	1,080	29.752%
1984	150	−47.496%	305	7.147%	658	29.055%	1,113	2.981%
1985	0	0.000%	335	9.750%	777	18.117%	1,112	−0.055%
1986	0	0.000%	439	31.045%	1,004	29.215%	1,443	29.783%
1987	0	0.000%	633	44.191%	1,975	96.713%	2,608	80.726%
1988	0	0.000%	713	12.638%	2,298	16.354%	3,011	15.438%
1989	0	0.000%	623	−12.623%	2,694	17.232%	3,317	10.154%
1990	0	0.000%	15	−97.592%	2,656	−1.411%	2,670	−19.502%
AVG	418	−7.325%	338	15.289%	1,008	63.611%	1,764	13.031%
SUM	5,432	−95.229%	4,398	198.762%	13,102	826.937%	22,933	169.408%
AVG 1	776	−13.604%	234	30.193%	243	92.959%	1,253	7.552%

Without Log Export Banning ==> Growth(1985–1990) = Growth(1978–1984)

Source: "Forestry Statistics of Indonesia", Ministry of Forestry

Year	Log Wood		Sawn Wood		Plywood		Total	
	Absolute	Growth/Year	Absolute	Growth/Year	Absolute	Growth/Year	Absolute	Growth/Year
1978	909	0.000%	86	0.000%	10	0.000%	1,005	0.000%
1979	1,551	70.605%	245	186.066%	32	207.961%	1,828	81.861%
1980	1,559	0.514%	258	5.205%	56	75.725%	1,873	2.448%
1981	664	−57.397%	221	−14.212%	150	169.465%	1,036	−44.696%
1982	312	−53.013%	239	7.840%	282	87.929%	833	−19.571%
1983	286	−8.442%	285	19.306%	510	80.579%	1,080	29.669%
1984	150	−47.496%	305	7.147%	658	29.055%	1,113	3.029%
1985	130	−13.604%	397	30.193%	1,269	92.959%	1,796	61.382%
1986	112	−13.604%	517	30.193%	2,449	92.959%	3,079	71.384%
1987	97	−13.604%	674	30.193%	4,726	92.959%	5,496	78.534%
1988	84	−13.604%	877	30.193%	9,119	92.959%	10,080	83.391%
1989	72	−13.604%	1,142	30.193%	17,597	92.959%	18,811	86.615%
1990	62	−13.604%	1,487	30.193%	33,955	92.959%	35,504	88.740%
AVG	461	−13.604%	518	30.193%	5,447	92.959%	6,426	40.214%
SUM	5,989	0	6,733	0	70,814	0	83,536	0
AVG 1	776	−13.604%	234	30.193%	243	92.959%	1,253	7.534%

Year	Log Wood	Sawn Wood	Plywood	Total
1978	909	86	10	1,005
1979	1,551	245	32	1,828
1980	1,559	258	56	1,873
1981	664	221	150	1,036
1982	312	239	282	833
1983	286	285	510	1,080
1984	150	305	658	1,113
AVG	776	234	243	1,253
SUM	5,432	1,640	1,698	8,770
Result	(311)	(284)	(5,205)	(5,173)

1985	130	397	1,269	1,796
1986	112	517	2,449	3,079
1987	97	674	4,726	5,496
1988	84	877	9,119	10,080
1989	72	1,142	17,597	18,811
1990	62	1,487	33,955	35,504
AVG	93	849	11,519	12,461
SUM	557	5,094	69,116	74,766
Result	(368)	331	6,072	6,035

DAVG	(683)	615	11,277	11,208
DSUM	(4,876)	3,454	67,418	65,997
DR	(57)	615	11,277	11,208

Note: DAVG = AVG(1985–1990) – AVG(1978–1984)
DSUM = SUM(1985–1990) – SUM(1978–1984)
DR = Result(1985–1990) – Result(1978–1984)

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Bila diasumsikan tidak ada pelarangan ekspor log, dan tingkat pertumbuhan rata-rata export earning selama periode 1978-1984 tetap untuk tahun-tahun selanjutnya. Maka langkah selanjutnya adalah menerapkan analisa seperti terhadap pelarangan ekspor log yang berlaku.

Untuk melihat analisa ini dapat diikuti tabel-tabel di halaman 10. Untuk mendapatkan tabel di sebelah kanan, tabel atas sebelah kiri dimanipulasi dengan cara:

- Diambil rata-rata growth/year selama periode 1978-1984 dan dipakai sebagai growth/year untuk tahun-tahun selanjutnya.
- Growth/Year rata-rata ini dipakai untuk menghitung export earning aktual untuk periode sesudah pelarangan log. Hasilnya adalah tabel bawah sebelah kiri.
- Tabel sebelah kanan adalah khusus untuk data aktual export earning, seperti yang terdapat pada tabel kiri bawah.

Selanjutnya, analisa tabel sebelah kanan menunjukkan dampak pelarangan ekspor log yang paling "relevan". Dan hasil ini semakin mempertajam analisa sebelumnya (Dengan Pelarangan). Ternyata pelarangan ekspor log lebih 'menguntungkan' untuk para eksportir Plywood dibandingkan dengan eksportir Sawnwood, secara data export earning yang aktual, selama periode studi.

IV.2. Analisa Elastisitas

Produksi komoditi ekspor Indonesia akan ikut menambah supply dunia. Pertambahan supply dunia akan mempengaruhi tingkat harga internasional, dan perubahan tingkat harga ini akan mempengaruhi permintaannya. Dan ternyata permintaan dunia terhadap ekspor komoditi kayu Indonesia akan mempengaruhi penerimaan ekspor.

Tingkat reaksi permintaan dunia terhadap perubahan harga ekspor Indonesia akan menentukan sejauh mana suatu kebijaksanaan pemerintah Indonesia berhasil dalam menangani ekspornya. Hal ini yang disebut dengan analisa elastisitas. Yang menjadi pusat perhatian disini adalah jika harga ekspor berubah, misalnya 1%, berapa persen perubahan permintaannya? Dan kondisi ini berbeda antar komoditi.

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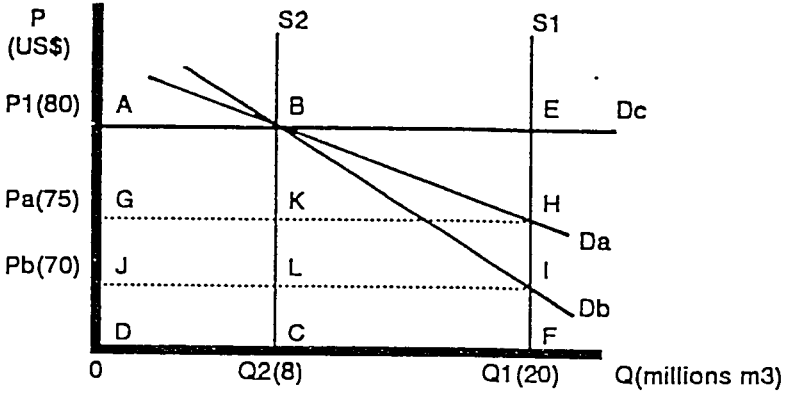
Logs' Market



P1 = Actual export price

Q2 = Actual export volume

Q1 = Hypothetical export volume

Pa(Pb) = Hypothetical prices, corresponding to elasticity a(b)

ABCD = Actual revenues

GHFD (or JIFD) = Hypothetical revenues corresponding to elasticity a(b)

GHFD (or JIFD) – ABCD = Estimate of foregone earnings from the export logs as a result of the export ban policy

ABCD = 80 * 8 = US$ 640,000,000

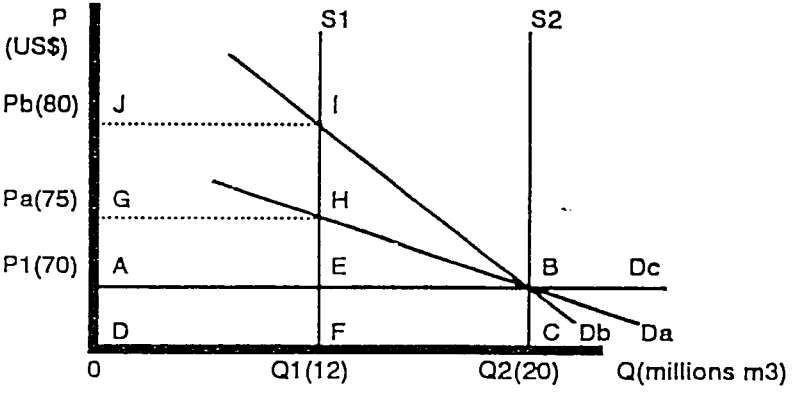
GHFD(a) = 75 * 20 = US$ 1,500,000,000

JIFD(b) = 70 * 20 = US$ 1,400,000,000

Result(a) = 1,500,000,000 – 640,000,000 = <u>US$ 860,000,000</u>

Result(b) = 1,400,000,000 – 640,000,000 = <u>US$ 760,000,000</u>

Sawnwood and Plywood Market



P1 = Actual export price

Q2 = Actual export volume

Q1 = Hypothetical export volume

Pa(Pb) = Hypothetical prices, corresponding to elasticity a(b)

ABCD = Actual revenues

GHFD (or JIFD) = Hypothetical revenues corresponding to elasticity b(a)

GHFD (or JIFD) – ABCD = Estimate of the change in earnings as a result of implementation of the export ban policy

ABCD = 70 * 20 = US$ 1,500,000,000

GHFD(a) = 75 * 12 = US$ 900,000,000

JIFD(b) = 80 * 12 = US$ 960,000,000

Result(a) = 900,000,000 – 1,500,000,000 = <u>US$ –500,000,000</u>

Result(b) = 960,000,000 – 1,500,000,000 = <u>US$ –440,000,000</u>

Disamping itu, kebijaksanaan pelarangan ekspor log akan membuat dampak yang berbeda antara Log Wood dengan Sawnwood dan Plywood, sekalipun dengan tingkat elastisitas permintaan yang sama. Hal ini disebabkan perbedaan pasar kedua pihak ini. Log Wood di satu pihak, bila dihentikan ekspornya maka pasarnya akan 'diambil alih' oleh Sawnwood dan Plywood di pihak yang lain. Sementara dalam kasus ini, pasar Sawnwood dan Plywood saling membutuhkan (komplementer). Jadi kedua produk ini berada dalam satu pasar, diperhadapkan dengan pasar Log Wood sehubungan dengan kebijaksanaan pelarangan yang dibicarakan.

Analisa elastisitas ini dapat diikuti melalui diagram di halaman 12. Terlihat dari diagram itu bahwa dengan jelas pelarangan ekspor log akan membuat supply di pasar log turun, dan sebaliknya supply pasar Sawnwood dan Plywood akan meningkat. Gejala ini adalah gejala yang wajar. Yang menarik adalah skenario dua elastisitas permintaan yang berbeda dl masing-masing pasar.. Karena reaksi kebijaksanaan pelarangan log berlawanan di antara dua pasar ini, maka elastisitas permintaan ini menjadi menarik untuk diteliti.

Dalam diagram itu pula disertakan angka-angka hipotetis, yang kalau diikuti akan memberikan gambaran yang lebih jelas tentang dampak pelarangan ekspor log. Kalau mau diringkas, hasilnya adalah seperti dalam tabel di bawah ini:

Hypothetical Forgone Earnings

Items	Log				Sawnwood + Plywood			
	A		B		A		B	
	With	Without	With	Without	With	Without	With	Without
P (US $)	80	75	80	70	70	75	70	80
Q (million m3)	8	20	8	20	20	12	20	12
Revenue (US $)	640	1,500	640	1,400	1,400	900	1,400	960
Result (US $)	860		760		−500		−440	

Note: With and Without = *Log Exports Banning's Status*

Angka-angka yang diambil dalam perhitungan hipotetis di atas adalah angka rata-rata selama kurun waktu studi. Dan analisanya berdasarkan perbedaan statis antar skenario elastisitas yang berbeda saja.

Yang dapat disimpulkan dari analisa elastisitas ini adalah:

- Untuk pasar Log Wood, semakin besar elastisitas permintaan, maka "kerugian" dari kebijaksanaan pelarangan ekspor log akan semakin kecil. Kerugian disini didapat sebagai hasil selisih revenue yang didapat tanpa pelarangan dengan kalau pakaipelarangan ekspor log.
- Untuk pasar Sawnwood dan Plywood, justru kebalikannya. Yakni, semakin besar elastisitas permintaan, maka semakin besar pula "kerugian" dari pelarangan ekspor Log Wood.

IV.3. Analisa Tenaga Kerja

Bila pemerintah ingin meningkatkan penyerapan tenaga kerja yang menganggur, dengan melarang ekspor log, maka perlu diselidiki sejauh mana kemampuan pelarangan ekspor log 'mengalihkan' tenaga kerja dari sektor ekspor Log Wood ke ekspor Sawnwood atau Plywood, atau seberapa banyak lapangan kerja tambahan yang dihasilkannya.

Dari laporan Bank Dunia didapat satu faktor yang menghubungkan volume komoditi ekspor per m3 dengan banyaknya tenaga kerja yang 'diciptakan' per tahun. Analisa tenaga kerja ditempuh melalui penghitungan *generated employment* ini melalui data yang aktual maupun membandingkannya dengan beberapa simulasi. Dimulai dengan melihat tabel di halaman 15.

Tabel di halaman 15 menunjukkan bahwa secara rata-rata per tahun sektor Plywood 'menciptakan' tenaga kerja paling banyak (34.632 orang), dlikuti sektor Log Wood (29.966 orang) dan terakhir Sawnwood (16.473 orang). Penghitungan volume ekspor dalam tabel ini masing yang aktual, yaitu dengan penerapan larangan ekspor log. Ternyata sekalipun ekspor log sudah dilarang tahun 1985, selama periode studi, rata-rata tenaga kerja yang dihasilkannya masih lebih besar dari Sawnwood.

Wood Exports and Generated Employment

Indonesia: 1978 – 1990

Year	Log Wood		Sawn Wood		Plywood	
	AEX	GEN *)	AEX	GEN *)	AEX	GEN *)
1978	19,444	114,331	757	7,078	70	719
1979	18,205	107,045	1,284	12,005	117	1,205
1980	14,583	85,748	1,203	11,248	245	2,521
1981	6,391	37,579	1,263	11,809	772	7,948
1982	3,103	18,246	1,462	13,670	1,232	12,680
1983	2,959	17,399	1,793	16,765	2,106	21,672
1984	1,567	9,214	2,198	20,551	3,046	31,340
1985	0	0	2,166	20,252	3,603	37,075
1986	0	0	2,353	22,001	4,210	43,321
1987	0	0	2,833	26,489	6,045	62,203
1988	0	0	2,874	26,872	6,860	70,589
1989	0	0	2,692	25,170	8,010	82,423
1990	0	0	25	234	7,436	76,516
AVG	5,096	29,966	1,762	16,473	3,366	34,632

Note:

AEX = Absolute Exports (in 1000 m3)

*) GEN = Generated Employment: (Persons/Year, FTE)

Logs = 0.00588

Sawnwood = 0.00935

Plywood = 0.01029

Source: 1. "Forestry Statistics of Indonesia", Ministry of Forestry

2. "Indonesia -- Production Forestry", World Bank

Simulasi yang coba dibuat dalam analisa ini adalah simulasi sebagai berikut:

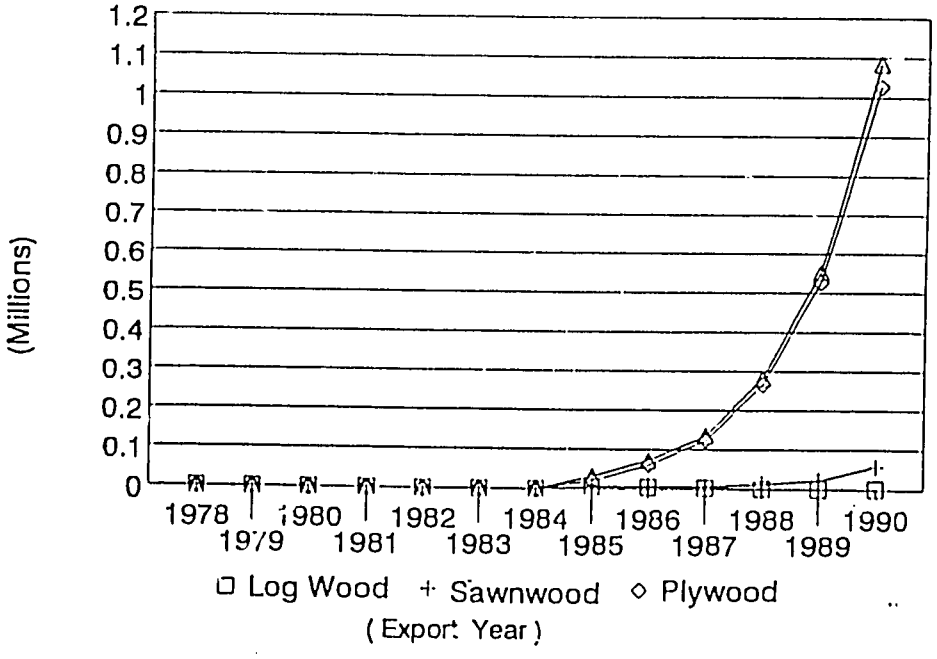
Simulasi 1: Sama dengan analisa export earning di depan, dengan 'meniadakan' larangan ekspor log, diasumsikan bahwa growth/year rata-rata volume ekspor sebelum pelarangan ekspor log berlaku juga untuk tahun-tahun selanjutnya. (Lihat tabel di halaman 17)

Simulasi 2: Dengan pelarangan ekspor log, diasumsikan setelah pelarangan ekspor log berlaku, growth/year volume ekspor Sawnwood meningkat sebanyak 5%. (Lihat tabel di halaman 18)

Simulasi 3: Dengan pelarangan ekspor log, diasumsikan setelah pelarangan ekspor log berlaku, growth/year volume ekspor Plywood meningkat sebanyak 5%. (Lihat tabel di halaman 18)

Berdasarkan penghitungan simulasi 1 di halaman 17, tanpa larangan ekspor log maka terlihat bahwa penciptaan lapangan kerja oleh sektor Plywood selalu lebih besar dari sektoe Sawnwood. Hal ini ter'gambar' dari grafik di bawah ini:

Actual Generated Employment and Simulated
Indonesia: 1878 – 1990



Note : Simulated 1 = No Log Exports Banning
Source: Ministry of Forestry

Wood Export and Generated Employment *)

Indonesia: 1978 – 1990

Year	Volume (in 1000 m3)					
	Log Wood		Sawn Wood		Plywood	
	Absolute	Growth/Year	Absolute	Growth/Year	Absolute	Growth/Year
1978	19,444	0.000%	757	0.000%	70	0.000%
1979	18,205	−6.372%	1,284	69.617%	117	67.704%
1980	14,583	−19.896%	1,203	−6.308%	245	109.167%
1981	6,391	−56.175%	1,263	4.988%	772	215.240%
1982	3,103	−51.447%	1,462	15.756%	1,232	59.547%
1983	2,959	−4.641%	1,793	22.640%	2,106	70.907%
1984	1,567	−47.043%	2,198	22.588%	3,046	44.610%
1985	1,152	−26.511%	2,604	18.469%	5,[illegible].3	81.025%
1986	846	−26.511%	3,085	18.469%	9,981	81.025%
1987	622	−26.511%	3,655	18.469%	18,067	81.025%
1988	457	−26.511%	4,330	18.469%	32,706	81.025%
1989	336	−26.511%	5,129	18.469%	59,207	81.025%
1990	247	−26.511%	6,076	18.469%	107,179	81.025%
AVG	5,378	−26.511%	2,680	18.469%	18,480	81.025%
Average: 1978–1984		−26.511%		18.469%		81.025%

Year	Log Wood		Sawn Wood		Plywood	
	AEX	GEN	AEX	GEN	AEX	GEN
1978	19,444	114,331	757	7,078	70	719
1979	18,205	107,045	1,284	12,005	117	1,205
1980	14,583	85,748	1,203	11,248	245	2,521
1981	6,391	37,579	1,263	11,809	772	7,948
1982	3,103	18,246	1,462	13,670	1,232	12,680
1983	2,959	17,399	1,793	16,765	2,106	21,672
1984	1,567	9,214	2,198	20,551	3,046	31,340
1985	1,152	6,771	2,604	24,347	5,513	56,733
1986	846	4,976	3,085	28,843	9,981	102,700
1987	622	3,657	3,655	34,170	18,067	185,913
1988	457	2,687	4,330	40,481	32,706	336,549
1989	336	1,975	5,129	47,957	59,207	609,237
1990	247	1,451	6,076	56,814	107,179	1,102,871
AVG	5,378	31,622	2,680	25,057	18,480	190,160

Note : *) Simulated 1

Source : "Forestry Statistics of Indonesia", Ministry of Forestry

Wood Export By Sortimen and Generated Employment 2 and 3
Indonesia: 1978 – 1990

Year	Log Wood		Sawn Wood		Plywood	
	AEX (1000 m3)	GEN 2	AEX (1000 m3)	GEN 2	AEX (1000 m3)	GEN 2
1978	19,444	114,331	757	7,078	70	719
1979	18,205	107,045	1,284	12,005	117	1,205
1980	14,583	85,748	1,203	11,248	245	2,521
1981	6,391	37,579	1,263	11,809	772	7,948
1982	3,103	18,246	1,462	13,670	1,232	12,680
1983	2,959	17,399	1,793	16,765	2,106	21,672
1984	1,567	9,214	2,198	20,551	3,046	31,340
1985	0	0	2,276	21,280	3,603	37,075
1986	0	0	2,461	23,013	4,210	43,321
1987	0	0	2,951	27,589	6,045	62,203
1988	0	0	3,016	28,196	6,860	70,589
1989	0	0	2,836	26,514	8,010	82,423
1990	0	0	160	1,492	7,436	76,516
AVG	66,252	389,562	23,659	221,210	43,752	450,213

Year	Log Wood		Sawn Wood		Plywood	
	AEX (1000 m3)	GEN 3	AEX (1000 m3)	GEN 3	AEX (1000 m3)	GEN 3
1978	19,444	114,331	757	7,078	70	719
1979	18,205	107,045	1,284	12,005	117	1,205
1980	14,583	85,748	1,203	11,248	245	2,521
1981	6,391	37,579	1,263	11,809	772	7,948
1982	3,103	18,246	1,462	13,670	1,232	12,680
1983	2,959	17,399	1,793	16,765	2,106	21,672
1984	1,567	9,214	2,198	20,551	3,046	31,340
1985	0	0	2,166	20,252	3,755	38,642
1986	0	0	2,353	22,001	4,576	47,084
1987	0	0	2,833	26,489	6,799	69,961
1988	0	0	2,874	26,872	8,055	82,891
1989	0	0	2,692	25,170	9,809	100,931
1990	0	0	25	234	9,596	98,745
AVG	5,096	29,966	1,762	16,473	3,860	39,718

Source: "Forestry Statistics of Indonesia", Ministry of Forestry

Actual Generated Employment and Simulated

Indonesia: 1978 – 1990

Year	Log Wood			Sawnwood			Plywood			Result **)
	Simulated 1 *)	Actual	(Simul.–Act.)	Simulated 1 *)	Actual	(Simul.–Act.)	Simulated 1 *)	Actual	(Simul.–Act.)	(3 + 6 + 9)
	1	2	3	4	5	6	7	8	9	10
1978	114,331	114,331	0	7,078	7,078	0	719	719	0	0
1979	107,045	107,045	0	12,005	12,005	0	1,205	1,205	0	0
1980	85,748	85,748	0	11,248	11,248	0	2,521	2,521	0	0
1981	37,579	37,579	0	11,809	11,809	0	7,948	7,948	0	0
1982	18,246	18,246	0	13,670	13,670	0	12,680	12,680	0	0
1983	17,399	17,399	0	16,765	16,765	0	21,672	21,672	0	0
1984	9,214	9,214	0	20,551	20,551	0	31,340	31,340	0	0
1985	6,771	0	6,771	24,347	20,252	4,095	56,733	37,075	19,658	30,524
1986	4,976	0	4,976	28,843	22,001	6,843	102,700	43,321	59,379	71,198
1987	3,657	0	3,657	34,170	26,489	7,682	185,913	62,203	123,710	135,048
1988	2,687	0	2,687	40,481	26,872	13,609	336,549	70,589	265,959	282,256
1989	1,975	0	1,975	47,957	25,170	22,787	609,237	82,423	526,814	551,576
1990	1,451	0	1,451	56,814	234	56,581	1,102,871	76,516	1,026,354	1,084,386
AVG	31,622	29,966	1,655	25,057	16,473	8,584	190,160	34,632	155,529	165,768

Note : *) Simulated 1 = No Log Exports' Banning.
**) Log Export's Banning 'Result'.

Source : 'Forestry Statistics of Indonesia', Ministry of Forestry

Analisa tenaga kerja yang terakhir adalah membandingkan antara hasil simulasi 2 dengan simulasi 3. Hasil ini menunjukkan, dengan pelarangan ekspor log, seandainya growth/year rata-rata per tahun ekspor Plywood naik 5%, lapangan kerja yang diciptakan akan mencukupi untuk hampir 10 kali lebih banyak dibandingkan bila yang dinaikkan itu adalah growth/year dari Sawnwood. Hasil ini jelas terlihat dalam tabel di halaman 19. Yang secara singkat dituliskan sebagai berikut:

Employment Generating
By Increasing Sawnwood and Plywood Growth

Year	Result 2 (Sawnwood)	Result 3 (Plywood)
1985	1,028	1,567
1986	1,013	3,763
1987	1,100	7,757
1988	1,324	12,301
1989	1,344	18,508
1990	1,259	22,228
AVG	1,178	11,021

Result 2 : Sawnwood growth increase 5% per year, with Log Export Ban.
Result 3 : Plywood growth increase 5% per year, with Log Export Ban.

V. Kesimpulan dan Saran

V.1. Kesimpulan

Berdasarkan hasil penghitungan yang telah dilakukan, didapat beberapa kesimpulan sebagai berikut:

1. Semakin elastis kurva permintaan ekspor pasar Log Wood, penurunan penerimaan dari sektor ini akan lebih sedikit bila diadakan pelarangan ekspornya. Sementara untuk pasar Sawnwood

dan Plywood, semakin elastis kurva permintaannya, maka pelarangan ekspor log akan membuat penurunan penerimaan sektor ini akan semakin besar.

2. Secara simulatif ditemukan hubungan, bahwa dengan pelarangan ekspor log, pertumbuhan rata-rata setiap tahun dari penerimaan sektor Plywood akan meningkat lebih besar dari tanpa pelarangan ekspor log.
3. Dengan beberapa pembuktian, baik berupa pembandingan antara asumsi tidak adanya pelarangan ekspor log, maupun dengan asumsi peningkatan growth/year dari masing-masing komoditi alternatip Log Wood dibandingkan dengan yang aktual setelah ekspor log dilarang, didapat hubungan bahwa sektor Plywood jauh lebih banyak menciptakan lapangan kerja dibandingkan deangan sektor Sawnwood, bila ekspor Log Wood tetap dilarang.

V.2. Saran

1. Perlu dikembangkan lagi *feasibility study* atas dampak pelarangan ekspor log terhadap perekonomian Indonesia, terutama dari segi faktor-faktor yang mempengaruhi elastisitas permintaan ketiga komoditi yang diteliti (Log Wood, Sawnwood dan Plywood).
2. Melihat dampak pelarangan yang relatif "baik" atau membuat baik untuk ketiga komoditi secara keseluruhan, maka perlu kiranya kebijaksanaan tersebut diteruskan, atau diambil langkah-langkah lain yang arahnya sama.
3. Karena kondisi Plywood lebih banyak "baik"-nya akibat pelarangan ekspor log bila dibandingkan dengan Sawnwood, maka perlu kiranya diperbaiki perangkat-perangkat yang mendukung ekspor Plywood secara khusus.

ANNEX III

AN ANALYSIS OF LABOR ABSORPTION POLICY EMPHASIZING AGRICULTURE

Prepared By

Rudianto

Policy Secretariat

POTENSI SEKTOR PERTANIAN YANG "TERABAIKAN"

Oleh : Rudianto

Pertumbuhan perekonomian Indonesia dalam dua dasawarsa terakhir benar benar luar biasa , bila hanya GDP yang dijadikan tolok ukur tanpa memandang tingkat efisiensi dan pemerataan pertumbuhan. Dalam dua dasawarsa tersebut sektor Perbankan & Keuangan, sektor Industri Manufaktur dan sektor Pertambangan menduduki tingkat pertumbuhan rata-rata tertinggi, dengan masing masing pertumbuhan rata rata sebesar 17,77 % , 16,08 % dan 12,04 % per tahun. Pertumbuhan ketiga sektor tersebut menunjukkan pertumbuhan yang sangat tinggi, khususnya dikawasan Asia.

Dari total jumlah akumulasi realisasi investasi dalam periode yang sama, yaitu sebesar Rp 92.155,6 Milyar , komposisi investasi menunjukkan jumlah yang beragam. Sektor Industri Manufaktur menyerap investasi terbesar, yaitu 66,11 % dari total investasi. Sedangkan sektor Perbankan & Keuangan dan sektor Pertambangan hanya menyerap sebesar 8,27 % dan 7,75 % dari total investasi. Pertumbuhan sektor Industri Manufaktur yang tinggi disebabkan investasi pada sektor tersebut menunjukkan jumlah yang sangat besar. Sedangkan pada sektor Pertambangan jumlah investasi yang relatif rendah tetapi menyebabkan pertumbuhan yang tinggi, menunjukkan bahwa eksploitasi sumber daya alam Indonesia cukup tinggi. Sedangkan sektor Perbankan & Keuangan menunjukkan

pertumbuhan tertinggi tetapi dengan investasi yang relatif rendah, menunjukkan kemampuan sektor ini dalam memberikan efek pengganda yang tinggi dalam perekonomian nasional.

Sedangkan kontribusi rata-rata ketiga sektor tersebut pada GDP dalam dua dasa warsa tersebut masing masing sebesar 12.36 % untuk sektor Industri Manufaktur, 2,34 % untuk sektor Perbankan & Keuangan dan 16,19 % untuk sektor Pertambangan.

Pertumbuhan tinggi pada ketiga sektor tersebut , sayangnya, tidak dibarengi dengan tingkat penyerapan tenaga kerja yang tinggi. Sektor Pertambangan hanya menyerap 0.51 % dari total tenaga kerja Indonesia. Sektor Perbankan & Keuangan menyerap 0.37 % dan sektor Industri Manufaktur menyerap 10.20 % saja. Hal ini menunjukkan bahwa investasi di Indonesia masih cenderung padat modal. Padahal Indonesia justru memiliki keunggulan komparatif dibidang tenaga kerja.

Sementara itu Sektor Pertanian & Kehutanan yang secara tradisonil menjadi penyerap tenaga kerja terbesar dan kontributor terbesar pada GDP , justru menunjukkan pertumbuhan yang sangat menyedihkan, yaitu sebesar 3,92 % per tahun. Padahal sumbangan rata rata sektor ini pada GDP dalam dua puluh tahun terakhir ini adalah sebesar 29 % dari total GDP, dan daya serap tenaga kerjanya mencapai sekitar 56 % dari total tenaga kerja Indonesia. Pertumbuhan yang rendah sektor Pertanian & Kehutanan dikarenakan proporsi investasi yang relatif kecil pada sektor ini, yaitu hanya sebesar 9,31 % dari total investasi di Indonesia. Rendahnya investasi pada sektor ini jelas memberikan dampak langsung pada tingkat pertumbuhan sektor Pertanian & Kehutanan serta tingkat

penyerapan tenaga kerja di Indonesia secara keseluruhan.

Pada tahun 1971 jumlah tenaga kerja Indonesia yang berada di pedesaan sebesar 35.209.767 orang atau sebesar 85,33 % dari total tenaga kerja Indonesia, sedangkan sisanya tinggal di kota. Tetapi pada tahun 1991 jumlah tenaga kerja Indonesia di pedesaan sebesar 56.269.679 orang atau sebesar 73,63 % dari total tenaga kerja Indonesia. Dalam jangka waktu dua puluh tahun terdapat penurunan sebesar 11,7 % jumlah tenaga kerja Indonesia di pedesaan. Dan pada tempo yang sama terdapat kenaikan sebesar jumlah yang sama tenaga kerja Indonesia di kota. Artinya terjadi urbanisasi yang cukup besar dalam jangka waktu tersebut.

Bila investasi disektor Pertanian & Kehutanan ditingkatkan maka daya serap tenaga kerja sektor inipun akan meningkat. Meningkatnya daya serap tenaga kerja sektor Pertanian & Kehutanan secara langsung akan mengakibatkan turunnya tingkat urbanisasi tenaga kerja, karena tuntutan geografis yang mengharuskan sektor pertanian dipusatkan di daerah pedesaan.

Dan karena terdapat lahan yang cukup luas untuk pertanian, terutama diluar pulau Jawa, peningkatan investasi di sektor inipun akan membantu penyebaran dan pemerataan pembangunan dan pendapatan serta penduduk di Indonesia.

Proporsi investasi yang cukup pada sektor Pertanian & Kehutanan yang selama ini sudah memberikan kontribusi yang cukup berarti pada perekonomian nasional, jelas akan memberikan dampak yang cukup berarti dalam bidang ketenagakerjaan, pendapatan nasional dan penyebaran penduduk. Disamping itu secara langsung akan mendorong usaha untuk menjaga dan memelihara sumber daya alam

Indonesia dalam jangka panjang.

ANGKATAN KERJA INDONESIA , 1992

TINGKAT PENDIDIKAN	JUMLAH	PROSENTASE
Tidak sekolah / tidak lulus SD	30.348.502	37,60 %
Sekolah Dasar	29.578.954	36,65 %
Sekolah Menengah Pertama	8.855.719	10,97 %
Sekolah Menengah Atas	10.085.696	12,50 %
Diploma / Akademi / Universitas	1.835.103	2,27 %
Jumlah	80.703.974	100 %

INDONESIA LABOUR ABSORPTION
NUMBER OF HOURS WORKED PER WEEK, 1992

HOURS WORKED	TOTAL	%
0	1,446,209	1.84%
1 – 4	432,235	0.55%
5 – 9	2,100,290	2.67%
10 – 14	3,928,062	5.00%
15 – 19	4,113,629	5.24%
20 – 24	6,567,434	8.36%
25 – 34	13,217,068	16.83%
35 – 44	20,080,029	25.57%
45 – 54	14,741,001	18.77%
55 – 64	4,800,725	6.11%
65 – 74	5,350,639	6.81%
75 – ~	1,741,051	2.22%
Jumlah	78,518,372	100.00%

Lebih dari 25 jam kerja	59,930,513	76.33%
Lebih dari 35 jam kerja	46,713,445	59.49%

Sumber : Biro Pusat Statistik

INDONESIA LABOUR ABSORPTION BY AGE GROUP, 1992

AGE GROUP	TOTAL	%
10 – 14	2,304,039	2.93%
15 – 19	7,487,417	9.54%
20 – 24	8,857,775	11.28%
25 – 29	10,302,677	13.12%
30 – 34	10,467,742	13.33%
35 – 39	9,874,188	12.58%
40 – 44	7,591,726	9.67%
45 – 49	6,430,578	8.19%
50 – 54	5,716,382	7.28%
55 – 59	3,778,705	4.81%
60 – 64	2,942,896	3.75%
65 – ~	2,763,286	3.52%
Not stated	261	0.00%
Jumlah	78,517,672	100.00%

INDONESIA LABOUR ABSORPTION
NUMBER OF HOURS WORKED PER WEEK, 1992

HOURS WORKED	TOTAL	%
0	1,446,209	1.84%
1 – 4	432,235	0.55%
5 – 9	2,100,290	2.67%
10 – 14	3,928,062	5.00%
15 – 19	4,113,629	5.24%
20 – 24	6,567,434	8.36%
25 – 34	13,217,068	16.83%
35 – 44	20,080,029	25.57%
45 – 54	14,741,001	18.77%
55 – 64	4,800,725	6.11%
65 – 74	5,350,639	6.81%
75 – ~	1,741,051	2.22%
Jumlah	78,518,372	100.00%

INDONESIA LABOUR ABSORPTION BY REGION, 1992

YEAR	NUMBER			PERCENTAGE SHARE	
	RURAL	URBAN	TOTAL	RURAL	URBAN
1971	35,209,767	6,051,449	41,261,216	85.33%	14.67%
1976	40,408,678	6,897,559	47,306,237	85.42%	14.58%
1977	41,260,271	7,054,373	48,314,644	85.40%	14.60%
1980	41,827,249	9,725,873	51,553,122	81.13%	18.87%
1986	54,730,386	13,607,801	68,338,187	80.09%	19.91%
1989	57,080,792	16,344,102	73,424,894	77.74%	22.26%
1991	56,269,679	20,153,500	76,423,179	73.63%	26.37%
1992	57,267,637	21,250,735	78,518,372	72.94%	27.06%

INVESTMENT REALIZATION , 1968 – 1992

CODE	SECTOR	ABSOLUT			PERCENTAGE SHARE		
		DOMESTIC (billion rupiah)	FOREIGN (billion rupiah)	TOTAL	DOMESTIC	FOREIGN	TOTAL
1	Agriculture,Forestry,Hunting And Fishing	8,832.3	1,686.6	10,518.9	17.33%	4.09%	11.41%
2	Mining And Quarrying	999.6	6,144.0	7,143.6	1.96%	14.91%	7.75%
3	Manufacturing Industry	33,040.0	27,885.8	60,925.8	64.84%	67.69%	66.11%
4	Electricity, Gas and Water		0.0	0.0	0.00%	0.00%	0.00%
5	Construction	567.1	939.2	1,506.3	1.11%	2.28%	1.63%
6	Trade, Restaurant And Hotel		0.0	0.0	0.00%	0.00%	0.00%
7	Transportation, Storage And Communication	1,329.6	183.6	1,513.2	2.61%	0.45%	1.64%
8	Financing, Insurance, Real Estate And Business Service	4,715.5	2,903.0	7,618.5	9.25%	7.05%	8.27%
9	Community, Social And Personal Services	1,473.1	1,456.2	2,929.3	2.89%	3.53%	3.18%
10	Activities Not Adequately Defined		0.0	0.0	0.00%	0.00%	0.00%
11	Total	50,957.2	41,198.4	92,155.6	100.00%	100.00%	100.00%

BEST AVAILABLE DOCUMENT

ANNEX IV

SELECTED

EMPLOYMENT AND DEMOGRAPHIC DATA

BY ECONOMIC SECTOR, 1971 - 1991

Compiled By

Tony Sinaga,
Evelina Hartanti, and
Rudianto
Policy Secretariat

Indonesia: Number of Employed Persons

BEST AVAILABLE DOCUMENT

By All Sectors And Age Group

TOTAL:

YEAR	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	2,282,827	4,717,390	4,332,440	5,385,593	5,121,721	5,411,385	4,241,192	3,253,273	2,555,416	1,401,977	1,268,154	579,081	440,559	242,142	7,660
1982	2,364,363	6,579,255	7,066,687	7,582,044	7,796,711	7,945,226	6,308,713	5,950,064	4,866,658	3,606,837	2,434,838	1,360,478	609,556	375,941	912
1986	2,663,156	6,658,355	8,103,552	9,782,853	8,462,598	7,898,560	6,449,393	6,140,892	4,749,900	3,246,350	2,266,062	1,221,401	526,053	328,571	271
1987	2,524,091	6,964,100	8,047,136	10,020,897	8,781,425	7,962,924	6,492,134	6,553,147	5,021,677	3,458,957	2,385,458	1,226,047	628,317	338,131	0
1989	2,661,329	7,324,955	7,576,552	8,873,765	9,084,231	8,957,585	6,959,833	6,640,774	5,646,948	4,058,586	2,801,019	1,547,540	689,085	384,228	2,014
1990	2,413,616	7,427,578	8,567,526	10,152,235	9,668,094	9,373,729	6,996,004	6,568,069	5,436,812	3,812,106	2,759,061	1,486,229	700,184	346,591	0
1991	2,193,875	7,364,423	8,697,918	10,537,711	10,163,940	9,597,227	6,958,039	6,305,451	5,395,197	3,795,629	2,799,818	1,469,314	736,664	374,664	3,133

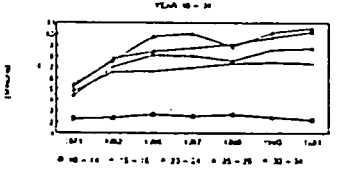
MALE:

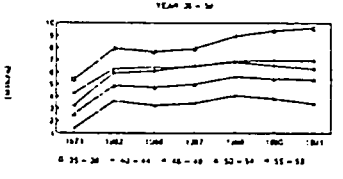
YEAR	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	1,344,275	2,952,153	2,851,607	3,630,037	3,460,331	3,742,516	2,684,714	2,254,665	1,712,630	962,090	852,254	401,836	313,868	179,264	4,604
1982	1,561,797	4,353,455	4,290,277	4,999,346	5,502,157	5,604,742	4,169,554	4,069,039	3,402,553	2,512,656	1,813,027	1,070,315	454,655	267,405	912
1986	1,535,064	3,770,307	4,596,543	5,802,170	5,392,319	4,802,267	3,663,696	3,736,093	2,882,777	2,039,198	1,444,806	809,519	378,787	237,536	0
1987	1,452,752	4,025,078	4,521,032	6,002,336	5,565,237	4,843,136	3,887,189	3,925,317	3,087,492	2,143,773	1,545,065	827,713	412,615	241,561	0
1989	1,561,797	4,353,455	4,290,277	4,999,346	5,502,157	5,604,742	4,169,554	4,069,039	3,402,553	2,512,656	1,813,027	1,070,315	454,655	267,405	912
1990	1,443,603	4,399,379	5,038,576	6,058,875	6,025,031	5,917,628	4,273,064	3,936,872	3,394,566	2,296,743	1,621,296	966,858	503,991	249,218	0
1991	1,333,992	4,293,117	5,071,937	6,45[illegible],023	6,417,676	6,145,741	4,305,706	3,805,300	3,359,991	2,323,018	1,654,866	976,855	509,409	268,671	1,790

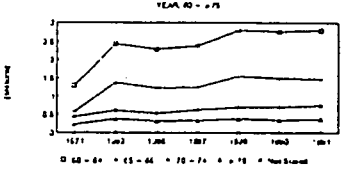
FEMALE:

YEAR	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	938,552	1,765,237	1,480,833	1,747,556	1,661,390	1,668,867	1,356,478	998,611	842,777	439,878	435,900	177,225	126,691	62,848	3,076
1982	802,565	2,225,800	2,776,410	2,582,698	2,294,554	2,340,486	2,119,159	1,881,025	1,454,105	1,094,181	621,811	290,163	154,701	108,536	0
1986	1,148,092	2,888,048	3,507,009	3,850,683	3,070,279	2,896,313	2,585,697	2,404,799	1,867,123	1,207,152	843,256	411,882	147,266	89,033	271
1987	1,071,339	2,939,025	3,526,103	4,018,359	3,196,188	3,119,788	2,604,945	2,627,830	1,934,185	1,315,184	840,393	398,334	215,702	94,550	0
1989	1,119,532	2,971,500	3,286,275	3,874,419	3,582,074	3,352,843	2,770,079	2,751,735	2,244,395	1,545,930	987,992	477,225	234,230	116,823	1,102
1990	970,011	3,028,199	3,528,950	4,093,361	3,663,063	3,455,901	2,722,940	2,631,197	2,044,046	1,510,363	937,765	519,371	196,193	97,373	0
1991	859,881	3,071,306	3,625,981	4,076,688	3,745,964	3,451,486	2,553,231	2,500,151	2,035,206	1,072,611	944,950	492,459	227,475	106,013	1,343

TOTAL:







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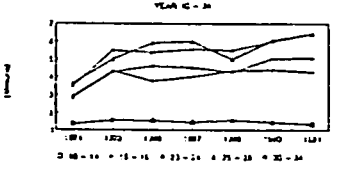

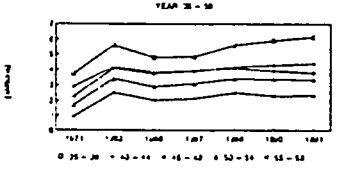

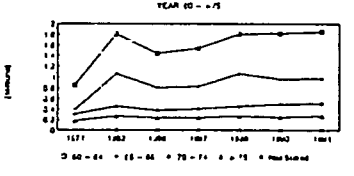

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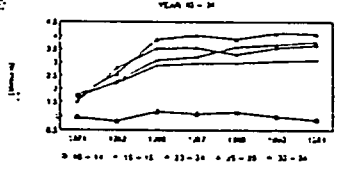

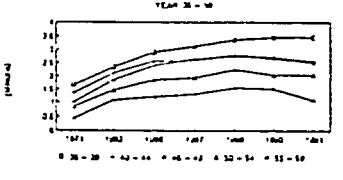

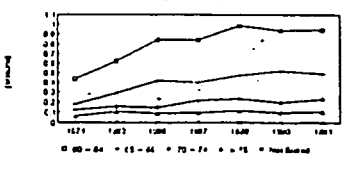

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Indonesia: Number of Employed Persons

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971 TOTAL	1971 Male	1971 Female	1982 TOTAL	1982 Male	1982 Female	1986 TOTAL	1986 Male	1986 Female	1987 TOTAL	1987 Male	1987 Female	1989 TOTAL	1989 Male	1989 Female	1990 TOTAL	1990 Male	1990 Female	1991 TOTAL	1991 Male	1991 Female	AVERAGE TOTAL	AVERAGE Male	AVERAGE Female	GROWTH (1986 - 1991) TOTAL	GROWTH Male	GROWTH Female
All Industry	41,261,218	27,575,087	13,686,118	44,450,987	44,113,380	16,758,187	48,336,187	41,441,284	26,828,838	71,402,318	42,448,318	27,818,813	75,438,344	44,111,080	28,318,134	75,748,833	44,337,822	28,438,733	75,888,841	47,328,088	28,784,748	67,144,234	41,888,848	25,348,387	(0.088)	(0.078)	(0.134)
10 - 14	2,192,077	1,344,275	858,362	2,304,380	1,561,707	802,580	2,088,158	1,538,804	1,148,082	2,524,081	1,482,752	1,071,320	2,601,320	1,541,797	1,118,132	2,413,618	1,442,605	978,011	2,183,873	1,333,002	858,881	2,649,057	1,461,057	987,130	0.073	0.001	0.061
15 - 19	4,717,390	2,982,133	1,708,427	6,378,253	4,353,433	2,723,908	6,808,336	3,778,567	2,988,048	6,564,107	4,023,878	2,904,025	7,324,063	4,353,453	2,871,530	7,427,376	4,398,379	3,078,100	7,364,425	4,280,117	3,071,308	6,722,251	4,021,021	2,701,331	0.001	0.190	0.026
20 - 24	4,332,448	2,851,867	1,480,023	7,088,847	6,390,277	2,778,410	6,168,132	4,388,543	3,387,008	6,047,133	4,321,031	3,328,183	7,378,542	4,280,277	3,298,273	6,587,338	3,038,378	3,328,808	6,887,818	5,071,857	3,025,961	7,414,020	4,388,036	3,104,794	0.063	0.000	0.023
25 - 29	5,386,390	3,638,037	1,747,330	7,342,044	6,888,348	2,332,808	9,752,853	5,832,178	3,868,083	16,638,887	6,002,259	4,018,330	6,873,780	4,888,228	2,874,418	10,132,230	6,008,873	4,083,561	10,537,711	6,441,823	4,078,886	6,884,866	5,641,301	3,443,388	0.030	0.047	0.013
30 - 34	5,121,721	3,486,331	1,641,390	7,790,711	5,542,157	2,294,134	6,462,390	5,382,318	3,678,279	8,701,425	5,560,257	3,186,181	9,084,231	5,502,137	3,382,874	9,888,084	6,025,601	3,083,083	10,183,840	6,417,878	3,746,884	8,438,774	5,412,130	3,827,646	(0.003)	0.035	(0.040)
35 - 39	3,411,385	3,742,518	1,888,867	7,944,229	3,804,742	2,344,448	7,888,398	4,802,387	2,888,313	7,882,824	4,843,134	3,118,788	6,887,360	3,604,742	3,352,843	9,373,729	3,817,629	3,455,861	6,387,227	6,148,741	3,451,488	6,133,237	5,237,282	2,887,858	(0.040)	(0.023)	(0.047)
40 - 44	4,241,192	2,884,714	1,356,479	8,308,713	4,188,354	2,118,150	8,448,383	3,882,888	2,388,887	8,482,134	3,887,188	2,804,843	6,858,633	4,188,354	2,770,679	6,888,304	4,273,084	2,722,848	4,868,838	4,408,708	2,333,231	6,342,715	3,808,084	2,284,647	(0.022)	(0.008)	(0.047)
45 - 49	3,252,278	2,254,888	998,811	3,858,084	4,888,038	1,881,823	8,148,887	3,738,083	2,404,788	8,333,147	3,823,317	2,827,828	6,848,774	4,088,008	2,751,735	6,598,088	3,858,872	2,831,107	6,308,431	3,808,300	2,300,151	5,847,382	3,880,904	2,254,478	(0.001)	(0.017)	(0.150)
50 - 54	2,553,418	1,712,030	842,777	4,888,828	2,482,333	1,488,188	4,748,808	2,082,777	1,887,123	3,831,877	3,087,482	1,834,183	3,648,948	3,402,353	2,244,305	3,438,812	3,294,508	2,044,048	3,388,187	3,230,801	2,023,708	4,818,828	3,834,803	1,773,877	(0.000)	0.011	(0.022)
55 - 59	1,481,877	882,088	438,878	3,808,837	2,312,884	1,084,181	3,244,334	2,838,198	1,287,132	3,438,887	2,144,773	1,312,184	4,033,308	2,312,804	1,348,838	3,812,108	2,294,743	1,313,383	3,380,429	2,323,018	1,872,611	3,392,929	2,112,163	1,108,757	(0.025)	(0.047)	0.010
60 - 64	1,298,134	822,234	433,808	2,434,831	1,212,827	621,811	2,298,082	1,444,808	842,234	2,388,438	1,348,088	848,383	2,801,019	1,613,827	987,882	2,738,081	1,921,290	857,780	2,798,818	1,854,888	944,808	2,381,773	1,382,048	881,734	0.034	0.050	(0.001)
65 - 69	379,081	441,838	177,223	1,388,478	1,878,315	298,483	1,221,441	808,318	411,882	1,238,847	827,713	384,234	1,547,548	1,370,315	477,225	1,488,239	988,838	518,371	1,488,314	978,835	482,408	1,278,818	874,773	388,317	(0.008)	0.008	(0.030)
70 - 74	448,388	312,888	128,881	888,388	484,858	154,781	338,883	378,787	147,288	828,317	412,813	213,782	688,085	484,828	234,230	708,164	303,881	198,192	738,884	308,408	227,475	618,883	432,020	188,087	0.000	0.008	0.000
>75	242,142	178,284	42,848	373,841	287,428	188,336	338,371	237,328	88,833	334,131	241,381	84,338	384,220	287,405	118,023	348,381	248,218	87,373	374,884	288,871	108,813	348,888	244,448	88,484	0.000	0.000	0.000
Not stated	7,880	4,804	3,075	812	812	0	271	0	271	0	3	0	2,814	812	1,102	0	0	0	3,133	1,780	1,343	2,030	1,203	827	(0.001)	0.013	(0.024)
Agriculture, forestry, hunting, fishery	28,475,477	17,334,477	6,485,808	35,711,374	24,548,175	11,154,181	37,844,077	22,851,831	14,885,441	31,771,848	23,182,408	13,338,438	41,284,233	24,548,173	16,718,058	42,378,338	25,817,438	16,550,808	41,228,781	25,291,443	15,814,348	37,431,831	23,437,431	14,184,478	(0.142)	(0.115)	(0.138)
10 - 14	1,372,778	996,787	375,441	1,837,523	1,356,087	481,448	1,884,462	1,172,137	882,325	1,798,877	1,136,087	861,805	2,124,121	1,334,037	788,084	1,818,182	1,188,510	828,672	1,564,377	1,083,041	501,336	1,787,218	1,181,867	815,383	0.000	0.073	0.054
15 - 19	3,112,478	2,828,823	1,082,873	4,133,823	1,808,883	1,148,182	3,888,487	2,404,848	1,303,417	4,782,338	2,738,941	1,578,380	4,618,431	3,008,823	1,607,778	4,342,302	2,958,863	1,385,338	4,272,273	2,782,411	1,488,881	4,148,244	2,711,036	1,428,207	0.077	0.141	[illegible]
20 - 24	2,374,391	1,886,837	883,484	2,344,832	2,144,887	1,388,843	3,888,838	2,134,833	1,731,408	3,857,822	2,178,139	1,798,083	3,770,815	2,144,987	1,378,828	4,308,838	2,588,537	1,733,473	4,227,843	2,484,283	1,783,858	3,747,588	2,181,183	1,558,403	0.027	0.087	(0.011)
25 - 29	3,328,138	2,212,417	1,088,771	3,351,222	2,218,172	1,341,088	4,888,818	2,841,814	2,038,882	4,858,808	2,782,839	2,134,188	4,282,883	2,210,172	2,072,881	4,881,878	2,748,087	2,212,811	4,838,251	2,883,274	1,888,877	4,371,854	2,311,108	1,888,748	0.024	0.053	0.008
30 - 34	2,111,125	2,188,888	1,887,827	2,782,887	2,447,114	1,254,873	4,144,237	2,482,848	1,888,388	4,223,884	2,318,783	1,783,281	4,483,854	2,447,114	2,018,848	4,787,382	2,882,088	1,888,283	4,772,001	2,786,371	1,873,828	4,173,738	2,528,848	1,883,088	(0.013)	0.014	(0.060)
35 - 39	3,417,388	2,288,481	1,823,887	3,888,821	2,788,778	1,287,248	4,128,884	2,438,828	1,448,888	4,131,433	2,338,879	1,788,334	4,621,787	2,708,778	1,812,811	4,817,778	2,882,848	1,884,133	4,848,083	2,881,881	1,847,881	4,288,387	2,823,758	1,888,347	(0.044)	(0.044)	(0.047)
40 - 44	2,878,837	1,833,377	843,488	3,318,881	2,138,911	1,134,944	3,318,778	2,818,881	1,347,844	3,338,833	2,038,187	1,300,888	3,831,758	2,138,811	1,871,847	3,808,828	2,251,712	1,854,808	3,725,781	2,228,752	1,308,838	3,588,480	2,088,543	1,484,883	(0.022)	(0.008)	(0.042)
45 - 49	2,108,881	1,482,375	824,818	1,271,081	2,238,473	1,041,833	3,338,381	2,081,718	1,448,872	2,884,338	2,131,831	1,332,423	3,834,873	2,228,428	1,873,543	3,897,821	2,282,511	1,883,318	3,358,718	2,828,733	1,321,881	3,433,501	2,084,821	1,383,488	(0.044)	(0.038)	(0.057)
50 - 54	1,728,738	1,188,148	344,388	2,787,818	1,888,838	808,282	2,848,187	1,718,833	1,188,174	2,828,788	1,858,423	1,171,334	2,372,872	1,888,838	1,384,238	3,298,827	2,834,332	1,232,375	3,224,188	1,883,488	1,288,708	2,663,087	1,821,780	1,073,388	0.002	0.030	(0.048)
55 - 59	871,388	883,451	288,138	2,288,881	1,837,291	822,411	2,088,348	1,343,829	884,818	2,184,348	1,387,282	787,257	2,394,883	1,657,281	927,412	2,447,833	1,534,783	912,842	2,388,448	1,330,818	829,301	2,125,308	1,403,808	721,301	(0.070)	(0.030)	0.010
60 - 64	842,888	831,871	294,918	1,843,134	1,388,821	344,333	1,481,881	1,813,877	478,004	1,378,237	1,887,883	481,384	1,838,387	1,300,821	428,888	1,883,757	1,318,788	374,831	1,857,884	1,368,014	588,886	1,631,327	1,131,424	488,103	0.021	0.051	0.067
65 - 69	423,838	312,778	111,134	848,477	888,438	148,887	838,847	388,881	244,734	828,813	888,481	229,181	1,898,679	988,438	288,188	1,832,428	712,783	318,723	1,828,727	748,875	288,752	862,316	648,888	282,824	0.005	0.029	(0.070)
70 - 74	232,188	231,242	71,838	421,138	344,274	78,338	372,811	288,284	87,317	414,388	294,848	118,747	475,785	344,774	128,881	483,737	383,387	188,878	583,582	379,282	124,228	418,627	328,512	182,315	0.000	0.000	0.000
>75	184,881	144,888	34,238	342,388	187,341	34,838	227,882	177,387	38,828	238,833	188,884	32,888	244,858	187,341	37,408	231,824	181,734	48,808	248,488	187,327	48,888	231,036	188,804	38,204	0.000	0.000	0.000
Not stated	88	88	0	812	812	0	0	0	0	0	3	0	2,814	812	1,102	0	0	0	2,125	1,277	948	734	485	278	0.123	0.100	0.213
Mining & quarrying	82,828	78,750	4,125	448,598	382,478	88,118	0	0	0	0	3	2	448,881	382,478	88,425	538,235	443,522	85,888	384,588	468,887	37,752	798,881	258,377	48,113	0.201	0.311	(0.600)
10 - 14	831	383	88	12,042	8,888	1,354	0			0			9,784	8,888	3,884	13,850	12,800	3,350	12,318	9,788	3,827	7,344	3,118	2,171	0.112	0.118	0.164
15 - 19	8,882	8,388	827	44,132	38,743	6,408	0			0			48,388	38,743	8,834	48,884	38,823	18,838	31,888	43,848	8,344	28,213	22,818	3,287	0.131	0.083	0.278
20 - 24	14,140	13,878	1,084	44,232	37,181	7,181	0			0			44,138	37,181	7,133	84,144	38,888	7,278	48,784	38,878	8,888	38,884	28,238	4,833	0.181	0.143	0.488
25 - 29	17,277	18,213	1,084	81,438	33,712	3,747	0			0			84,381	33,712	8,848	82,332	87,082	13,428	88,888	88,838	13,838	43,783	37,225	8,338	0.178	0.123	0.113
30 - 34	12,485	11,888	787	84,328	38,488	8,337	0			0			83,848	38,188	7,774	84,747	78,418	14,331	81,258	73,888	15,388	45,383	38,138	8,484	0.138	0.188	0.137
35 - 39	11,841	18,848	1,823	88,234	38,273	7,838	0			0			87,438	38,273	8,183	84,788	71,488	13,887	83,288	72,778	18,318	44,813	38,848	3,888	0.114	0.078	0.487
40 - 44	8,837	7,488	377	48,781	48,241	8,488	0			0			47,888	48,241	7,747	37,748	48,882	7,783	84,381	34,388	8,873	32,338	27,487	3,883	0.041	(0.082)	0.718
45 - 49	8,838	8,442	184	48,323	33,541	8,782	0			0			38,243	33,341	4,732	38,741	34,327	4,418	47,188	38,872	8,233	34,447	28,888	3,478	0.431	0.273	3.881
50 - 54	3,438	4,817	818	31,887	27,388	3,882	0			0			28,834	27,888	2,738	27,138	22,188	4,888	31,818	23,884	7,843	17,888	13,888	2,883	0.823	0.328	0.888
55 - 59	1,827	1,883	18	18,432	14,487	2,875	0			0			13,898	14,437	1,488	14,817	14,131	888	28,833	22,178	8,438	11,383	8,472	1,781	(0.417)	(0.787)	(0.833)
60 - 64	[illegible]	371	88	8,322	8,831	1,881	0			0			8,831	8,831	0	9,540	8,131	1,408	17,718	12,188	2,522	8,178	3,371	887	(0.184)	0.882	(0.787)
65 - 69	287	288	18	2,474	2,474	0	0			0			3,727	2,474	1,253	2,881	2,138	1,823	1,877	1,481	388	2,882	1,288	734	0.782	1.280	0.000
70 - 74	187	187	0	1,384	1,384	0	0			0			2,434	1,384	1,898	1,877	1,348	388	1,388	1,388	0	1,887	838	278	0.000	0.000	0.000
>75	28	28	0	888	888	0	0			0			488	488	0	1,272	384	784	1,858	1,888	0	487	348	188	0.000	0.000	0.000
Not stated	0	0	0	0	0	0	0			0			0	0	0	0	0	0	0	0	0	0	4	6	0.034	0.000	0.004
Manufacturing industry	1,841,861	1,221,358	1,111,448	1,858,547	1,888,788	1,448,521	3,458,871	1,884,158	1,311,813	1,818,447	3,184,181	1,434,383	7,318,878	1,835,788	1,438,383	7,883,383	4,118,881	3,483,712	7,844,338	4,418,843	3,113,848	4,335,867	1,146,817	2,788,757	(0.010)	0.181	(0.087)
10 - 14	130,178	43,881	88,138	208,723	81,888	148,788	213,344	88,388	123,878	182,083	78,878	113,882	232,888	61,883	171,828	224,883	83,281	138,412	223,822	88,834	138,188	283,873	72,334	131,328	0.888	0.111	0.824
15 - 19	388,822	181,878	188,144	888,838	438,883	448,873	718,888	287,483	427,487	738,378	314,884	413,772	1,043,482	438,888	887,337	1,108,133	488,887	822,188	1,188,713	483,883	477,888	882,383	377,128	488,874	0.878	0.124	0.824
20 - 24	342,411	283,388	138,813	1,084,883	387,133	488,888	871,438	487,188	434,238	884,248	482,887	473,253	1,133,828	387,152	338,478	1,234,311	878,238	818,388	1,318,738	738,882	382,888	1,812,143	342,888	488,148	0.878	0.081	0.884
25 - 29	281,142	211,228	141,883	878,821	821,883	348,388	1,888,238	827,778	381,281	1,034,842	817,274	417,883	1,140,788	421,822	318,728	1,287,881	788,384	488,327	1,327,187	784,717	342,488	1,887,373	388,821	487,484	0.013	0.023	(0.017)
30 - 34	338,881	188,743	138,318	878,778	383,433	287,287	733,817	438,233	273,294	737,387	478,288	278,287	947,883	383,433	384,238	884,728	387,812	387,118	1,084,384	878,488	488,878	818,448	308,888	388,388	0.021	0.087	(0.087)
35 - 39	342,883	218,873	131,818	771,388	342,214	288,172	315,184	311,228	283,888	384,884	342,122	232,383	788,883	382,214	284,848	858,313	328,488	228,827	814,833	333,282	278,353	878,387	418,188	231,387	(0.042)	(0.084)	(0.081)
40 - 44	234,883	138,218	87,788	338,381	284,888	231,312	412,888	228,888	184,881	418,328	243,834	174,388	533,813	284,888	218,888	577,873	338,384	238,281	338,348	348,882	188,884	442,488	288,738	183,881	(0.003)	(0.008)	(0.003)
45 - 49	138,881	118,738	74,222	483,738	278,882	238,737	338,328	288,737	132,343	411,838	222,883	188,273	534,288	278,882	234,218	438,878	231,381	188,287	488,873	238,748	281,123	483,387	231,883	177,332	(0.183)	(0.088)	(0.184)
50 - 54	134,784	88,478	34,788	387,172	223,881	171,231	288,848	138,881	127,138	283,881	188,178	123,731	383,884	223,821	187,847	373,884	212,731	182,883	348,248	187,388	128,883	317,887	188,178	138,887	(0.003)	(0.027)	0.027
55 - 59	73,332	48,723	23,848	387,748	133,188	114,388	188,143	182,748	83,388	178,873	88,388	88,887	288,111	133,188	131,813	243,381	118,328	123,882	238,347	184,827	188,778	288,183	112,778	88,388	0.087	0.088	0.884
60 - 64	82,338	22,788	28,347	188,223	88,848	73,321	112,784	87,838	74,878	111,382	38,371	32,881	164,134	88,882	73,232	184,828	88,878	88,788	182,343	88,388	78,782	138,717	73,882	84,838	0.088	0.188	0.811
65 - 69	28,137	13,818	12,271	87,332	44,128	43,123	42,488	31,273	31,188	88,881	48,842	28,838	91,887	44,128	37,723	183,388	38,887	48,883	88,814	48,234	43,788	74,238	38,773	34,443	0.081	0.118	0.811
70 - 74	18,371	11,348	8,481	48,343	27,334	23,883	23,342	14,338	11,878	41,443	23,842	18,421	38,234	21,234	28,888	18,888	34,311	24,448	33,833	28,888	28,733	42,348	22,888	28,447	0.008	0.008	0.884
>75	8,883	8,223	1,782	34,718	28,884	15,788	23,348	14,113	8,227	38,484	20,213	18,281	32,374	28,884	11,428	34,347	22,821	11,448	38,511	23,788	12,713	28,388	18,738	18,838	0.008	0.008	0.808
Not stated	434	324	88	0	0	0	0	0	0	0	5	3	0	0	0	0	0	0	0	0	0	38	48	11	0.087	0.000	0.212

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

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Indonesia: Number of Employed Persons

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971 TOTAL	1971 Male	1971 Female	1982 TOTAL	1982 Male	1982 Female	1986 TOTAL	1986 Male	1986 Female	1987 TOTAL	1987 Male	1987 Female	1989 TOTAL	1989 Male	1989 Female	1990 TOTAL	1990 Male	1990 Female	1991 TOTAL	1991 Male	1991 Female	AVERAGE TOTAL	AVERAGE Male	AVERAGE Female	GROWTH ([illegible]) TOTAL	GROWTH Male	GROWTH Female
Electricity, gas & water	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10 - 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15 - 19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20 - 24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25 - 29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30 - 34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35 - 39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40 - 44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 - 49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50 - 54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
55 - 59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60 - 64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65 - 69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 - 74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
> 75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Construction	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10 - 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15 - 19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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Wholesale trade, retail, restaurants & hotels	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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20 - 24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25 - 29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30 - 34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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40 - 44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 - 49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50 - 54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
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60 - 64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65 - 69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 - 74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
> 75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not stated	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Transportation, storage & communication	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0	0	0	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
10 - 14	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
15 - 19	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
20 - 24	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25 - 29	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30 - 34	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
35 - 39	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40 - 44	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 - 49	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
50 - 54	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
55 - 59	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60 - 64	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
65 - 69	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 - 74	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
> 75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Not Stated	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0			0			[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

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Indonesia: Number of Employed Persons'

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971 TOTAL	1971 Male	1971 Female	1982 TOTAL	1982 Male	1982 Female	1986 TOTAL	1986 Male	1986 Female	1987 TOTAL	1987 Male	1987 Female
[illegible]	33,442	11,118	11,238	325,277	304,804	20,475	10,018,094	7,381,344	2,634,331	11,180,777	8,381,861	2,804,094
10-14	442	181	384	738	738	0	71,181	41,119	31,088	45,748	28,013	44,754
15-19	3,071	2,408	1,723	7,088	4,788	2,311	729,380	388,872	388,708	790,142	408,078	384,164
20-24	12,998	10,888	3,290	41,388	41,031	7,361	1,441,727	828,428	323,388	1,173,534	823,473	341,381
25-29	22,488	18,171	3,319	88,475	61,330	3,018	1,833,434	1,388,442	474,882	1,973,588	1,446,867	514,731
30-34	17,818	14,328	1,487	82,817	38,813	1,882	1,383,428	1,278,888	343,542	1,782,881	1,373,821	414,880
35-39	13,181	11,808	1,273	44,848	37,712	2,132	1,231,012	888,383	231,048	1,447,738	1,148,183	323,387
40-44	3,824	8,238	883	34,418	28,380	838	1,814,847	818,478	188,477	1,108,878	883,474	225,888
45-49	3,272	4,888	412	38,311	28,788	721	888,883	727,717	183,278	1,877,888	881,858	188,838
50-54	4,138	3,884	178	24,728	24,311	422	384,728	472,188	112,342	888,847	331,388	135,882
55-59	1,783	1,887	88	11,131	11,151	0	328,154	238,154	78,888	388,803	298,318	88,388
60-64	982	887	3	1,842	1,173	787	188,381	128,184	54,877	232,441	181,311	73,838
65-69	317	298	27	1,817	1,817	0	108,275	73,178	27,188	78,878	37,837	21,883
70-74	104	138	3	381	381	0	33,331	23,422	18,138	48,318	37,784	11,382
>75	177	172	3	881	881	0	71,110	14,138	7,813	18,447	8,444	8,003
Not stated	108	108	80	0	0	0	0	0	0	0	3	3
Public services	4,113,331	2,883,878	1,128,434	5,871,544	3,747,875	2,124,475	0	0	0	0	3	3
10-14	98,291	44,481	34,838	82,378	28,342	84,814	0			0		
15-19	312,239	154,300	134,858	324,502	204,388	219,814	0			0		
20-24	488,723	312,821	182,812	878,344	384,381	423,883	0			0		
25-29	878,828	383,888	173,723	1,173,838	888,341	388,488	0			0		
30-34	887,338	313,828	141,788	1,213,337	833,388	288,172	0			0		
35-39	381,388	444,428	117,188	1,888,882	843,788	223,187	0			0		
40-44	488,818	372,387	82,228	818,408	711,178	188,228	0			0		
45-49	341,388	277,382	83,888	848,135	713,317	132,828	0			0		
50-54	233,788	172,481	32,342	823,344	314,388	113,888	.			0		
55-59	118,388	87,211	28,288	233,728	238,187	83,338	0			0		
60-64	83,434	33,372	28,888	178,213	118,884	31,371	0			0		
65-69	38,382	38,338	13,378	88,842	88,838	27,812	0			0		
70-74	23,882	18,317	8,423	43,288	28,883	18,218	0			0		
>75	11,431	7,132	4,278	33,888	18,883	13,712	0			0		
Not stated	1,838	1,128	713	0	0	0	0			0		
Others	1,179,188	883,844	1,813,183	31,134	77,178	113	3,112,838	3,333,818	1,844,328	4,188,843	2,828,818	1,271,133
10-14	274,318	188,748	178,081	3,731	3,731	0	282,887	148,142	138,338	222,281	118,748	111,343
15-19	488,798	227,888	173,712	3,881	3,881	0	488,132	281,371	217,781	431,488	238,882	182,488
20-24	271,828	148,312	128,318	2,887	2,887	0	788,327	484,882	273,348	334,184	378,871	183,233
25-29	188,378	71,873	117,731	2,888	2,888	0	888,828	388,484	273,318	713,488	318,284	187,134
30-34	132,313	32,838	88,738	1,343	1,343	0	888,881	314,213	183,838	372,838	431,738	128,423
35-39	127,838	42,138	88,477	2,744	2,743	0	388,848	444,818	142,838	488,337	338,787	123,788
40-44	87,423	32,888	84,318	834	834	0	484,281	348,138	111,182	324,482	244,888	88,388
45-49	84,848	22,438	41,848	1,178	1,178	0	384,821	281,774	183,147	324,382	241,883	82,738
50-54	38,732	[illegible]	38,884	8,887	8,827	338	288,833	198,742	88,283	228,382	188,813	38,878
55-59	33,738	12,287	21,348	1,881	1,881	0	118,778	113,888	44,783	137,723	182,282	33,433
60-64	42,881	14,171	27,828	0	0	0	111,884	88,338	44,733	81,888	81,817	38,887
65-69	28,388	8,874	13,328	327	327	0	38,888	28,428	28,842	88,373	37,228	28,348
70-74	21,348	8,273	13,317	0	0	0	21,427	12,788	8,834	28,842	14,874	13,388
>75	18,423	8,881	18,332	0	0	0	13,823	8,318	4,332	13,321	8,338	8,881
Not stated	2,214	1,784	1,438	0	0	0	271	0	271	3	3	3
Not Stated	0	0	0	0	0	0	111,323	43,382	82,843	2,831	1,433	1,388
10-14	0	0	0	0	0	0	8,411	3,488	3,812	0	0	0
15-19	0	0	0	0	0	0	21,831	12,848	7,382	313	0	313
20-24	0	0	0	0	0	0	24,744	12,871	11,828	0	3	3
25-29	0	0	0	0	0	0	28,823	7,884	12,831	1,883	3	1,883
30-34	0	3	0	0	0	0	8,713	4,183	3,334	833	833	0
35-39	0	0	0	0	0	0	8,818	3,381	3,233	0	3	0
40-44	0	0	0	0	0	0	7,478	3,378	4,132	0	3	0
45-49	0	0	3	0	0	0	7,882	3,323	2,488	0	3	3
50-54	0	0	0	0	0	0	8,478	3,338	3,172	122	322	3
55-59	0	0	0	0	0	0	4,837	2,888	1,841	0	3	3
60-64	0	0	0	0	0	0	3,177	3,388	1,387	0	3	3
65-69	0	3	0	0	0	0	1,148	317	832	0	3	3
70-74	0	0	0	0	0	0	2,382	843	1,418	0	0	3
>75	0	0	0	0	0	0	0	0	0	0	3	3
Not stated	0	0	0	0	0	0	0	0	0	0	0	0

MAIN INDUSTRY/ AGE GROUP	1988 TOTAL	1988 Male	1988 Female	1990 TOTAL	1990 Male	1990 Female	1991 TOTAL	1991 Male	1991 Female	AVERAGE TOTAL	AVERAGE Male	AVERAGE Female	GROWTH (1986-1991) TOTAL	GROWTH Male	GROWTH Female
[illegible]	366,333	304,604	61,731	476,541	341,756	134,676	316,378	365,887	110,885	3,316,726	2,434,314	883,314	(8.144)	(8.376)	3.666
10-14	728	728	0	418	418	0	327	377	130	23,854	11,134	14,838	6.086	6.667	6.138
15-19	16,033	4,788	5,283	28,481	12,344	7,843	23,538	14,087	8,438	228,332	118,183	118,144	0.208	0.294	0.218
20-24	46,780	41,081	27,748	87,818	47,788	40,143	73,330	40,375	34,985	440,341	290,373	189,788	0.186	0.183	0.487
25-29	88,888	61,388	27,238	103,168	88,134	34,008	129,848	88,883	38,985	662,303	448,868	194,888	6.238	6.288	1.888
30-34	48,128	38,813	8,313	73,448	38,131	18,338	88,487	78,938	18,448	537,888	412,854	114,884	6.138	6.118	0.238
35-39	38,831	37,712	1,838	83,334	34,388	8,133	88,334	38,811	8,723	428,818	334,837	88,831	6.831	6.888	6.281
40-44	34,881	28,380	3,431	43,988	38,848	4,340	44,358	37,875	7,433	328,882	283,888	62,838	(8.182)	(8.888)	(8.217)
45-49	34,748	28,780	4,838	43,408	38,188	4,234	34,481	27,218	7,232	381,832	248,514	38,338	(8.328)	(8.238)	(8.448)
50-54	28,218	24,311	3,884	22,281	17,783	4,448	22,408	20,308	1,900	184,188	148,234	38,832	1.234	6.888	3.184
55-59	12,848	11,151	1,882	8,384	7,882	1,373	3,770	3,300	270	184,821	88,448	23,373	1.848	1.487	6.888
60-64	1,280	1,173	203	3,828	2,478	1,433	4,281	4,488	1,802	61,838	42,387	18,448	(8.118)	1.388	(8.827)
65-69	2,304	1,817	381	848	848	0	5,827	4,188	831	27,281	20,033	7,228	11.813	11.884	8.888
70-74	4,288	381	3,884	2,978	1,883	873	3,838	2,354	478	13,888	8,803	3,881	6.888	6.888	6.888
>75	1,341	881	880	113	113	0	2,881	2,881	0	6,388	4,813	2,188	6.888	6.888	6.888
Not stated	0	0	0	0	0	0	0	0	0	24	15	0	6.827	6.878	6.882
Public services	6,868,843	3,747,875	3,121,848	6,478,376	3,863,421	3,167,358	6,316,241	4,677,188	3,432,843	3,863,784	3,775,318	1,888,487	3.244	6.138	6.388
10-14	90,322	28,342	31,180	88,880	28,282	38,423	122,853	38,888	84,288	68,888	23,874	44,816	6.842	6.852	6.832
15-19	388,323	204,348	381,833	628,388	228,321	381,388	728,448	248,887	483,478	383,478	148,351	248,118	6.875	6.888	6.854
20-24	1,043,838	304,381	338,357	1,088,817	334,878	382,228	1,132,188	338,848	373,883	678,888	348,381	324,888	6.864	6.882	6.884
25-29	1,384,828	888,341	337,488	1,322,874	827,883	384,888	1,373,888	884,847	818,348	881,787	371,231	318,387	6.878	6.888	6.188
30-34	1,383,877	833,388	488,382	1,443,318	883,838	488,224	1,381,247	1,032,818	328,431	884,231	832,837	281,384	(8.881)	(8.888)	(8.818)
35-39	1,183,731	843,788	318,888	1,274,881	818,888	334,888	1,331,338	844,288	387,138	771,221	378,871	284,318	(8.887)	(8.872)	(8.867)
40-44	853,878	711,178	344,388	888,381	882,843	223,808	842,887	787,823	223,182	384,148	442,142	144,887	(8.823)	(8.888)	(8.887)
45-49	824,382	713,317	228,848	848,343	824,828	214,323	828,887	813,832	288,888	348,378	422,384	118,884	(8.814)	(8.824)	6.817
50-54	881,384	314,388	178,888	831,774	484,211	147,383	837,842	318,887	148,373	488,888	314,834	81,432	(8.833)	(8.887)	(8.888)
55-59	333,380	238,187	83,413	288,347	211,238	84,288	323,443	223,147	88,288	281,343	144,278	33,284	(8.847)	(8.134)	6.178
60-64	178,888	118,884	38,222	183,413	178,188	33,388	188,883	118,278	48,413	111,348	78,778	34,771	6.828	6.131	(8.134)
65-69	88,334	88,838	28,284	83,437	88,488	32,811	88,137	32,173	23,888	38,848	38,281	18,734	(8.878)	(8.288)	6.114
70-74	48,848	28,883	22,834	44,813	23,431	21,184	48,888	31,784	18,231	38,828	18,284	12,378	6.888	6.888	6.888
>75	34,828	18,833	14,887	38,443	18,138	12,327	28,482	12,237	17,248	28,288	11,882	8,284	6.888	6.888	6.888
Not stated	0	0	0	0	0	0	488	0	488	333	138	178	6.688	6.334	6.818
Others	37,788	37,878	28,123	128,828	37,828	78,432	148,878	82,374	88,838	1,888,334	1,871,378	388,838	6.787	6.188	6.117
10-14	4,238	3,732	378	12,212	4,224	7,848	8,727	2,084	3,833	178,788	88,888	82,788	6.348	1.888	6.381
15-19	3,382	3,882	418	13,388	8,442	8,883	8,814	3,172	3,742	184,338	108,325	88,883	6.734	6.444	1.788
20-24	8,313	2,887	3,878	19,183	18,114	8,878	16,888	8,748	18,888	233,382	148,488	87,132	6.843	1.481	1.888
25-29	3,178	2,888	2,181	12,871	3,242	7,338	13,383	3,874	7,818	238,474	171,888	88,388	6.888	6.738	1.388
30-34	3,442	1,343	2,888	8,433	3,718	2,737	12,218	4,381	7,818	287,218	147,378	38,848	1.828	2.227	6.734
35-39	4,123	2,743	1,388	8,134	3,783	8,431	14,888	7,884	8,878	173,883	123,388	32,238	6.477	1.328	6.213
40-44	3,738	834	2,814	11,748	3,434	8,283	18,738	2,883	7,737	178,328	88,348	38,842	6.128	(8.113)	6.133
45-49	8,888	1,178	4,818	7,113	1,433	3,888	12,784	3,488	7,214	113,778	88,731	33,844	6.834	6.434	1.423
50-54	8,873	8,827	3,348	11,348	8,814	4,333	12,722	3,827	7,888	83,422	34,183	28,238	2.127	1.888	1.847
55-59	2,438	1,881	1,348	18,877	4,377	3,388	8,423	2,848	7,383	38,722	34,127	18,883	6.878	2.488	1.173
60-64	1,322	0	1,322	3,828	1,381	2,128	14,112	8,872	7,448	37,843	21,478	18,373	6.888	6.888	6.888
65-69	2,778	327	2,232	7,888	132	7,328	8,418	888	7,332	23,478	18,888	12,678	(8.818)	6.888	6.888
70-74	0	0	0	1,733	1,278	438	3,728	2,018	3,712	11,821	3,481	3,338	6.888	6.888	6.888
>75	1,128	0	1,128	828	828	0	0	0	0	7,108	3,341	3,348	6.888	6.888	6.888
Not stated	0	0	0	0	0	0	0	0	0	488	232	248	6.888	6.888	6.888
Not Stated	0	3	0	3	0	0	8	8	0	18,131	18,888	8,143	6.888	6.888	6.888
10-14	0	0	0	0	0	0	0	0	0	1,344	798	338	6.888	6.888	6.888
15-19	0	0	0	0	0	0	0	0	0	3,848	1,938	1,888	6.888	6.888	6.888
20-24	0	0	0	0	0	0	0	0	0	2,334	1,832	1,783	6.888	6.888	6.888
25-29	0	0	0	0	0	0	0	0	0	3,813	1,813	2,883	6.888	6.888	6.888
30-34	0	0	0	0	0	0	0	0	0	1,321	731	788	6.888	6.888	6.888
35-39	0	0	0	0	0	0	0	0	0	1,238	312	748	6.888	6.888	6.888
40-44	0	0	0	0	0	0	0	0	0	1,888	482	388	6.888	6.888	6.888
45-49	0	0	0	0	0	0	0	0	0	1,141	733	383	6.888	6.888	6.888
50-54	0	0	0	0	0	0	0	0	0	1,288	833	433	6.888	6.888	6.888
55-59	0	0	0	0	0	0	0	0	0	788	478	277	6.888	6.888	6.888
60-64	0	0	0	0	0	0	0	0	0	748	313	227	6.888	6.888	6.888
65-69	0	0	0	0	0	0	0	0	0	184	48	118	6.888	6.888	6.888
70-74	0	0	0	0	0	0	0	0	0	323	128	288	6.888	6.888	6.888
>75	0	0	0	0	0	0	0	0	0	0	0	0	6.888	6.888	6.888
Not stated	0	0	0	0	0	0	0	0	0	0	0	0	6.888	6.888	6.888

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

Indonesia: Number of Employed Persons (%)

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971			1982			1986			1987			1989			1990			1991		
	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female	TOTAL	Male	Female
All Industry	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	3.3328	4.0736	6.0077	3.0438	3.3448	3.8709	3.9183	3.7042	4.3680	3.5882	3.4188	3.8340	3.0518	3.5400	3.8188	3.1083	3.1181	3.2960	2.8880	2.8240	2.9084
15-19	11.4235	10.7094	12.0880	10.1463	8.0881	10.7728	9.7438	9.0984	10.7373	9.8709	9.4732	10.3873	9.8737	9.0081	10.1380	9.8034	9.4882	10.7924	9.8908	9.0808	10.8773
20-24	10.3208	10.3412	10.6338	10.8008	8.7258	13.3873	11.0540	11.0817	12.0387	11.4302	10.6427	12.4254	10.3182	9.7258	11.2098	11.3183	10.8758	11.8944	11.4408	10.7388	12.6084
25-29	13.0824	13.1082	12.7080	11.0916	11.3333	12.4031	14.3154	14.3148	14.3185	14.2333	14.1287	14.3014	12.0848	11.3333	13.2180	13.4024	13.0782	12.8127	13.0880	12.6402	14.1723
30-34	12.4129	12.0213	11.9881	12.0280	12.4731	11.0844	12.3184	13.0118	11.4130	12.4448	13.1007	11.4408	12.3718	12.4731	12.2198	12.7080	13.0032	12.4302	13.3743	13.3804	13.0278
35-39	13.1140	13.3721	12.1080	12.2318	11.7087	11.2858	11.2804	11.3081	10.7082	11.3108	11.4008	11.1733	12.1081	12.7287	11.4308	12.3740	12.7730	11.7481	12.0298	13.0128	11.8888
40-44	10.2788	10.4813	9.9113	9.7281	8.4075	10.2188	8.4373	8.3718	9.5380	9.2215	9.1508	9.3284	8.4781	9.4873	8.4480	9.3337	9.2238	9.3840	6.1877	9.3284	8.8782
45-49	7.8840	8.1788	7.2988	8.1731	8.3887	8.8738	8.8880	9.8134	8.9408	9.3842	9.2408	9.4113	9.3183	9.2887	8.3884	8.4872	8.4878	9.8118	8.2873	8.0871	8.8017
50-54	6.1833	6.2108	6.1378	7.3848	7.7134	7.0888	6.8838	6.8548	6.8418	7.1328	7.2881	6.8271	7.8804	7.7134	7.4888	7.1787	7.3373	6.8478	7.0888	7.1142	7.0738
55-59	3.3875	3.4888	3.2148	3.5418	3.4881	3.2782	4.7308	4.0207	4.4881	4.8131	3.8480	4.7102	3.3273	3.8881	3.2733	3.0338	4.0810	3.1437	4.4483	4.8188	3.7288
60-64	3.1218	3.8887	3.1858	3.7548	4.1108	2.8884	3.3481	3.4884	3.1351	3.2888	3.8371	3.0888	3.8148	4.1100	3.3781	3.8433	3.8313	2.1873	3.8843	3.9274	2.2881
65-69	1.8834	1.4873	1.2848	2.0878	2.4288	1.3882	1.7873	1.8834	1.5312	1.7413	1.8448	1.4888	2.1078	2.4284	1.4278	1.8833	2.0878	1.7833	1.8830	2.0880	1.7130
70-74	1.0877	1.1382	0.8237	0.8388	1.0811	0.7448	0.7888	0.8148	0.5473	0.8823	0.8713	0.7725	0.8384	1.0311	0.7980	0.8348	1.0876	0.8888	0.8887	1.0788	0.7808
>75	0.3888	0.6082	0.4488	0.3787	0.6082	0.3234	0.4778	0.3712	0.3318	0.4774	0.5487	0.3388	0.5233	0.6082	0.3848	0.4373	0.8378	0.3318	0.4830	0.5888	0.3488
Not stated	0.0181	0.0178	0.0223	0.0014	0.0021	0.0000	0.0004	0.0000	0.0018	0.0000	0.0000	0.0000	0.0027	0.0021	0.0038	0.0000	0.0000	0.0000	0.0041	0.0038	0.0047
Agriculture, forestry, hunting, fishery	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	5.0447	3.3888	4.7888	3.1448	3.3702	4.3182	4.8828	3.1748	4.8173	4.8434	4.9003	4.2801	3.1481	3.3702	4.5041	4.2804	4.8038	3.7984	3.7840	4.2832	3.1502
15-19	11.7807	11.2388	12.8848	11.8238	12.2478	10.2814	10.8243	11.8107	10.8403	11.8387	11.8718	10.1484	11.1021	12.2478	8.6184	10.7188	11.4488	9.3788	10.3881	11.0014	9.3817
20-24	9.7244	8.4823	10.3887	9.8233	8.7314	12.3884	10.2814	9.3211	11.6811	10.2181	9.3808	11.4888	9.8128	8.7314	9.4280	10.1488	9.9373	10.4736	10.2808	9.7438	11.0821
25-29	12.4888	12.3188	12.8102	9.8431	9.8872	12.8272	12.4847	11.8388	13.7314	12.5480	11.8578	13.8784	10.3741	9.8872	12.3872	11.7085	10.8401	13.3758	11.8888	11.2918	13.1072
30-34	11.7878	11.7257	11.8343	10.3804	10.8421	11.8134	11.8087	10.8882	11.8734	10.9021	10.8888	10.8418	10.8880	10.8431	12.8751	11.2884	10.8480	11.8851	11.3808	11.0048	12.4141
35-39	12.9087	13.3131	12.8838	11.1888	11.8288	11.3447	10.8873	10.7708	11.2848	10.8880	10.1402	11.4080	11.1858	11.0288	11.4421	11.3885	11.8878	11.8288	11.7888	11.4708	12.2408
40-44	10.1188	10.2587	9.8288	9.2781	8.7828	10.1222	9.3478	9.8788	10.0383	8.1184	8.7370	9.8378	9.2814	9.7928	9.9888	9.2184	8.7183	9.8888	9.0418	8.7908	8.4471
45-49	7.0888	8.2453	7.3327	8.1387	8.8738	8.3418	9.4822	9.2348	8.7934	8.3148	9.1908	9.8802	8.4588	9.8738	10.8218	9.1741	8.8378	9.8882	8.6178	9.0215	8.5838
50-54	6.3388	6.3842	6.4573	7.8348	8.0803	7.2381	7.3378	7.8771	7.3777	7.8244	8.8182	7.5383	8.1888	8.0803	6.2784	7.7080	7.8767	7.4472	7.8240	7.7823	7.9218
55-59	3.8888	3.8138	3.3883	4.4118	4.7448	3.8718	3.4884	4.8322	4.4348	3.3800	4.8271	4.8378	4.2807	4.7448	3.5478	3.7737	3.8435	3.5134	3.7288	4.0031	3.2138
60-64	3.5438	3.8884	3.3538	4.8083	5.2848	3.0808	3.8818	4.4814	3.1747	4.8784	4.7208	3.0840	4.8781	5.2848	3.7875	4.4887	5.1887	3.4484	4.7031	5.4088	3.3814
65-69	1.8018	1.7384	1.3042	2.8843	3.2584	1.3387	2.1888	2.5818	1.8434	2.1388	2.5800	1.4884	2.8371	3.2584	1.7118	2.4387	2.7588	1.8318	2.4880	2.8297	1.8144
70-74	1.2347	1.4088	0.8231	1.1784	1.4038	0.8848	0.8808	1.2808	0.5124	1.0707	1.2718	0.7707	1.1478	1.4830	0.7713	1.1413	1.4032	0.8082	1.2218	1.4888	0.7808
>75	0.6888	0.8158	0.4408	0.8738	0.7834	0.4818	0.8047	0.7841	0.3338	0.8174	0.8088	0.3330	0.5833	0.7634	0.3434	0.5448	0.7038	0.3013	0.5880	0.7818	0.2071
Not stated	0.0008	0.0008	0.0000	0.0028	0.0037	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0048	0.0037	0.0080	0.0000	0.0000	0.0000	0.0032	0.0028	0.0063
Mining & quarrying	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	0.7352	0.7084	1.1087	2.4808	1.7481	0.0188	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.1788	1.7481	4.0830	3.0188	2.0473	2.8081	2.1814	1.9888	3.0872
15-19	6.1477	7.8875	10.2317	10.7174	10.3818	12.3884	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	11.0044	10.3818	14.3387	7.7331	8.9484	11.7144	8.2084	8.3481	6.3417
20-24	10.4748	10.4888	17.3425	8.8717	8.7237	10.7185	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.8743	8.7237	10.7414	12.1434	12.8504	8.4838	8.8178	8.5823	10.8823
25-29	20.1288	20.3425	17.3428	13.8785	14.5881	8.8838	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	14.3373	14.3481	13.8207	15.8188	13.1380	17.8854	14.3381	14.1084	13.3747
30-34	14.3382	14.8773	13.4838	14.2388	13.2878	8.4451	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	14.8882	13.2078	11.7054	16.0438	13.8124	16.7227	16.1833	18.2872	13.9818
35-39	13.8127	13.8884	16.7388	14.7421	13.2383	11.8128	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	13.8274	13.2383	13.8748	16.3811	16.1888	13.2827	14.7317	15.3888	10.7821
40-44	8.3841	8.3881	9.4138	11.0822	10.3812	14.1388	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10.8801	10.3812	11.8828	10.8823	11.2803	8.8818	11.4038	11.8733	10.1021
45-49	7.7317	8.8828	3.1884	8.8771	8.7884	10.1881	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.3188	8.7884	7.8787	7.3543	7.7371	5.1308	8.3431	9.3281	6.4241
50-54	6.3338	6.8438	10.1812	6.8123	7.8841	3.8102	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	8.8438	7.8841	4.1084	3.1408	3.8877	3.8788	3.8237	3.1137	8.1284
55-59	1.2723	1.3378	6.1832	4.1823	2.7798	3.8487	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.5344	3.7798	2.1212	2.9051	3.1833	8.1002	3.0717	4.7508	6.8088
60-64	0.7418	0.7188	1.0887	1.8828	1.7912	2.4727	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.3382	1.7912	0.0000	1.8081	1.8374	1.8441	3.1182	3.2548	2.1808
65-69	0.3377	0.3828	0.2837	0.3547	0.8488	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.2738	0.8488	4.8873	0.7337	0.5328	1.8838	0.5324	0.3184	0.3888
70-74	0.3175	0.2348	0.0000	0.3428	0.3348	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.3487	0.3348	1.8408	0.3333	0.3381	0.2838	0.2814	0.3404	0.0000
>75	0.0223	0.0251	0.0000	0.1314	0.1778	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.1315	0.1778	0.0000	0.2408	0.1148	0.0815	0.3434	0.4177	0.0000
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Manufacturing industry	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	4.0838	2.8548	7.5485	3.0837	1.3788	3.0804	3.0037	2.8518	4.8812	3.3181	2.4833	4.3288	3.1788	1.3788	3.8120	2.8240	2.8323	4.6024	2.8328	1.9413	4.0221
15-19	14.3723	12.4387	17.4181	12.8844	11.1801	15.4887	12.7338	9.2882	17.8250	12.5328	8.9802	15.7832	14.2323	11.1801	17.8126	14.4178	11.5488	17.8818	14.7801	10.8020	19.7242
20-24	12.7672	13.2333	12.1388	13.8723	13.2133	16.8888	16.4388	18.0843	16.8804	16.8408	13.4823	18.0412	15.7332	13.2138	18.3788	16.8388	16.0817	17.7318	16.8088	16.7023	16.9418
25-29	13.4884	14.2482	12.4143	14.2383	15.8218	12.1788	17.8884	20.2848	15.1834	17.7878	10.3404	15.8080	13.3038	13.8218	15.2431	13.7008	16.8255	14.3418	16.8143	17.7914	15.7887
30-34	12.5308	12.9829	11.8217	12.7880	14.8874	9.8847	13.0888	14.8038	10.8748	13.9201	13.0200	10.8021	12.9202	14.8814	10.6431	12.7880	13.8574	11.4008	13.8223	12.3828	11.8184
35-39	12.7882	13.7138	11.3388	11.3300	12.7843	8.3340	8.1801	10.0383	8.1237	10.2207	10.7444	9.3878	10.8813	12.7843	8.8338	11.1307	12.3813	8.4348	10.3848	12.1381	8.1387
40-44	9.3178	10.3408	8.5500	7.8788	7.2388	6.7188	7.3871	7.2842	7.3288	7.1881	7.8808	6.8188	8.8704	7.2588	6.4231	7.5114	8.0423	6.6888	6.7717	7.7238	3.3288
45-49	7.1218	7.3881	6.4811	7.0818	7.1128	6.8833	6.4048	6.8788	6.0888	7.0802	6.8804	7.1830	6.8740	7.1328	6.3781	5.8820	5.8788	5.7242	5.8737	5.8881	5.8840
50-54	5.8242	3.3508	4.7478	5.8338	3.7338	5.8288	5.0888	3.1271	5.0840	4.8782	3.0300	4.8888	5.3888	3.7338	4.8237	4.8833	3.8534	4.8777	4.4388	4.4723	4.2848
55-59	2.0888	3.8238	2.5088	3.8238	2.8038	3.8732	3.2233	3.3188	3.3312	3.8381	3.8072	3.2807	3.8871	3.8028	3.8888	2.1838	2.8381	3.5537	2.8337	2.8238	3.8771
60-64	2.5128	2.1313	2.3808	2.8413	2.3138	2.8133	2.3472	2.1813	2.9808	1.8138	1.8332	2.8118	2.2377	2.3134	2.1478	2.1848	2.3334	2.8033	2.0881	1.9400	2.2348
65-69	1.0481	1.8848	1.0888	1.2883	1.1242	1.3081	1.1143	1.0128	1.3422	1.1337	1.2373	0.8888	1.1138	1.1242	1.1084	1.3480	1.3488	1.3488	1.1473	1.8487	1.2737
70-74	0.7279	0.7178	0.7417	0.8818	0.5448	0.8874	0.4540	0.4488	0.4412	0.7128	0.7884	0.6234	0.8451	0.5448	0.8478	0.7888	0.8187	0.7828	0.7088	0.8084	0.8388
>75	0.3723	0.4848	0.3288	0.3388	0.3328	0.3488	0.4183	0.4540	0.3473	0.5341	0.4344	0.3983	0.4414	0.3338	0.3348	0.4467	0.5444	0.3788	0.4808	0.3848	0.3700
Not stated	0.0131	0.0211	0.0078	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

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BEST AVAILABLE DOCUMENT

Indonesia: Number of Employed Persons (%)

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971 TOTAL	1971 Male	1971 Female	1982 TOTAL	1982 Male	1982 Female	1986 TOTAL	1986 Male	1986 Female
[illegible]	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	0.0000	0.0000	0.0000
10-14	0.4634	0.4711	0.0000	1.1846	0.2733	14.1718	0.0000	0.0000	0.0000
15-19	3.1030	3.6737	7.0175	3.7030	3.3042	18.3436	0.0000	0.0000	0.0000
20-24	14.7702	14.7306	15.1147	[illegible]	12.2308	31.3806	0.0000	0.0000	0.0000
25-29	17.2300	16.8374	32.0000	21.3751	22.6748	0.0000	0.0000	0.0000	0.0000
30-34	18.4087	18.3072	14.3000	11.3320	12.6218	0.0000	0.0000	0.0000	0.0000
35-39	14.1708	14.3287	10.3014	17.8418	16.7277	12.5306	0.0000	0.0000	0.0000
40-44	18.4200	18.0418	4.7908	14.4212	13.2073	0.0000	0.0000	0.0000	0.0000
45-49	18.3404	18.2275	10.7082	11.4300	11.0084	0.7400	0.0000	0.0000	0.0000
50-54	4.0230	4.7174	4.3000	2.8730	3.5487	10.8343	0.0000	0.0000	0.0000
55-59	3.3040	2.7432	0.0000	0.7347	0.0000	0.0000	0.0000	0.0000	0.0000
60-64	0.9850	1.0257	0.0000	0.8015	0.0342	0.0000	0.0000	0.0000	0.0000
65-69	0.0000	0.0000	0.0000	0.1571	0.2020	0.0000	0.0000	0.0000	0.0000
70-74	0.2370	0.2876	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
>75	0.0000	0.0725	0.0000	0.4702	0.3082	0.0000	0.0000	0.0000	0.0000
Not stated	0.0030	0.0307	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Construction	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	0.0000	0.0000	0.0000
10-14	1.0040	0.9170	7.2000	0.5408	0.4348	4.9040	0.0000	0.0000	0.0000
15-19	10.2700	14.0000	21.0400	0.2138	0.5100	25.3482	0.0000	0.0000	0.0000
20-24	12.4044	12.4422	12.3000	11.3417	11.1003	21.0034	0.0000	0.0000	0.0000
25-29	13.7000	13.0012	15.3357	15.0076	16.0810	0.0040	0.0000	0.0000	0.0000
30-34	13.4008	13.3487	16.0000	15.0702	15.0000	16.7817	0.0000	0.0000	0.0000
35-39	14.0150	14.7170	8.1774	12.3777	13.7001	4.0401	0.0000	0.0000	0.0000
40-44	11.3000	11.4001	9.3200	9.3734	9.3207	12.0400	0.0000	0.0000	0.0000
45-49	8.3077	8.8110	7.2020	6.4313	8.3237	4.0134	0.0000	0.0000	0.0000
50-54	4.2905	4.7091	4.2540	3.0073	6.0062	4.2944	0.0000	0.0000	0.0000
55-59	3.3714	3.4341	1.1100	4.0751	4.1000	0.0050	0.0000	0.0000	0.0000
60-64	2.3428	2.3300	1.4350	2.1300	2.1050	0.2731	0.0000	0.0000	0.0000
65-69	0.8508	0.8198	1.3420	1.4375	1.4020	0.0000	0.0000	0.0000	0.0000
70-74	0.5100	0.5200	0.0000	0.1230	0.1230	0.0000	0.0000	0.0000	0.0000
>75	0.2230	0.2302	0.0000	0.0300	0.0311	0.0000	0.0000	0.0000	0.0000
Not stated	0.0445	0.0344	4.7904	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wholesale trade, retail, restaurants	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	2.7134	2.1790	2.2530	1.8907	1.8447	2.3000	2.2858	1.7301	2.7173
15-19	6.1002	6.7347	7.2717	7.1113	7.3220	6.0240	7.1100	6.9077	7.3171
20-24	9.4023	11.0030	7.3300	10.0003	9.0412	16.3302	10.0700	10.0402	10.3140
25-29	12.0273	14.1271	11.1004	11.4824	11.0137	11.0041	11.0220	14.0520	12.0020
30-34	13.3000	13.3267	13.4874	12.3001	13.2444	11.2946	13.2340	14.0007	11.8782
35-39	13.7134	13.1007	16.4712	11.0011	14.0001	12.0000	12.2043	12.0300	11.0476
40-44	12.4771	11.5770	13.0475	11.3430	11.2713	11.0713	10.0400	10.1026	11.1300
45-49	9.4432	8.7071	10.3100	10.2133	9.3300	11.2322	9.0271	8.7070	10.4313
50-54	7.0030	6.6400	7.7340	7.0014	7.4370	5.3300	6.2707	7.0214	6.0020
55-59	3.7423	3.3671	3.0001	3.0270	3.7047	4.0073	3.4507	4.4050	6.1644
60-64	3.0300	2.0700	3.4007	4.0250	4.4540	3.3040	3.0000	3.5000	3.0018
65-69	1.3342	1.3476	1.4330	1.0004	2.2113	1.0530	1.7670	2.0227	1.3300
70-74	0.6270	0.7700	0.0000	0.6423	1.0030	0.6317	0.7023	0.0000	0.3040
>75	0.3456	0.3573	0.3342	0.6130	0.0047	0.5230	0.4105	0.4757	0.3413
Not stated	0.0212	0.0200	0.0276	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Transporting, storage, communication	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	0.0000	3.5000	3.6950
10-14	0.7360	0.8870	1.1857	0.5408	0.3470	3.3101	0.0000	0.0000	0.0000
15-19	7.1300	7.1200	7.1000	3.3331	3.3320	4.0040	0.0000	0.0000	0.0000
20-24	13.0013	12.9401	10.0004	11.0032	11.3302	27.0112	0.0000	0.0000	0.0000
25-29	17.0010	16.0271	23.2940	17.0052	17.0000	14.0115	0.0000	0.0000	0.0000
30-34	18.0003	17.0007	14.2377	18.0037	18.7087	14.0220	0.0000	0.0000	0.0000
35-39	17.1008	17.2017	11.2097	16.3018	16.0004	6.4114	0.0000	3.0000	0.0000
40-44	11.3000	11.0002	9.4207	8.2776	8.4002	3.0730	0.0000	0.0000	0.0000
45-49	7.7200	7.7020	3.3720	7.2972	7.2202	4.0200	0.0000	0.0000	0.0000
50-54	4.7100	4.7002	3.4400	3.7142	3.7130	3.7330	0.0000	0.0000	0.0000
55-59	1.9118	1.8113	1.0000	2.4040	2.3100	6.3634	0.0000	0.0000	0.0000
60-64	1.0075	1.0500	1.4818	1.2700	1.2004	0.0000	0.0000	0.0000	0.0000
65-69	0.3300	0.3213	0.2900	0.3847	0.3400	0.0000	0.0000	0.0000	0.0000
70-74	0.2202	0.2200	0.0000	0.2146	0.2137	0.0000	0.0000	0.0000	0.0000
>75	0.0620	0.0707	0.1277	0.0044	0.0040	0.0000	0.0000	0.0000	0.0000
Not Stated	0.0007	0.0517	0.0001	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

MAIN INDUSTRY/ AGE GROUP	1987 TOTAL	1987 Male	1987 Female	1989 TOTAL	1989 Male	1989 Female	1990 TOTAL	1990 Male	1990 Female	1991 TOTAL	1991 Male	1991 Female
[illegible]	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	0.0000	0.0000	0.0000	0.3481	0.2733	0.0000	0.0000	0.0000	0.0000	0.0616	0.1250	0.0000
15-19	0.0000	0.0000	0.0000	3.3065	3.3042	0.0010	2.4034	2.3020	3.6311	3.2276	3.3941	2.1796
20-24	0.0000	0.0000	0.0000	11.4000	12.2304	0.0000	10.7000	8.0700	20.5204	12.0010	13.0120	8.1070
25-29	0.0000	0.0000	0.0000	22.1325	22.0748	25.4334	21.5067	20.0701	30.0000	22.1300	21.4370	20.7430
30-34	0.0000	0.0000	0.0000	17.0220	12.0216	23.3403	18.0400	18.0301	23.3727	18.7300	18.0400	0.4700
35-39	0.0000	0.0000	0.0000	15.0000	16.7377	4.1554	20.0511	21.4136	4.4001	14.5702	14.7540	12.3047
40-44	0.0000	0.0000	0.0000	14.2050	13.2075	0.0000	12.0044	12.0370	14.7243	11.3371	11.0704	3.0300
45-49	0.0000	0.0000	0.0000	11.2700	12.0004	0.0000	7.4240	8.0740	0.0000	8.3043	2.0000	17.2020
50-54	0.0000	0.0000	0.0000	3.3700	3.3407	0.0000	3.2127	3.4040	0.0000	0.0213	0.2002	10.3703
55-59	0.0000	0.0000	0.0000	0.7404	0.0000	0.0000	1.2030	1.2440	1.0030	1.3004	1.0430	0.0000
60-64	0.0000	0.0000	0.0000	0.0117	0.0342	12.0001	0.9000	1.0241	0.0000	0.0207	0.0071	0.0000
65-69	0.0000	0.0000	0.0000	0.1000	0.2030	0.0000	0.0000	0.0000	0.0000	1.3131	1.3210	0.0000
70-74	0.0000	0.0000	0.0000	1.4442	0.0000	21.3302	0.3407	0.3700	0.0000	0.0000	0.0000	0.0000
>75	0.0000	0.0000	0.0000	0.4710	0.3202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Construction	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	0.0000	0.0000	0.0000	0.6240	0.4340	0.2507	0.0301	0.6140	1.3000	0.8334	0.0030	1.3430
15-19	0.0000	0.0000	0.0000	0.0020	0.0100	11.1004	7.9000	7.7044	10.2907	0.7054	0.0002	11.2000
20-24	0.0000	0.0000	0.0000	11.3343	11.1303	21.3035	14.3200	14.3015	20.1027	13.3433	13.1046	10.0334
25-29	0.0000	0.0000	0.0000	16.1033	16.0018	21.4070	16.0176	16.7587	22.0370	16.4016	16.3273	19.0004
30-34	0.0000	0.0000	0.0000	13.0000	13.9054	13.7730	13.0000	13.0401	16.4050	16.0707	16.0021	16.7000
35-39	0.0000	0.0000	0.0000	13.3370	13.7001	3.4318	13.7082	13.2321	13.0231	13.0200	15.0403	12.0071
40-44	0.0000	0.0000	0.0000	8.2000	8.3707	3.9002	8.0475	8.1700	4.3100	8.0423	8.7057	7.3000
45-49	0.0000	0.0000	0.0000	6.4300	6.3237	5.8500	7.3212	7.0420	3.3001	7.1250	7.2540	3.3402
50-54	0.0000	0.0000	0.0000	5.0001	4.0002	3.4173	5.0111	5.0030	4.0000	3.3140	3.8140	2.7000
55-59	0.0000	0.0000	0.0000	4.0307	4.1000	1.3440	3.0034	2.7147	2.6005	3.2900	3.3700	1.0004
60-64	0.0000	0.0000	0.0000	2.1020	2.1030	1.3207	1.9100	1.0072	0.1010	1.5000	1.6010	0.0010
65-69	0.0000	0.0000	0.0000	1.4404	1.4020	0.0000	0.7022	0.7030	0.3000	0.6100	0.5600	1.3003
70-74	0.0000	0.0000	0.0000	0.1220	0.1253	0.0000	0.2240	0.2100	0.4100	0.1776	0.1041	0.0000
>75	0.0000	0.0000	0.0000	0.0300	0.0311	0.0000	0.1020	0.1017	0.1317	0.1074	0.0073	1.2121
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Wholesale trade, retail, restaurants	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	2.1304	1.7030	2.3020	1.0034	1.0447	2.1125	2.0730	1.0077	2.2427	2.0001	1.0227	2.3024
15-19	7.1021	7.2142	7.1130	6.0407	7.2220	6.4127	7.0701	7.3370	8.0430	6.0042	6.0097	7.0004
20-24	10.4404	11.3102	8.0000	0.0020	9.0412	9.3413	10.0720	10.7304	9.4707	11.0047	10.0300	11.2002
25-29	13.7343	14.1343	13.3320	11.2310	11.0137	11.4403	13.0073	14.0000	12.1082	14.0001	14.7210	13.3012
30-34	13.3300	14.0230	12.3300	12.7027	13.2444	12.3717	13.0040	13.0344	13.4162	14.3777	14.3740	14.3100
35-39	12.3000	12.0402	11.0011	14.2000	14.0001	13.0704	13.7200	14.0100	13.4701	14.4042	14.4717	14.4304
40-44	10.0000	9.7442	11.3000	10.0110	11.2713	10.5023	9.0000	9.0073	9.7571	10.3000	9.0074	10.0030
45-49	10.0707	9.0000	11.0702	10.1100	9.3300	10.7017	8.7300	8.0740	10.3000	8.3042	8.0100	9.0003
50-54	7.7377	7.3000	8.1110	8.1000	7.4370	8.0717	7.7775	7.1500	8.3310	7.0044	6.0200	6.2000
55-59	3.7320	3.3040	6.1210	6.3300	3.7047	6.0170	3.0070	3.1130	6.0172	2.0000	4.3042	6.3000
60-64	3.3420	3.3370	3.7270	4.1201	4.4540	3.0300	3.0430	3.0041	4.0214	3.0077	3.4320	4.2040
65-69	1.7073	1.0477	1.0040	2.1317	2.2113	2.0810	1.9034	1.0000	1.9100	1.0002	1.0107	2.0010
70-74	0.0204	0.0720	1.0111	0.6130	1.0330	0.0100	0.0731	3.0010	4.0100	0.9011	0.0000	0.0032
>75	0.3110	0.3000	0.2340	0.5000	0.4947	0.5430	0.4130	0.4330	0.3057	0.4031	0.4312	0.4440
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000	0.0044	0.0091	0.0000
Transporting, storage, communication	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10-14	0.0000	0.0000	0.0000	0.4470	0.3670	0.0720	0.4727	0.4470	1.4072	0.6440	0.0100	1.3073
15-19	0.0000	0.0000	0.0000	3.3320	3.3320	0.3447	3.0010	0.0000	4.1200	3.3143	3.3000	3.3001
20-24	0.0000	0.0000	0.0000	11.7000	11.3702	21.3450	12.0042	12.0072	13.6214	12.1700	11.7340	23.0043
25-29	0.0000	0.0000	0.0000	17.2130	17.0300	23.3353	18.0501	18.7041	23.3400	18.1035	18.2403	17.1400
30-34	0.0000	0.0000	0.0000	18.3450	18.7307	13.1704	18.7057	18.0214	16.3300	20.3123	20.3150	16.1400
35-39	0.0000	0.0000	0.0000	18.3700	18.0004	7.4377	18.2700	18.3100	8.0777	18.0341	17.2031	8.1431
40-44	0.0000	0.0000	0.0000	8.4302	8.4302	16.7221	9.4040	9.4201	12.2373	8.7737	8.7413	10.0100
45-49	0.0000	0.0000	0.0000	7.1004	7.2202	3.4370	2.9740	2.0000	6.0001	6.1320	6.1704	3.2001
50-54	0.0000	0.0000	0.0000	3.7207	3.7130	3.0077	3.5544	3.5176	4.3001	4.4221	4.4043	2.4000
55-59	0.0000	0.0000	0.0000	2.3000	2.3100	4.4007	2.3140	2.3300	1.0400	2.0000	2.0040	1.0000
60-64	0.0000	0.0000	0.0000	1.2032	1.2004	1.2307	1.3300	1.3130	2.2073	1.1250	1.1040	2.0134
65-69	0.0000	0.0000	0.0000	0.3707	0.3030	0.0000	0.7200	0.7300	0.0000	0.3644	0.3371	1.0231
70-74	0.0000	0.0000	0.0000	0.2100	0.2137	0.0000	0.1001	0.1075	0.0200	0.2502	0.2333	0.3371
>75	0.0000	0.0000	0.0000	0.0000	0.0040	0.0000	0.0000	0.0000	0.0000	0.1017	0.0020	1.0027
Not Stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

Indonesia: Number of Employed Persons (%)

By Main Industry And Age Group

MAIN INDUSTRY/ AGE GROUP	1971 TOTAL	1971 Male	1971 Female	1982 TOTAL	1982 Male	1982 Female	1986 TOTAL	1986 Male	1986 Female
Financing, Insurance, real estate & business services	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10 - 14	0.4458	0.2548	2.1140	0.2252	0.2518	0.0000	0.8201	0.5371	1.0347
15 - 19	3.9279	3.0408	6.7013	2.1780	1.3422	11.3078	7.2808	4.8848	13.6811
20 - 24	14.0888	13.1030	26.7381	14.0772	13.4014	36.9047	14.5018	12.5812	18.0478
25 - 29	24.0823	23.4204	25.8778	23.1288	20.1883	18.1278	18.2211	18.4233	18.0133
30 - 34	18.0808	20.1114	12.0804	18.8878	18.0241	4.8840	15.0058	18.7972	13.0308
35 - 39	14.1031	14.6717	10.3304	12.5378	12.3725	13.3081	12.4873	13.3333	9.3300
40 - 44	9.3448	10.1073	3.3848	9.3508	8.7048	4.0854	10.1311	11.1018	7.4141
45 - 49	3.6408	5.0888	1.3408	8.3800	8.7730	3.3217	4.7840	9.8588	3.8133
50 - 54	4.4148	4.8741	1.3822	7.8037	7.8758	2.0813	3.3377	3.7188	4.2885
55 - 59	1.8882	2.0830	0.7808	3.4788	3.4884	0.0000	3.0040	3.1837	2.8828
60 - 64	1.0298	1.1781	0.0427	0.5478	0.3800	3.7484	1.7884	1.7080	2.0011
65 - 69	0.3382	0.3573	0.2188	0.5088	0.4788	0.0000	1.0019	0.8813	1.0316
70 - 74	0.1730	0.1828	0.0487	0.1817	0.1828	0.0000	0.3538	0.3780	0.3318
>75	0.1884	0.2119	0.0487	0.2084	0.2234	0.0000	0.2108	0.1811	0.2880
Not stated	0.1770	0.1108	0.4478	0.0000	0.0000	0.0000	0.0000	0.0000	0.0300
Public services	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	0.0000	0.0000	0.0000
10 - 14	2.3131	1.2519	4.0888	1.1588	0.3108	2.7538	0.0000	0.0000	0.0000
15 - 19	7.0838	3.1538	14.1087	6.4042	3.3188	13.7828	0.0000	0.0000	0.0000
20 - 24	12.0307	10.4363	16.2388	11.3014	6.7780	18.2381	0.0000	0.0000	0.0000
25 - 29	18.4280	18.9288	15.4198	14.3577	14.0338	15.0025	0.0000	0.0000	0.0000
30 - 34	13.8811	17.2248	12.3778	13.0384	18.2411	12.0031	0.0000	0.0000	0.0000
35 - 39	13.0324	14.0488	10.3882	13.2181	14.0828	6.8021	0.0000	0.0000	0.0000
40 - 44	11.3228	12.4422	8.2731	11.2781	12.3748	3.5718	0.0000	0.0000	0.0000
45 - 49	8.2848	8.2882	3.4718	10.5080	12.4488	3.7148	0.0000	0.0000	0.0000
50 - 54	5.8730	3.8823	4.8023	7.7872	6.8834	4.8027	0.0000	0.0000	0.0000
55 - 59	2.8281	2.0130	2.8002	4.1184	4.3328	3.8808	0.0000	0.0000	0.0000
60 - 64	2.0258	1.8581	2.4838	2.1068	2.0878	2.2100	0.0000	0.0000	0.0000
65 - 69	0.8808	0.6788	1.1788	1.1874	1.1827	1.1980	0.0000	0.0000	0.0000
70 - 74	0.8300	0.5027	0.8368	0.5801	0.4887	0.7831	0.0000	0.0000	0.0000
>75	0.2773	0.2388	0.3788	0.4418	0.3472	0.8738	0.0000	0.0000	0.0000
Not stated[1]	0.0448	0.0348	0.0881	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Others	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10 - 14	10.8292	22.6331	17.6271	13.2281	13.4113	0.0000	3.4833	4.1372	0.2801
15 - 19	21.3388	20.3151	17.1188	10.8230	11.0823	0.0000	9.0323	7.9577	13.2381
20 - 24	14.3281	14.0048	12.4818	18.1880	18.3188	0.0000	14.6782	13.7143	16.7380
25 - 29	10.0853	8.5288	11.3883	18.3814	16.7183	0.0000	16.7872	18.9873	14.8148
30 - 34	8.1208	8.1182	8.8211	4.8132	4.8720	0.0000	13.3033	14.3418	11.2788
35 - 39	6.7941	4.8828	8.4188	8.8878	6.0138	0.0000	11.3308	12.3743	8.8290
40 - 44	3.1881	3.9112	6.3547	3.2843	3.3823	0.0000	6.8043	9.7812	6.7488
45 - 49	2.4088	2.3858	4.1818	4.1234	4.1822	8.2200	7.6218	8.2319	8.2857
50 - 54	3.6797	2.4428	3.0408	24.3771	23.8882	100.0000	3.1728	3.6238	4.2382
55 - 59	1.7873	1.4148	2.1223	4.8008	4.7388	0.0000	3.0848	3.2248	2.7222
60 - 64	2.2410	1.0422	2.7381	0.0000	0.0000	0.0000	2.1548	1.8828	2.7174
65 - 69	1.0818	0.6082	1.3128	1.8818	1.8838	0.0000	1.1268	0.8317	1.7423
70 - 74	1.1488	0.8082	1.3117	0.0000	0.0000	0.0000	0.4130	0.3418	0.5248
>75	0.8814	0.8384	1.8187	0.0000	0.0000	0.0000	0.2887	0.2833	0.2737
Not stated	0.1711	0.2844	0.1428	0.0000	0.0000	0.0000	0.0032	0.0000	0.0140
[illegible]	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000
10 - 14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.1727	6.8208	6.2448
15 - 19	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.6281	19.9073	11.7082
20 - 24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	18.8088	18.8888	19.8258
25 - 29	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.2824	10.3488	20.8424
30 - 34	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.4044	6.1040	6.6278
35 - 39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.7183	3.2238	6.3348
40 - 44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.8888	4.8248	6.3442
45 - 49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.0828	7.7373	4.2782
50 - 54	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.4618	7.7388	3.0838
55 - 59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.7828	4.3888	3.0848
60 - 64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.9437	3.2381	2.5334
65 - 69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.8737	6.4824	1.3282
70 - 74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7248	1.2288	2.2882
>75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

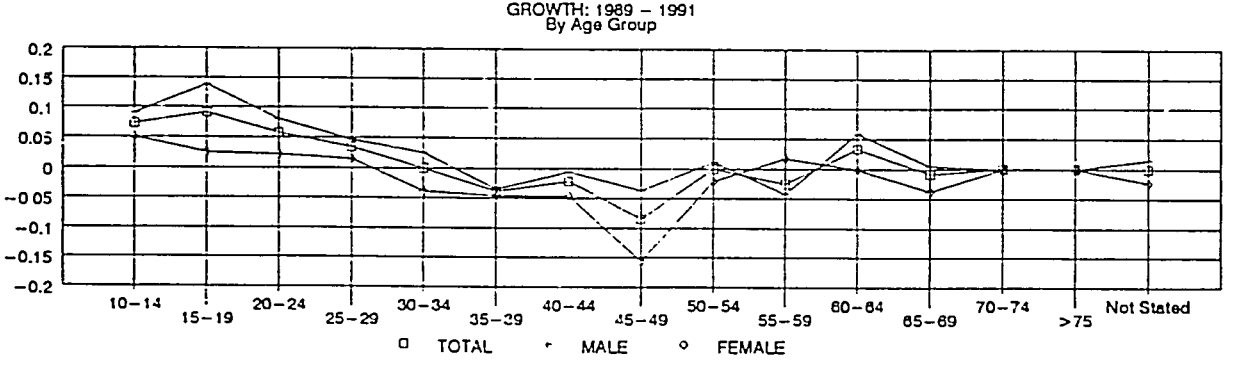
MAIN INDUSTRY/ AGE GROUP	1987 TOTAL	1987 Male	1987 Female	1988 TOTAL	1988 Male	1988 Female	1990 TOTAL	1990 Male	1990 Female	1991 TOTAL	1991 Male	1991 Female
Financing, Insurance, real estate & business services	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10 - 14	0.7858	0.4757	1.3488	0.1831	0.2582	0.0000	0.1128	0.1741	0.0000	0.1038	0.0877	0.1148
15 - 19	7.0530	4.0488	12.0130	2.3302	1.5833	3.7420	4.2834	3.5478	0.3708	4.5841	3.8508	7.2221
20 - 24	13.1702	11.2588	18.3871	17.3483	13.4814	30.2504	18.3788	13.5086	32.1071	14.0288	10.8147	28.7884
25 - 29	17.8218	17.7874	17.1807	22.4182	20.1883	28.7823	21.5887	19.3325	27.3771	24.9438	23.0283	30.5804
30 - 34	18.0073	18.7781	13.8048	17.1808	18.0341	9.0838	15.7788	18.7178	13.1100	18.4883	20.4083	12.8018
35 - 39	13.1052	13.8828	10.7381	8.8884	12.3723	2.1138	13.2852	13.3798	7.3430	13.2284	13.1888	7.4401
40 - 44	8.8027	10.7718	7.3250	9.8217	8.7548	3.8878	8.1848	11.2088	3.4818	8.8181	8.8077	3.8878
45 - 49	6.6231	10.7424	4.3488	6.7838	8.7735	3.4048	9.0723	11.0731	3.3988	6.8888	7.0038	3.3140
50 - 54	5.8823	4.4813	4.5008	7.1108	7.8738	4.2808	4.8047	5.0508	3.8878	4.3380	3.3140	1.4858
55 - 59	3.4018	3.3421	3.0131	3.2388	3.8384	1.8448	1.8882	2.2587	1.3833	1.1178	1.4233	0.2088
60 - 64	2.0754	1.8882	2.3858	0.5440	0.3855	0.2238	0.8213	0.7800	1.1884	1.2178	1.1833	1.3788
65 - 69	0.7132	0.7083	0.7322	0.4825	0.6788	0.8443	0.1878	0.2872	0.0000	0.8731	1.0874	0.6838
70 - 74	0.4408	0.4404	0.3853	1.0416	0.1838	4.0314	0.6121	0.5327	0.7808	0.3854	0.8824	0.3388
>75	0.1647	0.1131	0.3003	0.3432	0.2234	0.7413	0.0240	0.4023	0.0000	0.3387	0.7488	0.0000
Not stated	0.0000	0.0030	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Public services	0.0000	0.0000	0.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10 - 14	0.0000	0.0000	0.0000	0.9078	0.5108	1.0287	0.9777	0.4891	1.0327	1.2902	0.6348	2.4411
15 - 19	0.0000	0.0000	0.0000	4.3878	3.3388	11.5832	6.6419	3.9042	12.2084	7.8042	4.0478	16.0023
20 - 24	0.0000	0.0000	0.0000	11.7708	6.7783	17.2828	12.0032	8.1238	17.2178	11.8488	8.1728	18.0048
25 - 29	0.0000	0.0000	0.0000	15.3794	14.0338	17.8083	16.7873	15.8347	18.5478	16.5181	13.7087	17.8873
30 - 34	0.0000	0.0000	0.0000	13.8044	18.2411	14.4328	18.9123	16.8378	14.6382	16.3824	17.3248	14.7258
35 - 39	0.0000	0.0000	0.0000	13.1715	14.8828	10.2488	14.0085	15.8888	11.0882	13.8888	13.5388	11.2118
40 - 44	0.0000	0.0000	0.0000	10.7733	12.3743	7.8318	9.8084	11.3021	7.3352	8.8830	11.6438	6.9113
45 - 49	0.0000	0.0000	0.0000	10.4223	12.4488	6.8888	9.3438	10.8273	6.6888	8.4138	10.1203	3.9812
50 - 54	0.0000	0.0000	0.0000	7.7874	6.9534	5.8884	6.8852	8.2587	4.8008	6.8844	7.4028	4.7278
55 - 59	0.0000	0.0000	0.0000	3.7837	4.3328	2.7238	3.3023	3.8719	2.6780	3.3838	3.8882	2.3172
60 - 64	0.0000	0.0000	0.0000	2.0077	2.0878	1.8888	2.0221	2.1850	1.7244	1.7318	1.8132	1.4311
65 - 69	0.0000	0.0000	0.0000	1.0881	1.1837	0.9083	1.2788	1.0318	1.6281	0.8230	0.8080	1.0422
70 - 74	0.0000	0.0000	0.0000	0.5431	0.4887	0.7332	0.4841	0.4631	0.6808	3.3243	0.8548	0.4787
>75	0.0000	0.0000	0.0000	0.3838	0.3472	0.4782	0.3338	0.3088	0.3840	0.3084	0.2014	0.4804
Not stated[1]	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0032	0.0000	0.0143
Others	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000	100.0000
10 - 14	3.2801	3.7834	0.7740	7.4818	13.4115	1.9302	0.3288	7.3322	11.3434	8.8082	0.4374	4.1004
15 - 19	10.2783	8.1808	15.1428	6.0580	11.0023	1.3740	10.4300	11.2170	9.0028	3.8808	0.9488	4.2234
20 - 24	13.1880	12.6718	14.4147	14.7323	10.3198	18.8720	14.0811	17.3583	12.1828	11.2838	11.1787	11.3341
25 - 29	17.0423	17.7878	15.3100	8.9808	10.7183	7.3134	9.0423	8.0883	10.4302	9.1243	8.8888	8.5881
30 - 34	13.8418	15.4328	5.8138	5.8888	4.8720	7.0384	6.4034	9.9221	3.1887	6.1880	7.2738	6.0248
35 - 39	11.3437	12.2808	8.8807	7.1348	6.6138	4.8273	6.2332	6.4278	6.7922	8.8744	13.8848	7.8734
40 - 44	7.7238	8.3388	6.3244	6.4874	3.3028	6.4380	9.1788	9.4787	6.6308	7.2138	4.8878	8.7348
45 - 49	7.7271	8.2372	6.3088	18.3288	4.1122	10.4843	5.5338	2.4873	6.0858	8.3273	9.0823	6.1430
50 - 54	3.4418	5.7848	4.8848	17.2384	23.6882	11.2288	2.7803	12.0018	6.1538	8.3388	8.3784	6.0848
55 - 59	3.2808	3.4843	2.7888	3.8848	6.7384	3.2378	7.9708	7.9448	7.6108	6.3282	3.3888	6.3328
60 - 64	2.1887	2.0847	2.4288	2.6333	0.0300	3.1038	2.8348	2.6030	3.6218	9.4727	11.0311	6.3871
65 - 69	1.3858	1.2718	2.3088	4.8081	1.8828	7.3313	3.8830	0.2281	10.8801	5.4008	1.4344	6.3230
70 - 74	0.6331	0.4808	0.8802	0.0000	0.0000	0.0000	1.3332	2.2148	0.6318	3.8448	2.3382	4.1985
>75	0.3887	0.2231	0.7073	1.8482	0.0000	3.7777	0.6778	1.4811	0.0000	0.0000	0.0060	0.0000
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
[illegible]	100.0000	100.0000	100.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
10 - 14	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
15 - 19	10.8788	0.0000	22.4212	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
20 - 24	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
25 - 29	37.0887	0.0000	77.3788	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
30 - 34	32.7234	64.1237	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
35 - 39	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
40 - 44	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
45 - 49	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
50 - 54	18.3284	33.6783	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
55 - 59	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
60 - 64	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
65 - 69	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
70 - 74	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
>75	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Not stated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA", Many Years.

BEST AVAILABLE DOCUMENT

All Industry:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	41,261,218	2,282,827	4,717,590	4,332,440	5,385,593	5,121,721	5,411,385	4,241,192	3,253,279	2,555,416	1,401,977	1,288,154	579,061	440,559	242,142	7,880
	Male	27,575,097	1,344,275	2,952,153	2,851,607	3,638,037	3,480,331	3,742,518	2,884,714	2,254,668	1,712,839	962,099	852,254	401,836	313,868	179,294	4,804
	Female	13,686,119	938,552	1,765,437	1,480,833	1,747,556	1,641,390	1,668,867	1,356,478	998,611	842,777	439,878	435,900	177,225	126,691	62,848	3,076
1982	TOTAL	64,850,287	2,364,365	6,579,255	7,068,687	7,582,044	7,796,711	7,945,228	6,308,713	5,950,064	4,866,858	3,606,837	2,434,838	1,360,478	609,556	375,941	912
	Male	44,112,090	1,561,797	4,353,455	4,290,277	4,999,346	5,502,157	5,604,742	4,189,554	4,089,039	3,402,553	2,512,656	1,813,027	1,070,315	454,855	267,405	912
	Female	20,738,197	802,568	2,225,800	2,778,410	2,582,698	2,294,554	2,340,486	2,119,159	1,861,025	1,464,105	1,094,181	621,811	290,163	154,701	108,536	0
1986	TOTAL	68,338,187	2,683,156	6,658,555	8,103,552	9,782,653	8,462,598	7,698,580	6,449,393	6,140,892	4,749,900	3,246,350	2,268,062	1,221,401	526,053	326,571	271
	Male	41,441,284	1,535,064	3,770,507	4,596,543	5,832,170	5,392,319	4,802,267	3,883,896	3,736,093	2,882,777	2,039,198	1,444,806	809,519	378,787	237,538	0
	Female	26,896,903	1,148,092	2,888,048	3,507,009	3,850,683	3,070,279	2,896,313	2,565,697	2,404,799	1,867,123	1,207,152	843,256	411,882	147,266	89,033	271
1987	TOTAL	70,402,243	2,524,091	6,984,103	8,047,135	10,020,897	8,761,425	7,962,924	6,492,134	6,553,147	5,021,677	3,458,957	2,385,458	1,226,047	628,317	336,131	0
	Male	42,480,318	1,452,752	4,025,078	4,521,032	6,002,338	5,565,237	4,843,136	3,887,189	3,925,317	3,007,492	2,143,773	1,545,065	827,713	412,615	241,581	0
	Female	27,921,925	1,071,339	2,959,025	3,526,103	4,018,359	3,196,188	3,119,788	2,604,945	2,627,830	1,934,185	1,315,184	840,393	398,334	215,702	94,550	0
1989	TOTAL	73,428,244	2,681,329	7,324,955	7,578,552	8,873,765	9,064,231	8,957,585	6,959,633	6,840,774	5,646,948	4,058,566	2,801,019	1,547,540	689,065	384,228	2,014
	Male	44,112,090	1,561,797	4,353,455	4,290,277	4,999,346	5,502,157	5,604,742	4,189,554	4,089,039	3,402,553	2,512,656	1,813,027	1,070,315	454,855	267,405	912
	Female	29,316,154	1,119,532	2,971,500	3,288,275	3,874,419	3,562,074	3,352,843	2,770,079	2,751,735	2,244,395	1,545,930	987,992	477,225	234,230	116,823	1,102
1990	TOTAL	75,749,635	2,413,616	7,427,578	8,567,526	10,152,236	9,688,094	9,373,729	8,906,004	8,588,069	5,438,612	3,812,106	2,759,061	1,486,229	700,184	346,591	0
	Male	46,327,902	1,443,305	4,389,379	5,038,576	6,058,875	6,025,031	5,917,828	4,273,064	3,936,872	3,394,568	2,298,743	1,821,296	966,858	503,991	249,218	0
	Female	29,421,733	970,011	3,028,199	3,528,950	4,093,361	3,663,063	3,455,901	2,722,940	2,651,197	2,044,046	1,513,363	937,765	519,371	196,193	97,373	0
1991	TOTAL	75,993,641	2,193,873	7,364,423	8,697,918	10,537,711	10,163,640	9,597,227	8,958,939	8,305,451	5,395,197	3,395,629	2,799,818	1,469,314	736,884	374,884	3,133
	Male	47,229,098	1,333,992	4,293,117	5,071,937	6,481,023	6,417,878	6,145,741	4,405,708	3,805,300	3,359,991	2,323,018	1,854,868	978,855	509,409	268,871	1,700
	Female	28,764,745	859,881	3,071,306	3,625,981	4,076,688	3,745,964	3,451,486	2,553,231	2,500,151	2,035,206	1,072,611	944,950	492,459	227,475	106,013	1,343
AVERAGE	TOTAL	67,146,236	2,449,037	6,722,351	7,484,830	8,904,986	8,439,774	8,135,237	6,343,715	5,947,382	4,810,630	3,282,920	2,393,773	1,270,010	618,663	340,698	2,030
	Male	41,896,840	1,461,897	4,021,021	4,380,036	5,441,591	5,412,130	5,237,282	3,959,068	3,890,904	3,034,053	2,113,163	1,592,049	874,773	432,626	244,445	1,203
	Female	25,249,397	987,139	2,701,331	3,104,794	3,483,395	3,027,645	2,897,955	2,384,647	2,258,478	1,775,977	1,189,757	801,724	395,237	188,037	96,454	827
GROWTH (1989–1991)	TOTAL	(0.095)	0.073	0.091	0.058	0.035	(0.000)	(0.040)	(0.022)	(0.085)	(0.000)	(0.025)	0.034	(0.008)	0.000	0.000	(0.001)
	Male	(0.076)	0.091	0.139	0.080	0.047	0.025	(0.035)	(0.006)	(0.037)	0.011	(0.043)	0.059	0.005	0.000	0.000	0.015
	Female	(0.124)	0.051	0.028	0.023	0.015	(0.040)	(0.047)	(0.047)	(0.156)	(0.022)	0.018	(0.001)	(0.039)	0.000	0.000	(0.024)



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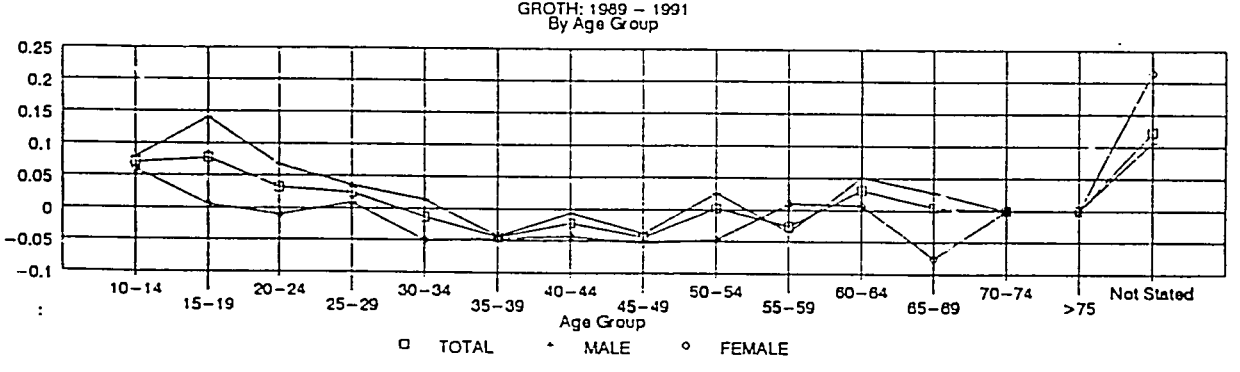
Agriculture, Forestry, Hunting, Fishery:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	26,473,477	1,573,778	3,113,478	2,574,391	3,309,138	3,115,125	3,417,388	2,678,837	2,106,991	1,728,708	971,560	942,988	423,650	332,168	184,991	86
	Male	17,978,477	998,767	2,020,603	1,690,937	2,212,417	2,108,098	2,393,491	1,835,377	1,482,375	1,190,140	885,451	658,078	312,720	253,242	146,695	86
	Female	8,495,000	575,011	1,092,875	883,454	1,096,721	1,007,027	1,023,897	843,460	624,616	548,568	286,109	284,910	111,130	78,926	38,296	0
1982	TOTAL	31,715,274	1,837,523	4,155,035	3,544,832	3,551,222	3,702,087	3,996,021	3,310,851	3,271,061	2,797,918	2,289,692	1,845,154	949,477	421,109	242,380	912
	Male	24,565,173	1,356,037	3,003,653	2,144,887	2,210,172	2,467,114	2,708,776	2,159,911	2,229,428	1,988,636	1,657,281	1,300,621	800,430	344,774	187,541	912
	Female	11,150,101	481,486	1,146,382	1,399,945	1,341,050	1,234,973	1,287,245	1,150,940	1,041,633	809,282	632,411	344,533	149,047	76,335	54,839	0
1986	TOTAL	37,644,472	1,864,482	3,999,457	3,906,039	4,699,816	4,144,537	4,128,654	3,518,770	3,558,591	2,845,107	2,058,548	1,491,081	826,847	372,911	227,652	0
	Male	22,851,031	1,172,137	2,494,040	2,156,633	2,641,014	2,483,948	2,439,858	2,010,961	2,091,719	1,738,933	1,363,629	1,015,077	580,091	285,594	177,597	0
	Female	14,993,441	692,325	1,505,417	1,751,406	2,058,802	1,660,589	1,688,996	1,507,809	1,466,872	1,106,174	694,919	476,004	246,756	87,317	50,055	0
1987	TOTAL	38,721,889	1,798,027	4,282,536	3,957,022	4,858,608	4,223,054	4,131,435	3,530,835	3,684,356	3,029,769	2,164,549	1,579,237	828,613	414,595	242,053	0
	Male	23,183,450	1,135,087	2,705,941	2,170,159	2,702,639	2,519,793	2,350,879	2,030,167	2,131,931	1,658,435	1,397,292	1,097,853	600,452	294,848	186,964	0
	Female	15,538,439	661,960	1,576,595	1,786,863	2,156,169	1,703,261	1,780,556	1,500,668	1,552,425	1,171,334	767,257	481,384	228,161	119,747	55,089	0
1989	TOTAL	41,284,232	2,124,121	4,616,431	3,720,915	4,282,863	4,485,954	4,621,787	3,831,758	3,904,973	3,372,872	2,584,693	1,930,507	1,086,629	473,765	244,950	2,014
	Male	24,565,173	1,356,037	3,006,653	2,144,887	2,210,172	2,467,114	2,708,776	2,159,911	2,229,428	1,988,636	1,657,281	1,300,621	800,430	344,774	187,541	912
	Female	16,719,059	768,084	1,607,778	1,576,028	2,072,691	2,018,840	1,913,011	1,671,847	1,675,545	1,384,236	927,412	629,886	286,199	128,991	57,409	1,102
1990	TOTAL	42,378,309	1,818,182	4,542,502	4,300,030	4,961,878	4,787,392	4,817,778	3,906,620	3,887,821	3,266,927	2,447,635	1,693,757	1,032,428	483,737	231,624	0
	Male	25,827,409	1,189,510	2,958,963	2,566,557	2,748,067	2,802,099	2,883,845	2,251,712	2,282,511	2,034,352	1,534,793	1,310,706	712,703	383,067	181,724	0
	Female	16,550,900	628,672	1,585,539	1,733,473	2,213,811	1,985,293	1,954,133	1,654,908	1,605,310	1,232,575	912,842	574,051	319,723	100,670	49,900	0
1991	TOTAL	41,205,791	1,564,377	4,272,272	4,227,943	4,939,251	4,772,001	4,849,083	3,725,791	3,550,716	3,224,166	2,360,468	1,937,964	1,029,727	503,502	246,405	2,125
	Male	25,291,443	1,063,041	2,782,411	2,464,293	2,853,274	2,796,371	2,901,091	2,220,752	2,028,755	1,963,480	1,530,910	1,388,014	740,975	379,282	197,537	1,277
	Female	15,914,348	501,336	1,489,861	1,763,650	2,085,977	1,975,630	1,947,992	1,505,039	1,521,961	1,260,706	829,558	569,950	288,752	124,220	48,868	848
AVERAGE	TOTAL	37,631,921	1,797,210	4,140,244	3,747,596	4,371,854	4,175,738	4,280,307	3,500,405	3,423,501	2,895,067	2,125,308	1,631,527	882,510	428,827	231,008	734
	Male	23,437,451	1,181,657	2,711,038	2,191,193	2,511,108	2,520,648	2,623,759	2,095,542	2,068,021	1,821,799	1,403,805	1,151,424	649,686	326,512	180,804	455
	Female	14,194,470	615,553	1,429,207	1,556,403	1,860,746	1,655,090	1,656,547	1,404,953	1,355,480	1,073,268	721,501	480,103	232,824	102,315	50,204	279
GROWTH (1989–1991)	TOTAL	(0.142)	0.069	0.077	0.032	0.024	(0.013)	(0.046)	(0.022)	(0.044)	0.002	(0.026)	0.031	0.005	0.000	0.000	0.123
	Male	(0.115)	0.078	0.141	0.067	0.035	0.014	(0.044)	(0.006)	(0.038)	0.026	(0.035)	0.051	0.028	0.000	0.000	0.106
	Female	(0.192)	0.059	0.005	(0.011)	0.009	(0.050)	(0.047)	(0.043)	(0.053)	(0.048)	0.010	0.007	(0.076)	0.000	0.000	0.215



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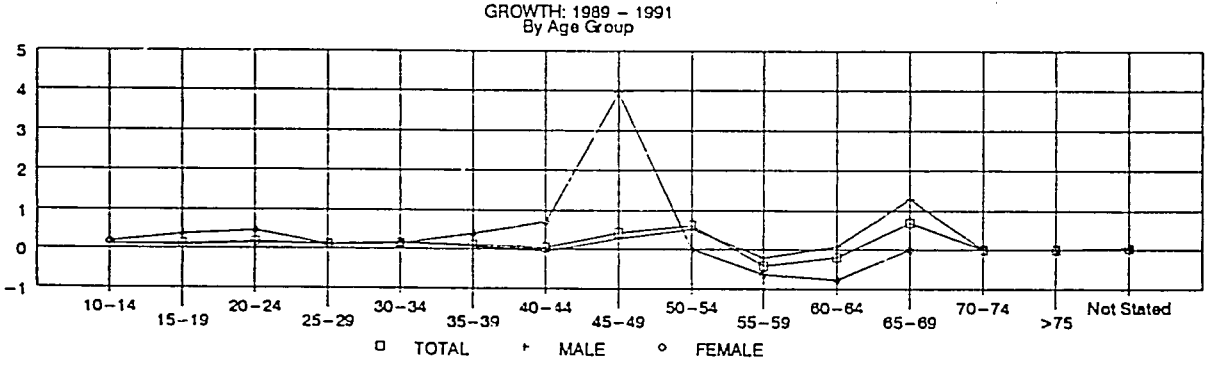
Mining & Quarrying:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	85,828	631	8,993	14,140	17,277	12,495	11,941	8,037	6,838	5,438	1,092	636	307	187	20	0
	Male	79,700	563	8,366	13,076	16,213	11,698	10,916	7,460	6,442	4,817	1,082	571	289	187	20	0
	Female	6,128	68	627	1,064	1,064	797	1,025	577	194	619	10	65	18	0	0	0
1982	TOTAL	449,286	12,042	48,152	44,352	61,459	64,503	66,234	48,701	40,333	31,057	18,432	8,503	2,474	1,364	680	0
	Male	382,476	6,686	39,743	37,191	55,712	58,166	58,275	40,241	33,541	27,095	14,457	6,851	2,474	1,364	680	0
	Female	66,810	5,356	8,409	7,161	5,747	6,337	7,959	9,480	6,792	3,962	3,975	1,652	0	0	0	0
1986	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	448,901	9,784	49,399	44,326	64,361	65,940	67,458	47,988	38,243	29,824	15,866	6,851	5,727	2,454	680	0
	Male	382,476	6,686	39,743	37,191	55,712	58,166	58,275	40,241	33,541	27,095	14,457	6,851	2,474	1,364	680	0
	Female	66,425	3,098	9,656	7,135	8,649	7,774	9,183	7,747	4,702	2,729	1,409	0	3,253	1,090	0	0
1990	TOTAL	528,220	15,950	40,964	64,144	82,502	94,747	84,785	57,745	38,741	27,155	14,817	9,540	3,981	1,877	1,272	0
	Male	442,522	12,600	30,925	56,866	67,062	70,416	71,688	49,962	34,327	22,160	14,131	8,131	2,358	1,368	508	0
	Female	85,698	3,350	10,039	7,278	15,420	14,331	13,097	7,783	4,414	4,995	686	1,409	1,623	509	764	0
1991	TOTAL	564,599	12,316	51,996	49,784	80,885	91,258	83,288	64,381	47,105	31,819	28,835	17,718	1,877	1,589	1,950	0
	Male	466,867	9,269	43,648	39,979	65,859	75,666	72,770	54,508	38,872	23,874	22,178	15,196	1,491	1,589	1,950	0
	Female	97,732	3,027	8,348	9,805	15,026	15,590	10,518	9,873	8,233	7,945	6,459	2,522	386	0	0	0
AVERAGE	TOTAL	296,691	7,246	28,215	30,964	43,783	45,563	44,815	32,550	24,437	17,899	11,263	6,178	2,052	1,067	657	0
	Male	250,577	5,118	22,918	26,329	37,225	39,159	38,846	27,487	20,960	15,006	9,472	5,371	1,298	839	548	0
	Female	46,113	2,128	5,297	4,635	6,558	6,404	5,969	5,063	3,476	2,893	1,791	807	754	228	109	0
GROWTH (1989–199	TOTAL	0.201	0.112	0.131	0.181	0.120	0.159	0.114	0.041	0.433	0.625	(0.417)	(0.194)	0.702	0.000	0.000	0.034
	Male	0.311	0.118	0.093	0.143	0.123	0.166	0.078	(0.052)	0.273	0.528	(0.207)	0.082	1.293	0.000	0.000	0.060
	Female	(0.008)	0.184	0.379	0.466	0.115	0.137	0.402	0.710	3.951	0.000	(0.632)	(0.787)	0.000	0.000	0.000	0.004



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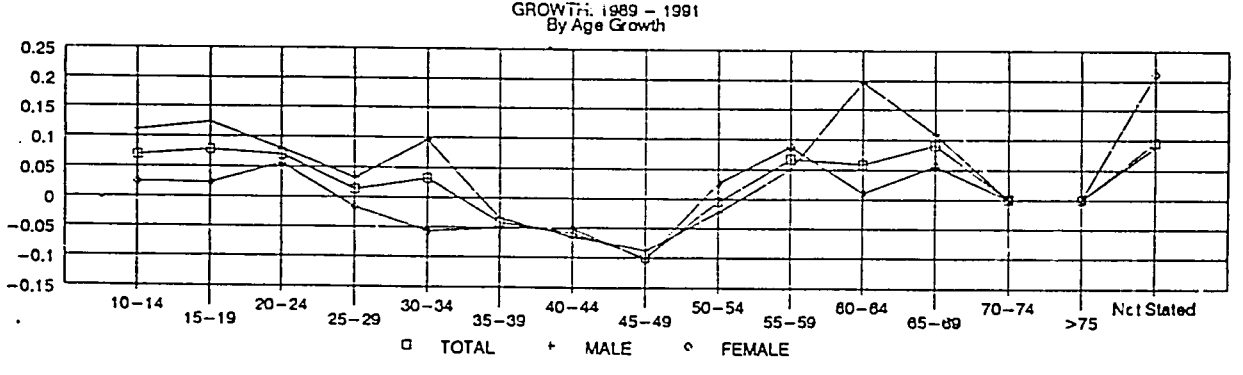
Manufacturing Industry:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	2,681,952	130,178	390,822	342,411	361,182	336,061	342,893	256,983	190,981	134,764	75,352	62,300	28,137	19,521	9,985	404
	Male	1,538,506	43,851	191,678	203,598	219,209	199,743	210,975	159,218	118,759	80,478	48,703	32,793	15,916	11,040	6,223	324
	Female	1,143,446	86,325	199,144	138,813	141,953	136,318	131,918	97,765	74,222	54,286	26,649	29,507	12,221	8,481	3,762	80
1982	TOTAL	6,806,347	208,723	884,038	1,084,062	970,621	870,720	771,386	536,281	480,739	397,172	267,748	166,223	87,552	46,363	36,719	0
	Male	3,925,299	61,963	438,065	597,153	621,052	583,433	502,214	284,969	279,982	223,921	153,198	90,902	44,129	21,354	20,954	0
	Female	2,883,058	146,760	445,973	486,909	349,569	287,287	269,172	251,312	200,757	171,251	114,550	75,321	43,423	25,009	15,765	0
1986	TOTAL	5,805,971	213,344	714,930	921,430	1,099,099	733,817	515,194	413,000	359,050	285,840	186,145	142,794	62,466	25,582	23,340	0
	Male	3,094,939	88,265	287,453	497,180	627,778	459,233	311,205	228,969	206,707	158,681	102,749	67,820	31,273	14,503	14,113	0
	Female	2,511,032	125,079	427,467	424,250	381,261	275,584	203,989	184,031	152,343	127,159	83,396	74,974	31,193	11,079	9,227	0
1987	TOTAL	5,818,454	193,062	730,378	968,240	1,034,962	757,567	594,684	418,239	411,956	283,895	178,073	111,362	66,081	41,463	30,494	0
	Male	3,184,191	79,079	314,604	492,987	617,274	478,280	342,122	243,934	222,663	160,174	89,386	58,371	40,042	25,042	20,213	0
	Female	2,634,263	113,983	415,772	475,253	417,688	279,287	252,562	174,305	189,273	123,721	88,687	52,991	26,039	16,421	10,281	0
1989	TOTAL	7,334,674	232,989	1,045,402	1,155,629	1,140,780	947,683	798,863	503,935	504,200	393,868	285,111	164,134	81,652	50,254	32,374	0
	Male	3,925,289	61,963	438,065	597,153	621,052	583,433	502,214	284,969	279,982	225,921	153,198	90,902	44,129	21,354	20,954	0
	Female	3,409,385	171,026	607,337	558,476	519,728	364,250	294,449	218,966	224,218	167,947	131,913	73,232	37,723	28,900	11,420	0
1990	TOTAL	7,693,263	224,993	1,109,135	1,294,511	1,207,891	984,728	858,515	577,975	450,978	375,684	243,381	168,859	103,550	58,998	34,367	0
	Male	4,210,051	85,581	486,967	676,206	708,364	587,812	529,668	338,584	251,591	212,751	119,529	99,079	56,667	34,511	22,921	0
	Female	3,483,212	139,412	622,168	618,305	499,527	397,116	328,827	239,391	199,387	162,933	123,852	69,780	46,883	24,485	11,446	0
1991	TOTAL	7,848,350	223,822	1,160,715	1,318,730	1,327,167	1,084,564	814,835	530,546	460,873	348,248	230,347	162,345	90,014	55,633	38,511	0
	Male	4,410,665	85,634	483,055	736,692	784,717	678,488	535,282	340,662	259,748	197,265	124,627	85,565	46,254	28,880	25,798	0
	Female	3,435,685	138,188	677,660	582,038	542,450	406,078	279,553	189,884	201,125	150,983	105,720	76,780	43,760	26,753	12,713	0
AVERAGE	TOTAL	6,255,602	203,873	862,203	1,012,145	1,007,375	816,449	670,567	482,408	408,397	317,067	209,165	139,717	74,236	42,545	20,399	58
	Male	3,469,847	72,334	377,128	542,996	599,921	509,669	419,100	268,758	231,065	180,170	112,770	75,062	39,773	22,098	18,739	46
	Female	2,785,754	131,539	485,074	469,149	407,454	306,560	251,467	193,651	177,332	136,897	96,395	64,655	34,463	20,447	10,659	11
GROWTH (1989–1991)	TOTAL	(0.020)	0.069	0.079	0.070	0.013	0.032	(0.042)	(0.060)	(0.100)	(0.005)	0.067	0.058	0.091	0.000	0.000	0.097
	Male	0.191	0.111	0.124	0.081	0.033	0.097	(0.034)	(0.066)	(0.089)	(0.023)	0.050	0.198	0.110	0.000	0.000	0.069
	Female	(0.097)	0.024	0.024	0.056	(0.017)	(0.057)	(0.051)	(0.052)	(0.104)	0.027	0.088	0.011	0.056	0.000	0.000	0.212



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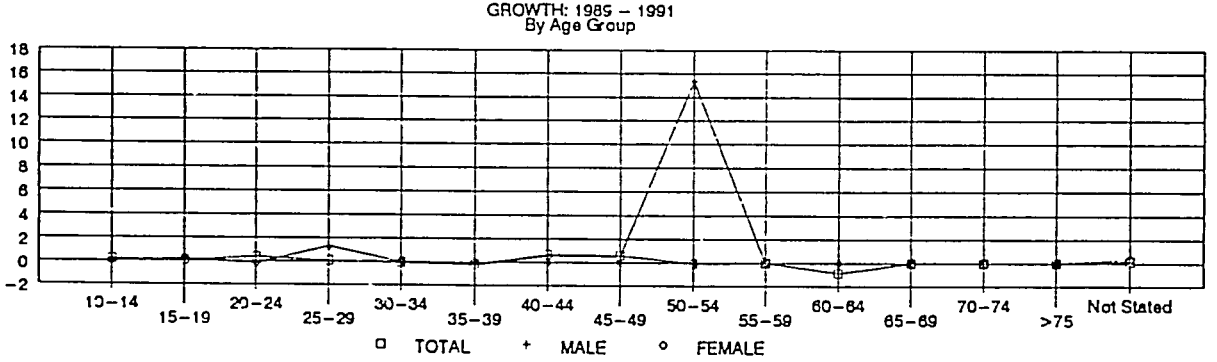
Electricity, Gas & Water:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	37,359	169	1,422	5,518	6,458	6,163	5,294	3,889	3,865	2,478	1,343	368	250	96	26	20
	Male	35,877	169	1,318	5,294	5,969	5,951	5,140	3,818	3,705	2,410	1,343	368	250	96	26	20
	Female	1,482	0	104	224	489	212	154	71	160	68	0	0	0	0	0	0
1982	TOTAL	123,887	1,442	4,663	18,642	26,481	14,040	21,658	17,866	14,171	4,923	935	40	238	0	590	0
	Male	116,790	436	3,929	14,400	26,481	14,040	19,548	17,866	14,118	4,169	935	40	238	0	590	0
	Female	7,097	1,006	734	2,242	0	0	2,308	0	53	754	0	0	0	0	0	0
1986	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	125,251	436	4,495	14,400	28,978	16,187	19,900	17,866	14,118	4,169	935	1,142	238	1,809	590	0
	Male	116,790	436	3,929	14,400	26,481	14,040	19,548	17,866	14,118	4,169	935	40	238	0	590	0
	Female	8,471	0	566	0	2,495	2,147	352	0	0	0	0	1,102	0	1,809	0	0
1990	TOTAL	134,718	0	3,359	14,544	28,973	25,523	27,012	17,492	10,002	4,328	1,743	1,281	0	459	0	0
	Male	123,870	0	2,963	12,274	25,614	22,968	26,525	15,895	10,002	4,328	1,541	1,281	0	459	0	0
	Female	10,848	0	396	2,270	3,359	2,535	487	1,59[illegible]	0	0	202	0	0	0	0	0
1991	TOTAL	150,690	997	4,908	19,125	33,362	28,239	21,965	17,1[illegible]4	9,937	9,978	2,273	964	1,828	0	0	0
	Male	138,294	174	4,514	17,996	29,675	27,064	20,405	16,416	8,293	8,692	2,273	964	1,828	0	0	0
	Female	12,396	823	394	1,129	3,687	1,175	1,560	698	1,644	1,286	0	0	0	0	0	0
AVERAGE	TOTAL	81,702	435	2,692	10,033	17,750	12,879	13,718	10,604	7,442	3,697	1,033	542	365	338	172	3
	Male	75,946	174	2,379	9,195	16,317	12,012	13,024	10,268	7,177	3,395	1,004	365	365	79	172	3
	Female	5,756	261	313	838	1,433	867	694	338	265	301	29	157	0	258	0	0
GROWTH (1989–199	TOTAL	0.000	0.162	0.076	0.342	0.065	(0.021)	(0.149)	0.672	0.584	(0.063)	0.000	(0.873)	0.000	0.000	0.000	0.155
	Male	0.000	0.159	0.063	0.407	0.063	(0.039)	(0.231)	0.523	0.562	15.389	0.000	0.000	0.000	0.000	0.000	0.148
	Female	0.000	0.000	0.222	(0.178)	1.293	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.386



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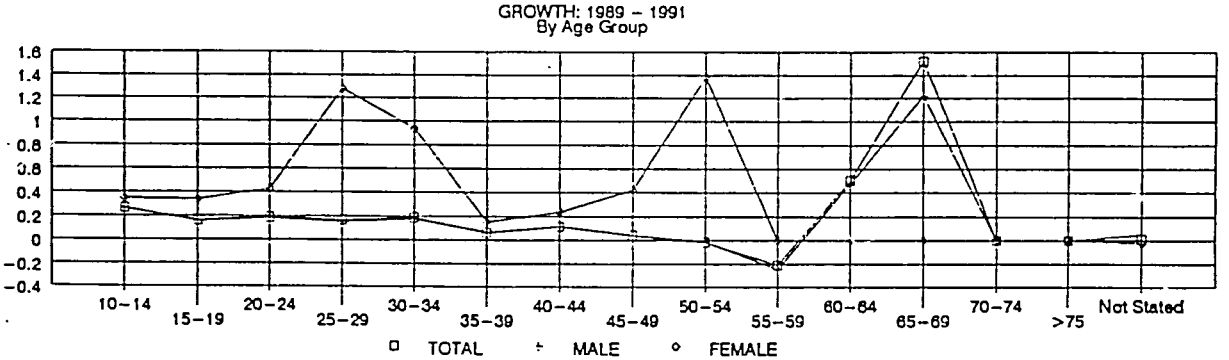
Construction:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	678,472	7,021	73,817	84,703	93,567	91,546	99,164	77,141	58,261	42,666	22,943	15,894	6,314	3,520	1,566	329
	Male	565,963	6,112	71,185	83,127	92,124	90,216	98,016	75,974	57,350	41,883	22,803	15,712	6,126	3,520	1,566	229
	Female	12,509	909	2,632	1,576	1,443	1,330	1,148	1,167	911	783	140	182	188	0	0	100
1982	TOTAL	1,827,355	9,871	168,399	207,253	290,677	290,004	284,660	171,321	154,069	109,047	73,553	39,077	26,633	2,236	555	0
	Male	1,784,152	7,752	157,361	198,153	286,385	285,348	281,701	166,634	152,075	107,196	73,166	38,959	26,633	2,236	555	0
	Female	43,203	2,119	11,038	9,100	4,292	4,656	2,959	4,687	1,994	1,851	387	118	0	0	0	0
1986	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	1,828,633	11,426	162,436	207,629	295,934	292,362	284,126	168,408	154,660	108,805	73,853	39,550	26,633	2,236	555	0
	Male	1,784,152	7,752	157,361	198,153	286,385	285,348	281,701	166,634	152,075	107,196	73,166	38,959	26,633	2,236	555	0
	Female	44,481	3,674	5,075	9,476	9,549	7,016	2,425	1,774	2,605	1,609	687	591	0	0	0	0
1990	TOTAL	2,058,509	13,094	161,912	299,036	348,255	328,454	314,666	186,244	154,825	115,504	75,864	39,457	14,455	4,630	2,111	0
	Male	2,000,058	12,281	155,897	287,239	335,023	318,812	307,050	183,604	152,861	113,113	74,297	39,345	14,112	4,390	2,034	0
	Female	58,451	813	6,015	11,797	13,232	9,642	7,616	2,640	1,964	2,391	1,567	112	343	240	77	0
1991	TOTAL	2,436,704	15,492	214,064	325,141	400,881	411,236	385,653	235,934	173,638	134,371	80,138	38,181	15,031	4,328	2,616	0
	Male	2,351,480	14,177	204,467	308,153	383,933	396,996	374,832	229,639	170,597	132,013	79,253	37,668	13,841	4,328	1,583	0
	Female	85,224	1,315	9,597	16,988	16,948	14,240	10,821	6,295	3,041	2,358	885	513	1,190	0	1,033	0
AVERAGE	TOTAL	1,291,382	8,129	111,518	160,537	204,188	201,943	195,487	119,864	99,353	72,913	46,622	24,594	12,724	2,421	1,060	47
	Male	1,226,544	8,868	106,610	153,546	197,693	196,674	191,900	117,498	97,851	71,629	46,098	24,378	12,478	2,387	902	33
	Female	34,838	1,261	4,908	6,901	6,495	5,269	3,567	2,368	1,502	1,285	524	217	248	34	150	14
GROWTH (1989–1991)	TOTAL	0.165	0.264	0.164	0.188	0.167	0.188	0.061	0.112	0.042	(0.017)	(0.209)	0.503	1.521	0.000	0.000	0.010
	Male	0.369	0.261	0.158	0.181	0.155	0.176	0.081	0.111	0.041	(0.016)	(0.245)	0.475	1.222	0.000	0.000	0.046
	Female	(0.081)	0.342	0.333	0.426	1.281	0.936	0.151	0.236	0.423	1.385	0.000	0.000	0.000	0.000	0.000	(0.029)



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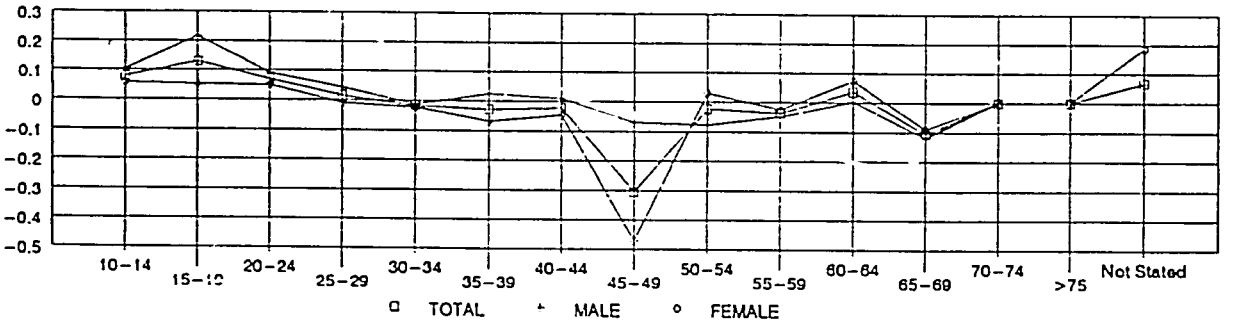
Wholesale Trade, Retail, Restaurant:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	4,261,561	94,262	345,537	404,562	547,089	570,880	669,594	531,721	402,428	298,545	159,482	129,398	56,857	35,261	14,727	1,200
	Male	2,403,845	52,361	210,450	264,565	339,594	320,322	364,535	278,193	210,748	155,039	85,748	64,400	29,865	18,724	8,593	688
	Female	1,857,716	41,901	135,087	139,997	207,495	250,558	305,059	253,528	191,680	143,506	73,734	64,998	26,992	16,537	6,134	512
1982	TOTAL	9,346,273	185,125	664,640	940,827	1,070,372	1,155,487	1,294,559	1,078,891	954,559	743,181	553,951	376,190	183,133	88,074	57,284	0
	Male	5,121,104	87,228	375,015	503,978	564,025	678,270	751,167	577,224	479,133	381,920	296,754	228,141	113,252	52,933	35,064	0
	Female	4,225,169	100,897	289,625	436,849	506,347	477,217	543,392	501,667	475,426	361,261	257,197	148,049	69,881	35,141	22,220	0
1986	TOTAL	9,756,404	221,061	694,605	1,036,068	1,348,629	1,291,240	1,208,258	1,038,957	939,352	807,702	531,794	357,085	172,476	68,520	40,637	0
	Male	4,709,388	81,902	325,312	515,499	699,438	691,844	604,250	475,761	412,871	358,919	220,674	165,206	95,256	40,032	22,404	0
	Female	5,047,016	139,159	369,293	520,569	649,191	599,396	604,008	563,178	526,481	448,783	311,120	191,879	77,220	28,488	18,233	0
1987	TOTAL	10,481,189	224,961	749,246	1,092,735	1,436,796	1,414,411	1,283,518	1,109,489	1,054,454	811,552	599,695	370,534	184,901	96,281	32,616	0
	Male	4,982,603	87,842	359,553	563,542	705,264	738,571	645,205	485,515	447,961	367,183	264,303	166,313	92,064	40,887	18,400	0
	Female	5,478,586	137,119	389,693	529,193	731,532	675,840	638,313	623,974	606,493	444,369	335,392	204,221	92,837	55,394	14,216	0
1989	TOTAL	10,890,819	208,100	745,007	1,054,486	1,225,423	1,392,083	1,557,222	1,188,368	1,101,784	882,255	690,127	449,893	232,165	99,721	66,385	0
	Male	5,121,104	84,228	375,015	503,978	564,025	678,270	751,167	577,224	479,133	381,920	296,754	228,141	113,252	52,933	35,064	0
	Female	5,769,715	121,872	369,992	550,508	661,398	713,813	806,055	611,144	622,651	500,335	393,373	221,552	118,913	46,788	31,321	0
1990	TOTAL	11,067,357	229,426	783,363	1,114,601	1,445,118	1,512,247	1,520,187	1,085,683	1,080,047	860,768	653,836	425,830	213,869	96,624	45,780	0
	Male	5,290,239	99,662	387,921	567,565	745,730	737,175	741,520	522,004	469,503	378,285	271,550	193,309	103,509	49,285	22,921	0
	Female	5,777,118	129,564	395,442	547,136	699,388	775,072	778,847	563,679	610,544	482,481	382,286	232,321	110,360	47,339	22,859	0
1991	TOTAL	11,100,685	228,579	781,068	1,228,257	1,561,404	1,506,019	1,605,621	1,143,428	1,041,714	844,181	289,538	428,238	215,152	106,684	50,293	513
	Male	5,628,154	102,562	374,817	615,156	828,564	809,037	814,491	560,418	501,832	390,020	256,878	193,210	102,362	52,878	25,396	513
	Female	5,472,531	125,997	386,271	613,101	732,840	786,982	791,130	582,990	539,882	454,161	32,658	235,028	112,790	53,806	24,897	0
AVERAGE	TOTAL	9,554,698	193,505	677,641	981,679	1,233,547	1,276,052	1,305,563	1,025,217	939,191	749,740	496,917	362,395	179,793	84,452	43,960	245
	Male	4,750,920	84,718	344,012	504,912	635,234	664,784	667,476	496,623	428,740	344,755	241,809	176,960	92,794	43,953	23,977	172
	Female	4,803,979	113,787	333,629	476,768	598,313	611,268	638,086	528,594	510,451	404,985	255,109	185,435	86,999	40,499	19,983	73
GROWTH (1989–1991)	TOTAL	0.055	0.079	0.130	0.071	0.016	(0.017)	(0.028)	(0.022)	(0.305)	(0.024)	(0.036)	0.037	(0.106)	0.000	0.000	0.068
	Male	0.108	0.105	0.217	0.092	0.043	(0.011)	0.024	0.011	(0.069)	(0.077)	(0.049)	0.002	(0.119)	0.000	0.000	0.065
	Female	0.018	0.057	0.053	0.051	(0.099)	(0.022)	(0.068)	(0.047)	(0.471)	0.030	(0.025)	0.074	(0.091)	0.000	0.000	0.187

GROWTH: 1989 – 1991
By Age Group



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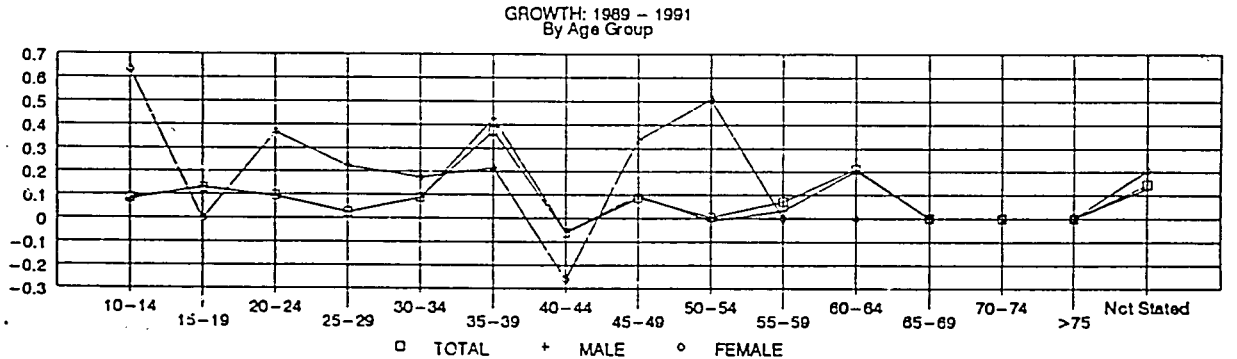
Transportation, Storage, Communication:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	951,354	6,717	67,822	124,164	162,034	161,600	162,729	112,639	73,510	45,268	18,180	10,061	3,144	2,095	766	625
	Male	935,689	6,530	66,699	121,079	158,385	159,354	160,973	111,162	72,637	44,729	17,884	9,832	3,100	2,095	746	484
	Female	15,665	187	1,123	3,085	3,649	2,246	1,756	1,477	873	539	296	229	44	0	20	141
1982	TOTAL	2,154,737	11,785	119,654	251,096	367,710	424,133	399,940	202,062	155,296	123,126	53,758	27,494	12,685	4,611	1,387	0
	Male	2,137,253	10,855	118,244	248,216	364,421	421,225	398,819	201,035	154,465	122,120	53,658	27,494	12,685	4,611	1,387	0
	Female	17,484	930	1,410	4,880	3,289	2,908	1,121	1,027	811	1,006	102	0	0	0	0	0
1986	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	2,192,149	10,895	121,727	257,934	377,352	428,455	402,902	206,921	157,580	125,407	56,119	28,174	12,685	4,611	1,387	0
	Male	2,137,253	10,855	118,244	248,216	364,421	421,225	398,819	201,035	154,485	122,120	53,658	27,494	12,685	4,611	1,387	0
	Female	54,896	40	3,483	11,718	12,931	7,230	4,083	5,886	3,095	3,287	2,463	680	0	0	0	0
1990	TOTAL	2,212,472	10,458	131,898	284,440	439,178	437,754	404,425	210,059	65,799	122,934	55,642	29,568	15,936	4,383	0	0
	Male	2,159,418	9,669	129,712	277,208	426,790	428,026	399,715	203,556	60,658	120,659	35,077	28,363	15,936	4,049	0	0
	Female	53,054	789	2,186	7,232	12,388	9,728	4,710	6,503	5,141	2,275	565	1,203	0	334	0	0
1991	TOTAL	2,493,434	16,081	137,495	303,483	476,327	511,461	422,258	243,700	153,416	110,261	65,590	28,324	14,063	6,439	2,536	0
	Male	2,418,733	14,955	134,979	284,299	465,517	497,910	416,175	235,620	149,462	108,464	64,208	26,820	12,869	6,176	1,279	0
	Female	74,701	1,126	2,516	19,184	12,810	13,551	6,083	8,080	3,954	1,797	1,382	1,504	1,214	263	1,257	0
AVERAGE	TOTAL	1,429,164	7,991	82,657	174,442	260,657	280,468	256,036	139,340	86,514	75,285	35,613	17,660	8,362	3,163	866	89
	Male	1,398,335	7,552	81,125	167,860	254,219	275,391	253,500	136,058	84,532	74,013	34,928	17,143	8,182	3,077	866	69
	Female	30,829	439	1,531	6,583	6,438	5,095	2,536	3,282	1,982	1,272	687	517	180	85	182	20
GROWTH (1989–1991)	TOTAL	0.249	0.065	0.126	0.095	0.024	0.088	0.375	(0.061)	0.065	0.004	0.070	0.210	0.000	0.000	0.000	0.143
	Male	0.219	0.076	0.131	0.090	0.022	0.085	0.428	(0.057)	0.096	(0.011)	0.032	0.202	0.000	0.000	0.000	0.126
	Female	9.578	0.634	(0.004)	0.369	0.223	0.174	0.215	(0.259)	0.338	0.510	0.000	0.000	0.000	0.000	0.000	0.204



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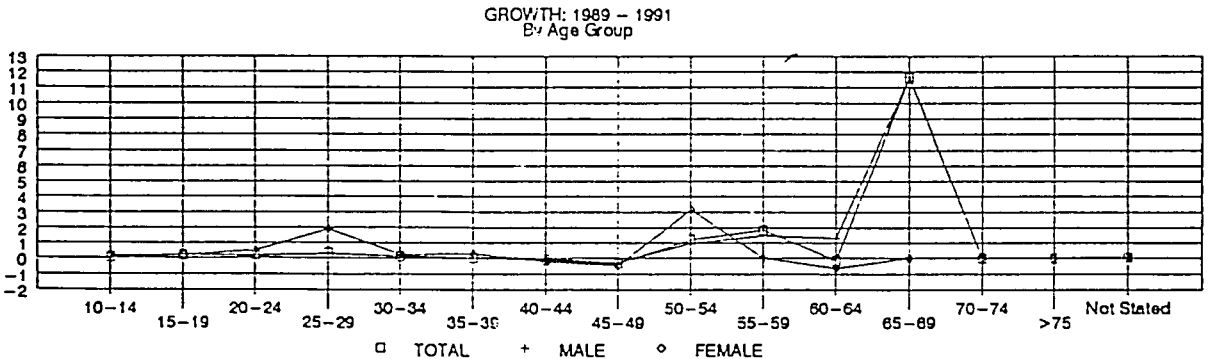
Financing, Insurance, Real Estate & Business Services

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	93,462	432	3,671	13,988	22,460	17,810	13,181	8,924	5,272	4,126	1,763	962	317	164	177	166
	Male	81,163	192	2,468	10,698	19,171	16,323	11,908	8,236	4,660	3,956	1,667	957	290	159	172	106
	Female	12,299	260	1,203	3,290	3,318	1,487	1,273	688	412	170	36	5	27	5	5	60
1982	TOTAL	325,277	726	7,060	46,392	65,475	60,817	40,845	30,416	30,511	24,733	11,151	1,942	1,917	591	681	0
	Male	304,804	726	4,765	41,031	61,559	59,815	37,712	29,580	29,790	24,311	11,151	1,175	1,917	591	681	0
	Female	20,473	0	2,315	7,361	3,916	1,002	3,133	836	721	422	0	767	0	0	0	0
1986	TOTAL	10,018,096	92,181	729,380	1,452,727	1,635,424	1,583,438	1,251,012	1,014,947	880,993	534,738	30[illegible],50	180,261	100,375	35,351	21,116	0
	Male	7,381,545	41,119	368,672	929,428	1,360,442	1,239,866	998,983	819,470	727,717	422,198	2[illegible] 154	126,164	73,178	25,022	14,106	0
	Female	2,636,551	51,062	360,708	323,299	474,982	343,542	252,049	195,477	153,276	112,542	70,996	54,077	27,199	10,329	7,013	0
1987	TOTAL	11,199,777	85,749	790,142	1,475,034	1,973,598	1,792,801	1,467,750	1,109,079	1,077,989	666,647	367,905	232,441	79,879	49,316	18,447	0
	Male	8,201,891	39,015	405,978	923,473	1,458,867	1,375,921	1,145,183	883,474	881,059	531,585	290,510	161,511	57,927	37,764	9,444	0
	Female	2,998,086	46,734	384,164	551,561	514,731	416,880	322,567	225,605	196,930	135,062	70,395	70,930	21,952	11,552	9,003	0
1989	TOTAL	396,535	726	10,033	68,780	88,868	66,128	39,851	34,931	34,749	28,219	12,843	1,380	2,508	4,269	1,361	0
	Male	304,804	726	4,765	41,031	61,559	59,815	37,712	29,580	29,790	24,311	11,151	1,175	1,917	591	681	0
	Female	91,731	0	5,268	27,749	27,329	6,313	1,930	5,401	4,958	3,908	1,692	205	591	3,698	680	0
1990	TOTAL	478,381	616	20,491	87,910	103,166	75,456	63,[illegible]	43,986	43,400	22,291	9,564	3,929	945	2,928	115	0
	Male	353,705	616	12,548	47,768	[illegible] 58	59,131	54,399	39,646	39,166	17,793	7,989	2,476	945	1,955	115	0
	Female	124,676	0	7,943	40,142	[illegible]	16,355	9,155	4,340	4,234	4,498	1,575	1,453	0	973	0	0
1991	TOTAL	516,570	527	23,525	75,558	126,846	95,407	68,334	44,508	34,451	22,409	5,770	6,291	5,027	3,026	2,891	0
	Male	385,887	377	14,087	40,575	88,863	78,939	58,611	37,075	27,219	20,509	5,500	4,489	4,196	2,556	2,891	0
	Female	130,683	150	9,438	34,983	39,983	16,468	9,723	7,433	7,232	1,900	270	1,802	831	470	0	0
AVERAGE	TOTAL	3,289,728	25,654	226,332	460,341	602,555	527,698	420,618	320,492	301,052	186,166	104,021	81,029	27,281	13,668	6,399	24
	Male	2,430,514	11,824	116,183	290,572	445,660	412,834	334,927	263,886	248,514	149,234	80,446	42,587	20,053	9,805	4,013	15
	Female	859,214	14,029	110,148	169,769	156,895	114,864	85,691	62,826	52,538	36,932	23,575	18,483	7,229	3,861	2,386	9
GROWTH (1989–1991)	TOTAL	(0.146)	0.069	0.205	0.186	0.339	0.135	0.021	(0.102)	(0.226)	1.224	1.848	(0.142)	11.612	0.000	0.000	0.037
	Male	(0.270)	0.007	0.204	0.162	0.260	0.138	0.005	(0.058)	(0.298)	0.060	1.467	1.308	11.654	0.000	0.000	0.028
	Female	0.000	0.159	0.210	0.487	1.892	0.258	0.281	(0.213)	(0.449)	3.164	0.000	(0.927)	0.000	0.000	0.000	0.052



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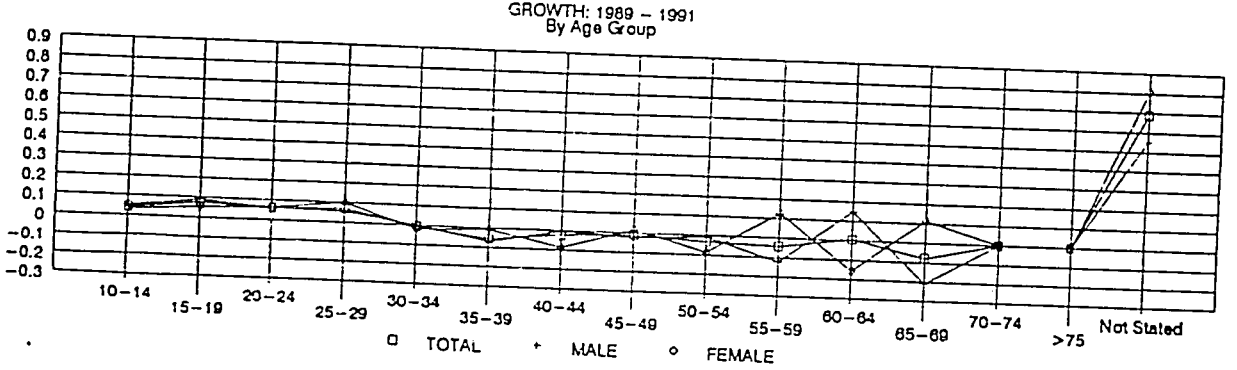
Public Services:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	4,119,552	95,291	313,230	495,733	676,603	657,526	561,595	465,816	341,290	233,703	118,508	83,458	39,582	25,952	11,431	1,636
	Male	2,992,926	40,461	154,300	312,921	503,080	515,620	444,435	372,387	277,392	178,481	87,211	55,372	26,306	16,527	7,152	1,103
	Female	1,126,624	54,830	158,930	182,812	173,723	141,706	117,160	93,229	63,898	55,242	29,295	28,086	13,276	9,425	4,279	733
1982	TOTAL	8,071,545	93,376	524,502	928,344	1,175,029	1,213,557	1,066,982	910,400	848,155	628,544	335,726	170,215	95,842	45,206	35,865	0
	Male	5,747,073	29,362	204,588	504,381	806,541	933,385	843,785	711,170	715,317	514,558	250,167	118,844	68,030	26,992	19,953	0
	Female	2,324,472	64,014	319,914	423,963	368,488	280,172	223,197	199,230	132,838	113,986	85,559	51,371	27,812	18,216	15,712	0
1986	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	8,839,042	80,522	566,523	1,043,938	1,364,009	1,383,977	1,183,751	955,870	924,362	691,554	335,580	178,068	96,324	49,946	34,820	0
	Male	5,747,073	29,362	204,588	504,381	806,541	933,385	843,785	711,170	715,317	514,558	250,167	118,844	68,030	26,992	19,953	0
	Female	3,121,969	51,160	361,935	539,557	357,468	450,592	319,966	244,500	209,045	176,996	85,413	59,222	28,294	22,954	14,867	0
1990	TOTAL	9,070,379	88,885	620,589	1,088,917	1,522,674	1,443,310	1,274,891	898,551	849,343	631,774	299,547	163,413	93,407	44,815	30,463	0
	Male	5,863,021	29,262	229,021	538,679	927,605	993,056	919,895	662,845	634,820	484,211	215,259	128,105	60,496	23,631	18,138	0
	Female	3,207,358	59,423	391,568	552,238	594,669	450,254	354,996	235,906	214,523	147,563	84,288	35,308	32,911	21,184	12,327	0
1991	TOTAL	9,530,042	122,955	729,446	1,133,108	1,373,995	1,561,247	1,331,330	942,907	820,897	657,042	323,443	165,683	88,157	49,955	29,482	495
	Male	6,077,199	38,669	245,967	558,045	954,647	1,052,816	944,200	707,625	615,032	510,667	235,147	116,270	52,173	33,704	12,237	0
	Female	3,452,843	84,286	483,479	575,063	419,348	508,431	387,130	235,182	205,865	146,375	88,296	49,413	35,984	16,251	17,245	495
AVERAGE	TOTAL	5,665,794	68,690	393,470	670,006	901,787	894,231	771,221	596,149	540,578	406,066	201,543	111,548	59,045	30,639	20,266	333
	Male	3,775,326	23,874	148,352	345,201	571,231	632,637	570,871	452,142	422,554	314,836	148,279	76,776	39,291	18,264	11,062	158
	Female	1,890,467	44,816	245,118	324,805	330,557	261,594	200,350	144,007	118,024	91,452	53,264	34,771	19,754	12,576	9,204	175
GROWTH (1989–199	TOTAL	0.244	0.042	0.075	0.062	0.070	(0.005)	(0.057)	(0.023)	(0.014)	(0.033)	(0.043)	0.006	(0.079)	0.000	0.000	0.669
	Male	0.159	0.052	0.090	0.062	0.058	(0.000)	(0.072)	(0.002)	(0.024)	(0.007)	(0.124)	0.151	(0.208)	0.000	0.000	0.554
	Female	0.290	0.092	0.054	0.064	0.100	(0.019)	(0.007)	(0.087)	0.017	(0.066)	0.128	(0.155)	0.114	0.000	0.000	0.810



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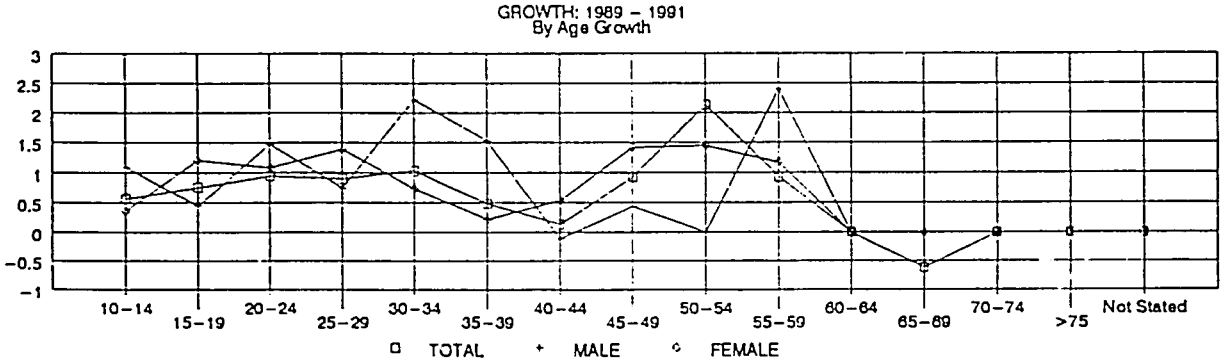
Others:

YEAR	AGE GROUP	TOTAL	10–14	15–19	20–24	25–29	30–34	35–39	40–44	45–49	50–54	55–59	60–64	65–69	70–74	>75	Not Stated
1971	TOTAL	1,678,199	374,310	400,798	272,630	189,576	152,515	127,606	97,405	84,045	59,722	33,758	42,091	20,303	21,595	18,433	3,214
	Male	662,949	195,249	227,086	146,312	71,875	52,806	42,129	32,889	22,400	20,728	12,207	14,171	6,974	8,278	6,081	1,784
	Female	1,015,250	179,061	173,712	126,519	117,701	99,709	85,477	64,516	61,645	38,994	21,549	27,920	13,329	13,317	10,352	1,430
1[illegible]	TOTAL	28,306	3,752	3,[illegible]	2,887	2,998	1,363	2,745	924	1,170	6,957	1,891	0	527	0	0	0
	Male	27,976	3,752	3,092	2,887	2,998	1,363	2,745	924	1,170	6,627	1,891	0	527	0	0	0
	Female	330	0	0	0	0	0	0	0	0	330	0	0	0	0	0	0
1986	TOTAL	5,182,039	282,697	499,152	760,527	869,920	699,851	586,646	456,241	394,921	268,035	158,776	111,664	58,088	21,427	13,323	271
	Male	3,535,819	148,142	281,371	484,982	596,404	514,213	444,610	345,139	291,774	198,742	113,998	66,929	29,406	12,793	9,318	0
	Female	1,646,220	138,555	217,781	275,545	273,516	185,638	142,036	111,102	103,147	69,293	44,780	44,735	28,682	8,634	4,505	271
1987	TOTAL	4,198,083	222,292	431,490	554,104	715,450	572,659	485,537	324,492	324,392	229,292	137,735	91,884	66,573	26,662	15,521	0
	Male	2,926,928	110,749	239,002	370,871	516,294	451,739	359,747	244,099	241,683	169,613	102,282	61,017	37,228	14,074	6,530	0
	Female	1,271,155	111,543	192,488	183,233	197,156	120,920	125,790	80,393	82,709	59,679	35,453	30,867	29,345	12,588	8,991	0
1989	TOTAL	57,798	4,330	3,502	8,515	5,179	3,462	4,125	3,738	6,088	9,975	3,459	1,522	2,779	0	1,126	0
	Male	27,976	3,752	3,092	2,887	2,998	1,363	2,745	924	1,170	6,627	1,891	0	527	0	0	0
	Female	29,822	578	410	5,628	2,181	2,099	1,380	2,814	4,918	3,348	1,568	1,522	2,252	0	1,126	0
1990	TOTAL	128,029	12,212	13,365	19,193	12,601	8,453	8,134	11,749	7,113	11,249	10,077	3,629	7,660	1,735	859	0
	Male	57,609	4,224	6,462	10,114	5,242	5,716	3,703	5,456	1,433	6,914	4,577	1,501	132	1,276	859	0
	Female	70,420	7,988	6,903	9,079	7,359	2,737	4,431	6,293	5,680	4,335	5,500	2,128	7,528	459	0	0
1991	TOTAL	148,978	5,727	8,914	16,809	13,593	12,210	14,860	10,750	12,704	12,722	9,429	14,112	8,418	5,728	0	0
	Male	60,374	5,094	5,172	6,749	5,974	4,391	7,884	2,993	5,490	5,027	2,046	6,572	866	2,016	0	0
	Female	88,602	3,633	3,742	10,060	7,619	7,819	6,976	7,757	7,214	7,695	7,383	7,440	7,552	3,712	0	0
AVERAGE	TOTAL	1,650,204	129,760	194,330	233,552	258,474	207,218	175,665	129,328	115,776	85,422	50,732	37,843	23,478	11,021	7,109	498
	Male	1,071,376	68,995	109,325	146,400	171,969	147,370	123,366	90,346	80,731	59,183	34,127	21,470	10,809	5,491	3,541	252
	Female	588,828	62,765	85,005	87,152	86,505	59,848	52,299	38,982	35,044	26,239	16,605	16,373	12,670	5,530	3,568	246
GROWTH (1989–199	TOTAL	0.767	0.565	0.756	0.943	0.899	1.029	0.477	0.129	0.924	2.137	0.928	0.000	(0.619)	0.000	0.000	0.000
	Male	0.166	1.065	0.444	1.481	0.739	2.227	1.528	(0.115)	0.434	0.000	2.408	0.000	0.000	0.000	0.000	0.000
	Female	6.137	0.361	1.205	1.060	1.393	0.734	0.213	0.535	1.425	1.447	1.173	0.000	0.000	0.000	0.000	0.000



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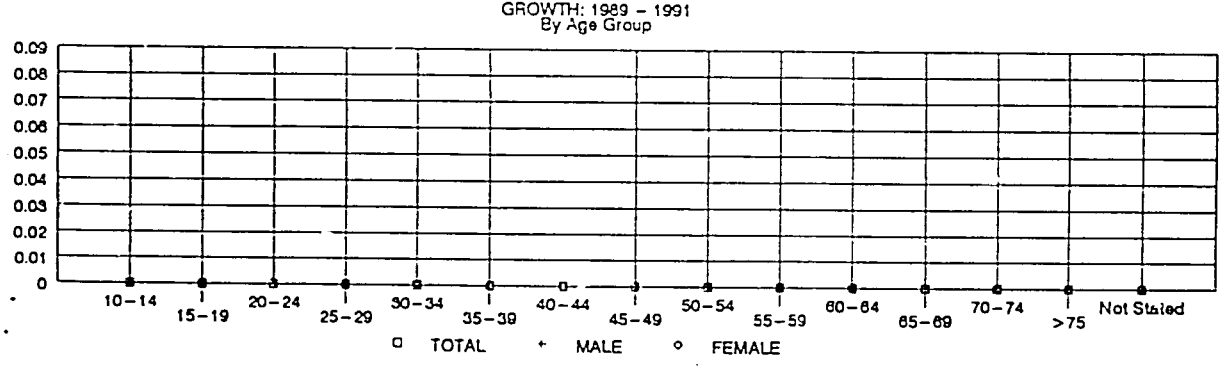
Not Stated:

YEAR	AGE GROUP	TOTAL	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	Not Stated
1971	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	TOTAL	131,205	9,411	21,031	24,741	20,025	9,715	8,816	7,478	7,985	8,478	4,937	5,177	1,149	2,262	0	0
	Male	68,562	5,499	13,649	12,821	7,094	4,185	3,581	3,376	5,305	5,306	2,996	3,590	317	843	0	0
	Female	62,643	3,912	7,382	11,920	12,931	5,530	5,235	4,102	2,680	3,172	1,941	1,587	832	1,419	0	0
1987	TOTAL	2,851	0	313	0	1,083	933	0	0	0	522	0	0	0	0	0	0
	Male	1,455	0	0	0	0	933	0	0	0	522	0	0	0	0	0	0
	Female	1,396	0	313	0	1,083	0	0	0	0	0	0	0	0	0	0	0
1989	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Male	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Female	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AVERAGE	TOTAL	19,151	1,344	3,049	3,534	3,015	1,521	1,259	1,068	1,141	1,266	705	740	164	323	0	0
	Male	10,002	786	1,950	1,832	1,013	731	512	482	758	833	428	513	45	120	0	0
	Female	9,148	559	1,099	1,703	2,002	790	748	586	383	453	277	227	119	203	0	0
GROWTH (1989-1991)	TOTAL	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Male	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Female	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



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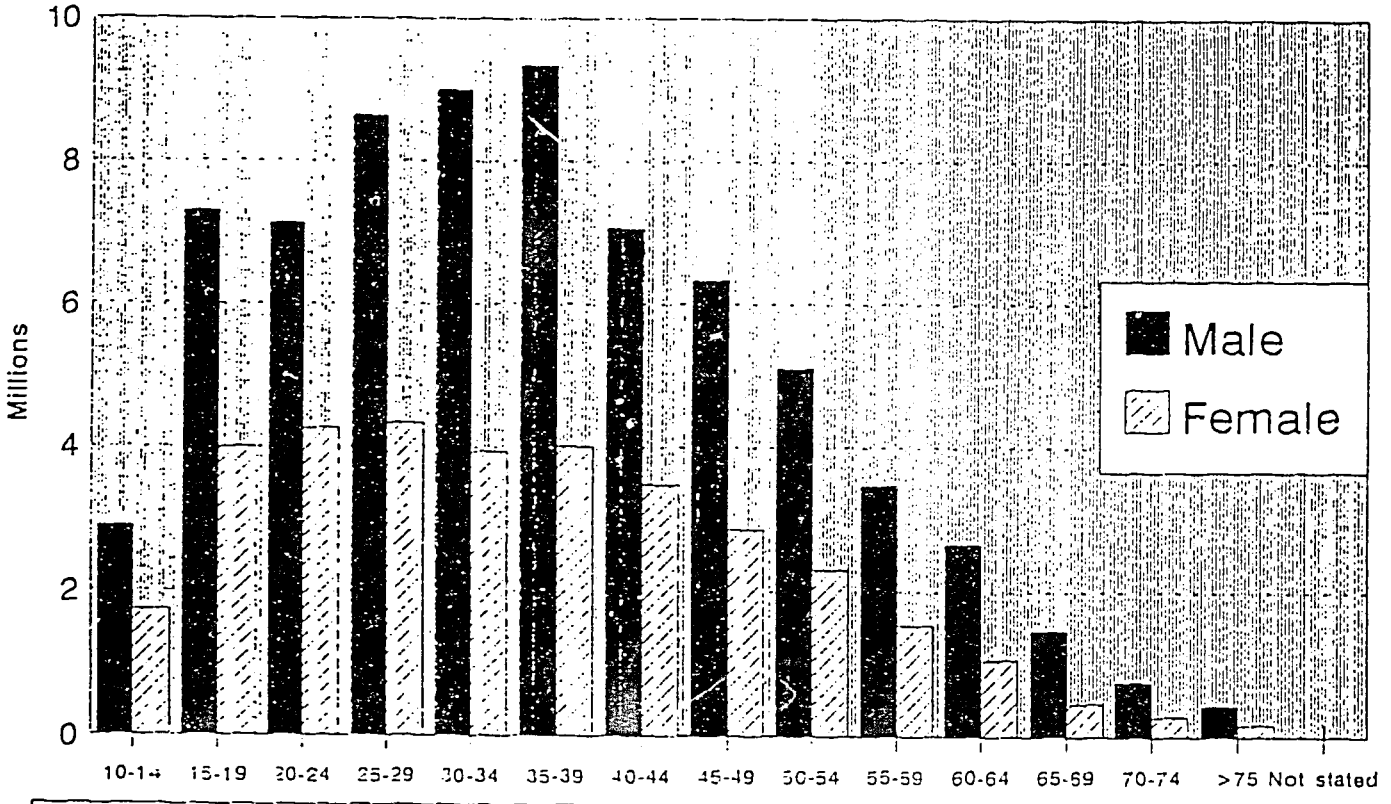
All Industry, 1971 + 1982

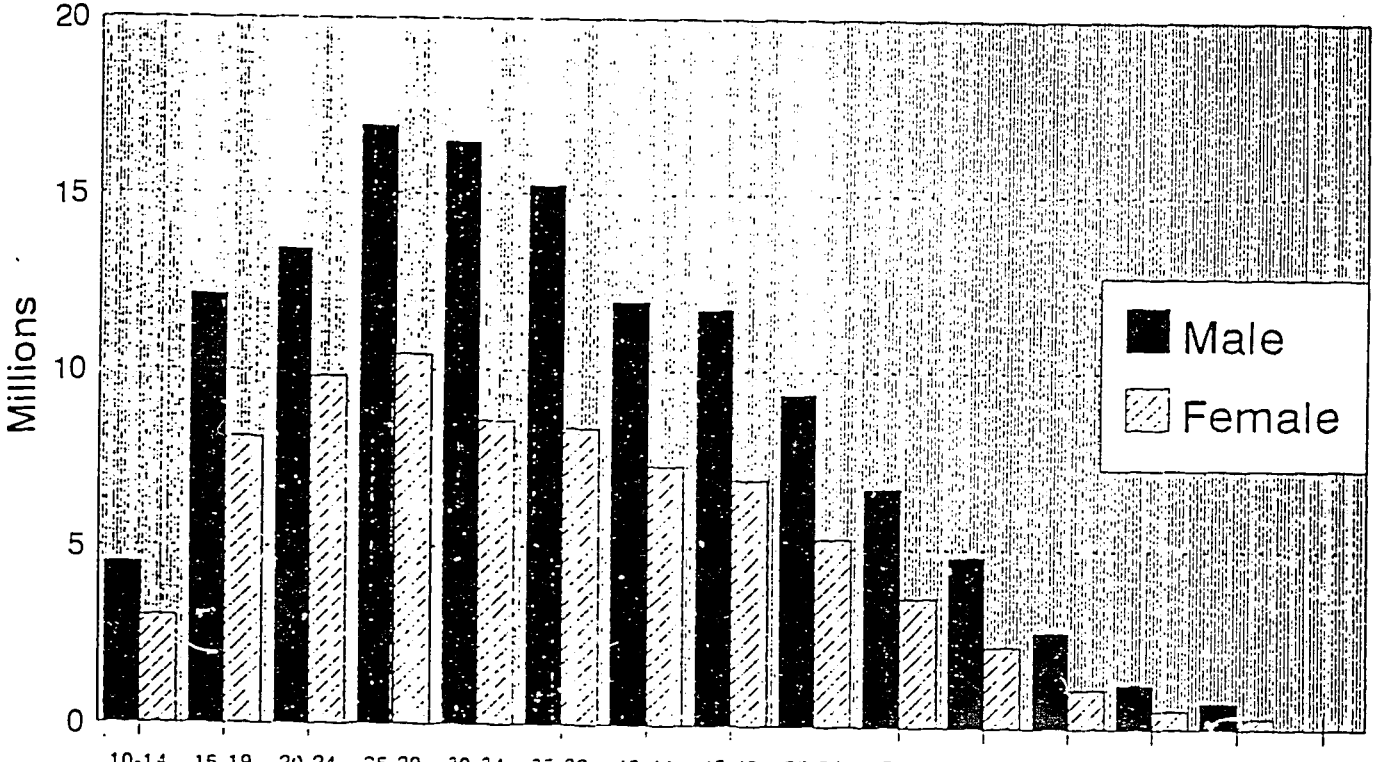


BEST AVAILABLE DOCUMENT

Sources: Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1971, 1982

188

All Industry, 1982 + 1986 + 1987



Male	4.549613	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.748524	0.000012
Female	3.021099	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	0.292110	0.000271

Age Group

BEST AVAILABLE DOCUMENT

Sources: Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1982, 1986, 1987

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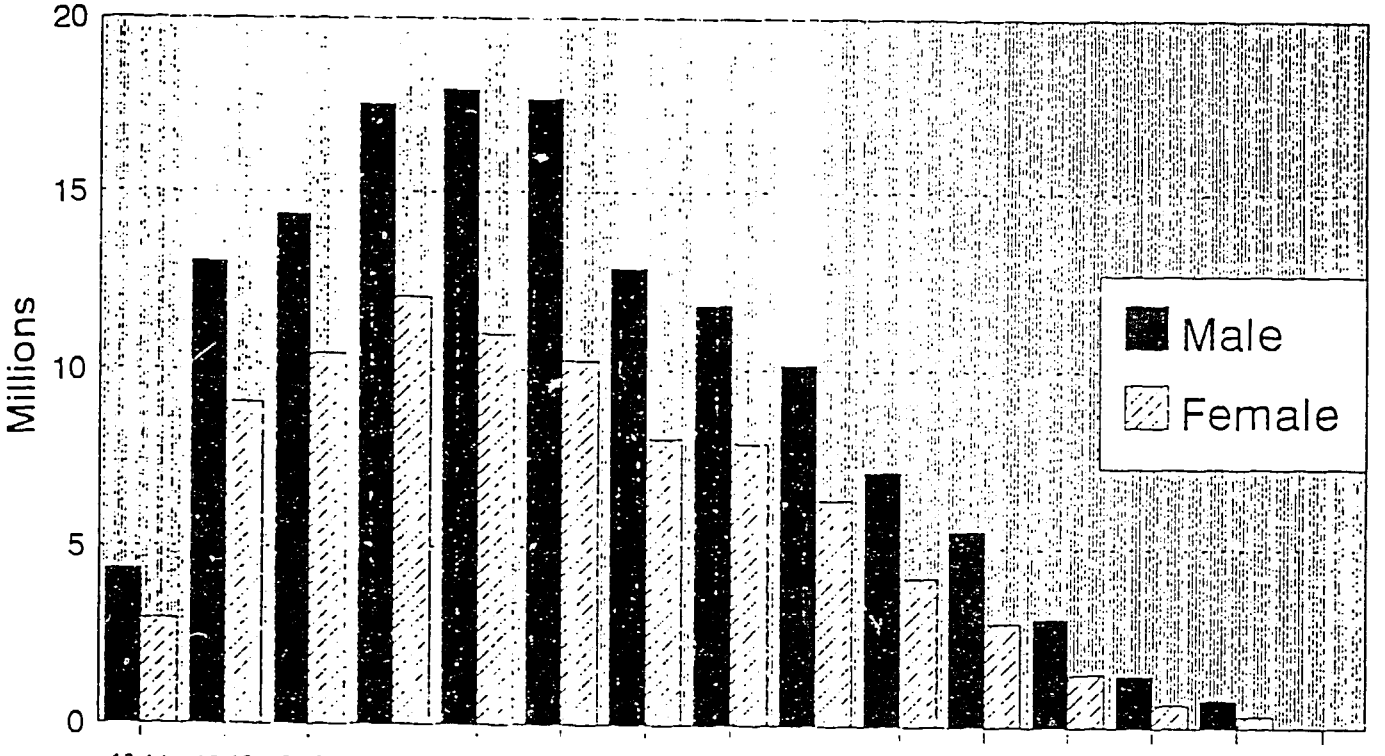
All Industry, 1989 - 1991



Age Group

BEST AVAILABLE DOCUMENT

Sources. Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1989, 1990, 1991

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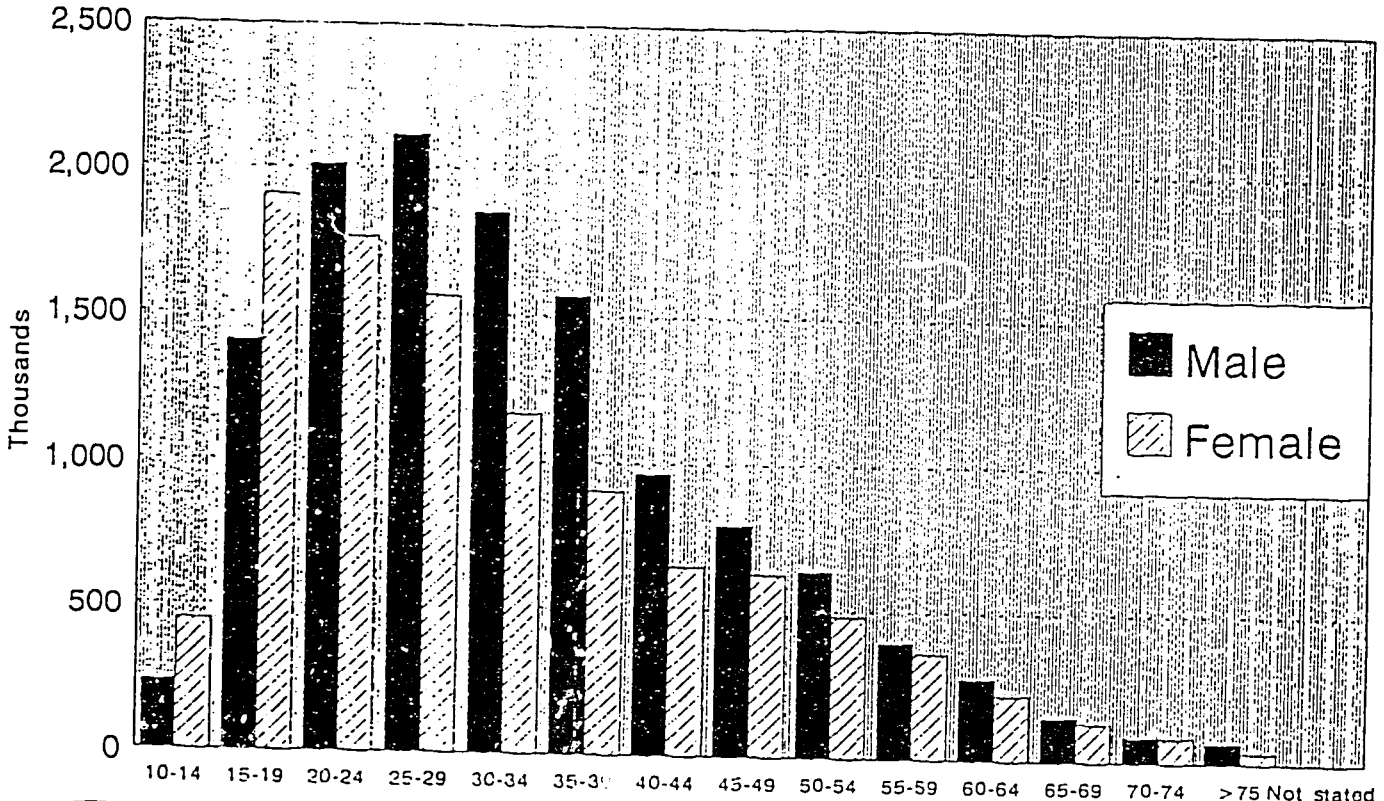
Manufacturing Industry, 1989 - 1991



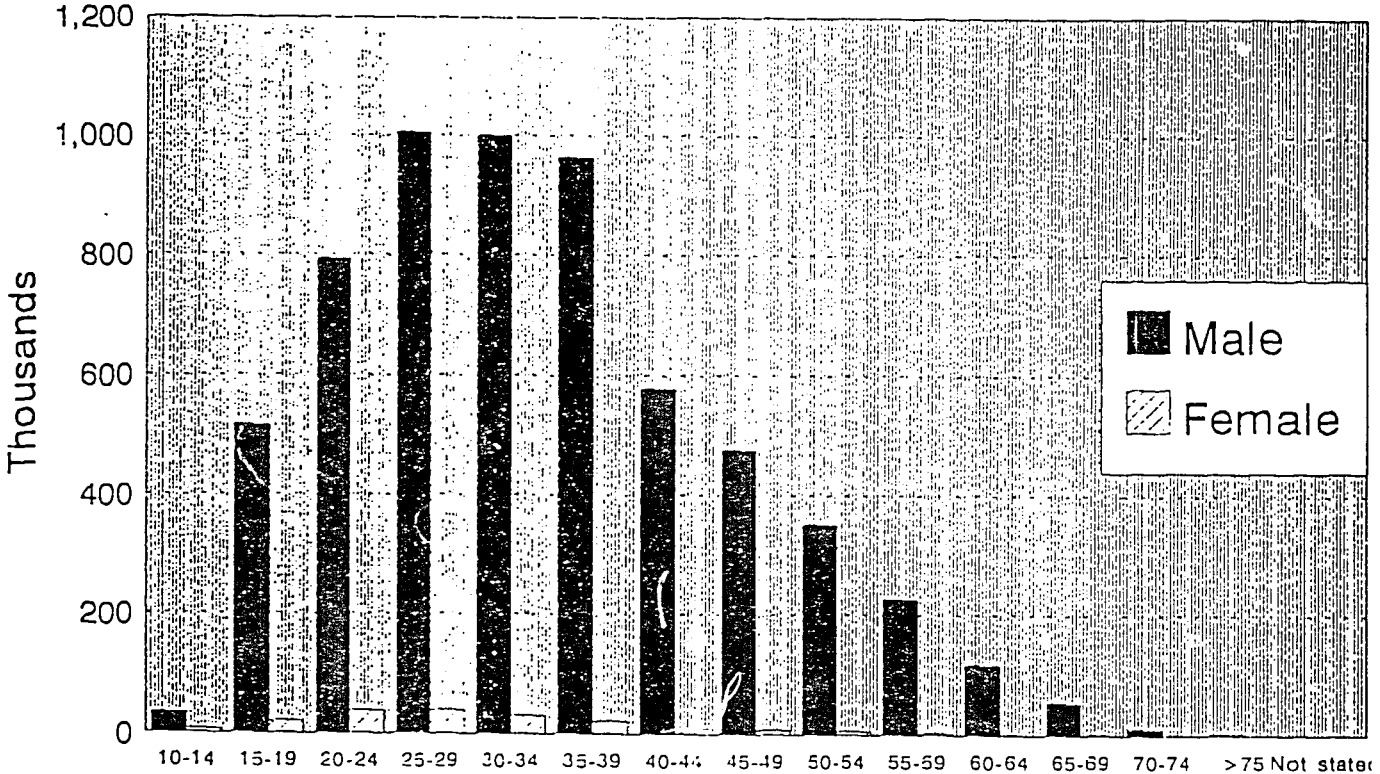
Male	233.178	1.408.687	2.010.751	2.114.120	1.349.531	1.507.104	164.215	791.021	535.937	397.054	275.546	147.05	82.745	69.870	0
Female	448.828	1.507.155	1.758.819	1.561.755	1.137.444	903.629	548.141	534.70	401.660	381.405	219.792	120.066	82.130	35.579	0

AGE GROUP

BEST AVAILABLE DOCUMENT

Sources: Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1989, 1990, 1991

Indonesia: Number of Employed Persons
Construction, 1989 - 1991



Male	34.21	517.725	[illegible]	[illegible]	[illegible]	[illegible]	579.877	475.500	252.022	226.710	115.972	54.506	[illegible]	4.172	0
Female	5.002	20.607	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	7.51	9.050	9.129	1.218	1.500	0.24	1.11	0

AGE GROUP

BEST AVAILABLE DOCUMENT

Sources: Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1989, 1990, 1991

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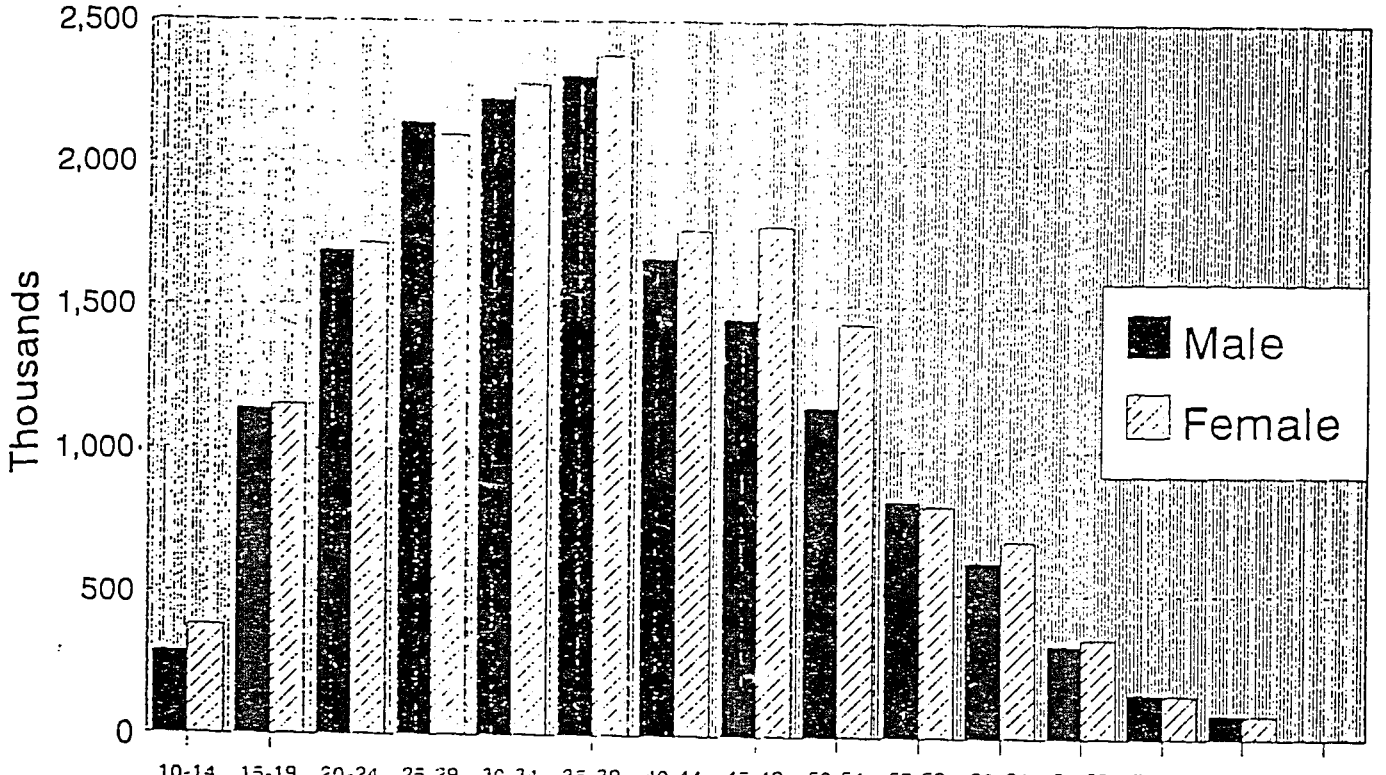
Indonesia: Number of Employed Persons

Wholesale Trade, Retail, Restaurant, 1989 - 1991



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	Not Stated
Male	285.872	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	614.68	319.120	155.098	80.001	0.513
Female	377.403	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	008.017	698.899	342.083	147.933	79.077	0

Age Group

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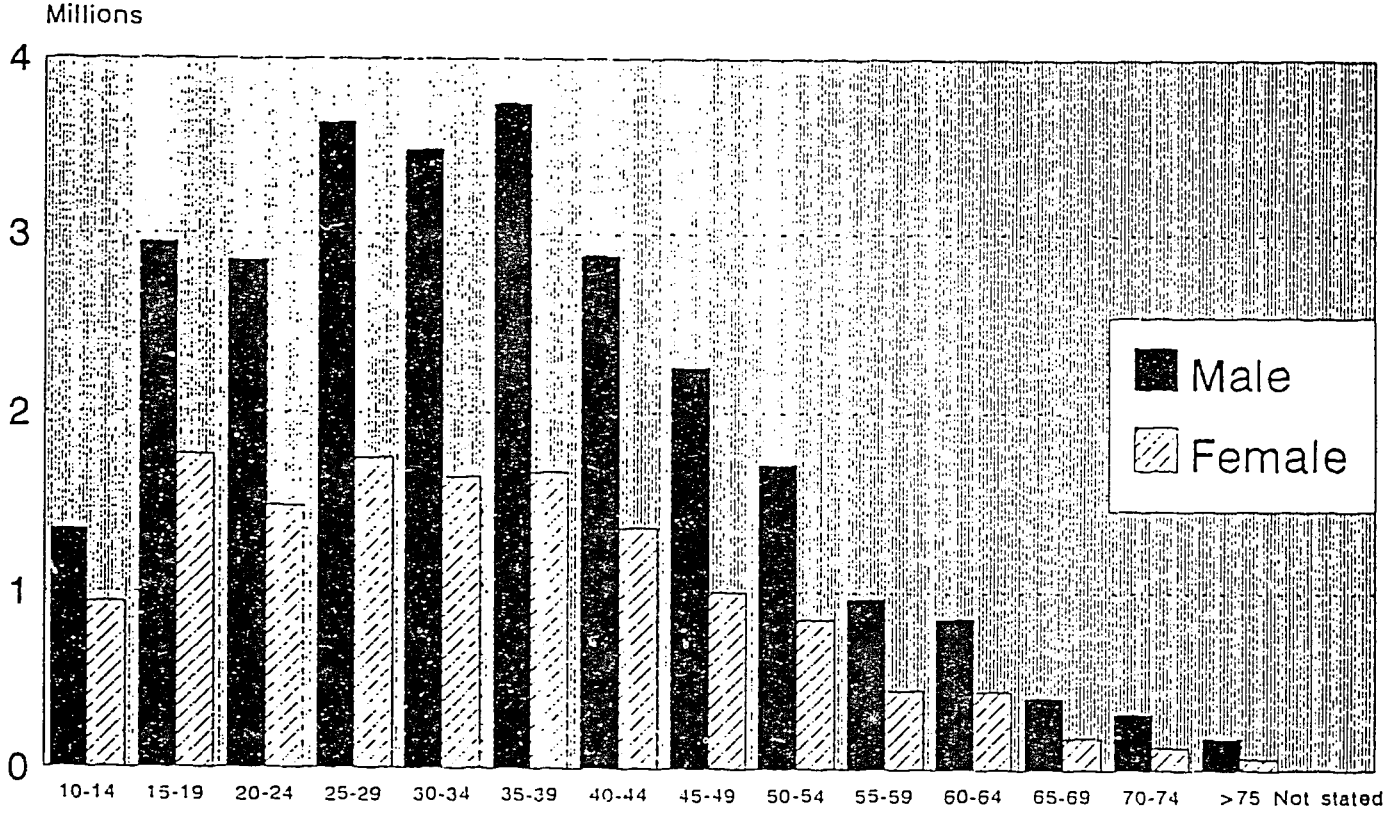
Sources: Central Bureau of Statistics, "Labour Force Situation In Indonesia"
Year: 1989, 1990, 1991

Indonesia: Number of Employed Persons (Average)

By Main Industry And Age Group



	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	>75	Not stated
Male	1.344275	2.952153	2.351607	3.558037	3.400231	3.743518	2.344714	2.254668	1.712609	0.982099	0.652254	0.401600	0.313068	0.179204	0.004804
Female	0.538552	1.765457	1.416803	1.747559	1.634129	1.561857	1.156478	0.990811	0.342777	0.400870	0.4353	0.177225	0.128691	0.082948	0.003078

Age Group

BEST AVAILABLE DOCUMENT

Sources: Central Bureau of Statistics, "LABOUR FORCE SITUATION IN INDONESIA".
Year: 1971, 1982, 1986, 1987, 1989, 1990, 1991.

ANNEX V

LABOR SUPPLY AND DEMAND RELATIONSHIPS BY ECONOMIC SECTOR, 1971 - 1991

Compiled By

Evelina Hartanti, and
Rudianto
Policy Secretariat

Total Suply & Demand Labour by Sector

Main Industry	1971			1976			1977			1978			1980	1982			1985	1986		
	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Both	Male	Female	Both	Both	Male	Female	Both
Total Supply Labour	39 207 262	41 299 814	80 507 076	43 190 428	45 033 721	88 224 149	45 223 787	46 773 660	91 997 447	45 454 903	48 271 055	93 725 958	41 675 629	33 968 067	75 883 696	15 547 645	12 081 048	26 828 883	60 394 673	62 151 563
Demand Labour All Industry	27 578 995	13 666 119	41 265 114	31 007 484	16 294 755	47 306 239	32 006 667	15 805 957	47 814 644	33 204 635	18 875 301	52 079 936	31 549 984	37 064 604	20 736 843	57 801 447	13 472 010	37 983 410	26 834 260	64 739 785
Agriculture, forestry, hunting, fishery	17 962 375	8 405 000	26 477 375	18 398 205	8 718 078	26 117 283	20 024 199	9 670 294	29 694 493	20 647 361	10 898 038	31 545 399	28 834 041	20 443 213	11 150 091	31 593 304	1 165 612	22 861 031	14 983 441	37 844 472
Mining & quarying	79 700	6 128	85 828	98 407	16 658	113 065	148 073	22 791	170 864	105 418	17 301	122 719	387 251	323 851	66 810	390 661	136 650	0	0	0
Manufacturing industry	1 538 508	1 143 446	2 681 952	2 065 984	1 902 288	3 968 272	2 196 642	1 974 688	4 171 630	1 935 531	1 920 029	3 855 560	4 660 051	3 138 871	2 883 078	6 021 949	1 959 718	3 094 879	2 511 032	5 605 911
Electricity, gas & water	35 877	1 482	37 358	26 339	706	27 045	30 833	1 227	32 060	13 106	242	13 348	66 069	64 509	8 363	60 932	39 113	0	0	0
Construction	865 963	12 509	878 472	801 736	13 528	815 264	822 309	15 878	838 186	1 066 157	18 781	1 105 818	1 657 148	2 103 007	43 203	2 146 210	765 100	0	0	0
Wholesale trade, retail, restaurance	2 403 845	1 857 716	4 261 561	3 824 933	3 188 962	6 813 895	3 657 316	2 619 707	6 277 023	3 656 318	4 020 213	7 706 531	6 678 952	4 328 750	4 225 169	8 553 919	3 891 045	4 709 488	5 047 016	9 756 504
Transportation, storage, comunication	935 669	15 695	951 254	1 267 810	16 173	1 283 983	1 385 291	38 297	1 423 588	1 273 531	15 053	1 288 584	1 466 418	1 776 628	17 484	1 796 112	953 135	0	0	0
Financing, insurance, realestate & business service	81 183	12 299	93 482	78 559	15 874	94 433	67 905	17 047	84 952	36 259	6 336	42 595	302 346	92 356	20 473	112 829	174 591	0	0	0
Public service	2 992 928	1 126 824	4 119 552	3 526 314	1 420 470	3 946 784	3 838 022	1 435 647	5 073 669	4 416 853	1 877 905	6 294 758	7 144 523	4 800 847	2 324 172	7 125 119	4 380 994	7 381 545	2 638 551	10 018 096
Others	862 940	1 015 250	1 878 190	21 197	4 718	25 915	38 097	10 163	48 260	2 001	423	2 424	21 619	382	0	382	6 048	68 582	1 646 220	1 714 782

Main Industry	1987			1988	1989			1990			1991			1992		
	Male	Female	Both	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both
Total Supply Labour	122 546 526	62 054 344	184 600 870	125 884 824	65 845 980	67 019 528	132 905 508	67 090 784	68 623 665	135 714 449	67 942 469	69 367 780	137 310 249	69 653 466	71 120 990	140 774 456
Demand Labour All Industry	45 178 863	27 820 729	73 099 592	72 512 409	44 106 830	29 324 054	73 432 814	46 427 866	29 422 678	75 850 544	47 229 072	29 194 107	76 423 179	47 866 585	30 351 787	78 218 372
Agriculture, forestry, hunting, fishery	23 183 450	15 539 638	38 722 088	40 567 793	24 565 173	16 719 059	41 284 232	25 627 409	16 650 900	42 378 309	25 291 443	15 914 348	41 205 791	25 603 598	16 649 607	42 153 205
Mining & quarying	0	0	0	0	382 476	66 425	448 901	442 522	85 698	528 220	466 667	67 733	564 599	436 096	88 828	524 924
Manufacturing industry	5 884 191	2 634 263	8 518 454	5 996 690	3 925 289	3 419 585	7 344 874	4 210 051	3 483 212	7 693 263	4 410 665	3 535 685	7 946 350	4 386 453	3 669 043	8 255 496
Electricity, gas & water	0	0	0	0	118 780	8 471	125 281	123 870	10 848	134 718	138 264	12 396	150 660	146 796	15 574	162 370
Construction	0	0	0	0	1 784 152	44 481	1 828 633	2 000 058	58 451	2 058 509	2 351 480	85 114	2 436 594	2 130 336	84 408	2 214 744
Wholesale trade, retail, restaurance	4 962 603	5 478 566	10 481 169	10 849 234	5 121 104	5 769 825	10 890 729	5 290 203	5 777 118	11 067 321	5 628 154	5 802 501	11 430 655	5 765 558	5 978 255	11 746 813
Transportation, storage, comunication	0	0	0	0	2 137 253	54 096	2 192 149	2 259 418	53 054	2 312 472	2 418 733	74 691	2 493 424	2 509 783	64 026	2 573 809
Financing, insurance, realestate & business service	0	0	0	0	304 804	81 731	386 535	353 705	124 678	478 381	385 693	130 195	516 068	414 890	159 686	574 565
Public service	8 201 891	2 998 066	11 199 777	11 402 452	5 747 113	3 121 969	8 869 082	5 863 021	3 207 303	9 070 324	6 077 199	3 452 843	9 530 042	6 429 583	3 481 992	9 911 575
Others	2 928 328	1 271 155	4 198 063	3 905 330	24 678	27 642	52 518	57 609	70 420	128 029	80 374	68 602	148 976	40 481	60 370	100 851

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Labour Percentage of Total Suply by Sector

Main Industry	1971			1976			1977			1978			1980	1982			1985	1986		
	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Both	Male	Female	Both	Both	Male	Female	Both
Total Supply Labour	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Demand Labour All Industry	70.342	33.138	61.257	71.792	36.192	53.621	70.778	33.792	51.974	73.050	39.103	55.566	123.693	109.052	27.407	371.765	103.782	133.070	44.431	104.164
Agriculture, forestry, hunting, fishery	45.865	20.569	32.888	44.913	21.582	33.004	44.278	20.675	32.278	45.424	22.577	33.657	69.187	60.148	14.736	200.201	8.979	79.097	24.826	60.569
Mining & quarying	0.203	0.018	0.107	0.223	0.038	0.128	0.327	0.049	0.186	0.232	0.036	0.131	0.929	0.953	0.068	2.513	1.053	0.000	0.000	0.000
Manufacturing industry	3.924	2.709	3.331	4.783	4.224	4.498	4.857	4.222	4.534	4.258	3.978	4.114	11.230	9.235	3.810	38.732	15.097	10.848	4.158	9.020
Electricity, gas & water	0.092	0.004	0.046	0.061	0.002	0.031	0.068	0.003	0.035	0.029	0.001	0.014	0.159	0.161	0.008	0.392	0.331	0.000	0.000	0.000
Construction	1.699	0.030	0.843	1.856	0.030	0.924	1.818	0.034	0.911	2.390	0.041	1.180	3.976	6.187	0.057	13.804	5.894	0.000	0.000	0.000
Wholesale trade, retail, restaurance	8.131	4.498	5.293	8.393	7.061	7.723	8.087	5.801	6.823	8.114	6.328	8.225	16.026	12.736	5.584	55.017	29.975	16.508	3.357	15.668
Transportation, storage, comunication	2.387	0.035	1.182	2.935	0.036	1.455	3.063	0.082	1.547	2.802	0.031	1.375	3.523	5.233	0.023	11.552	7.343	0.000	0.000	0.000
Financing, insurance, realestate & business service	0.207	0.030	0.118	0.182	0.033	0.107	0.150	0.036	0.092	0.080	0.013	0.046	0.725	0.272	0.027	0.728	1.345	0.000	0.000	0.000
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Public service	7.634	2.728	5.117	8.396	3.154	5.720	8.044	3.070	5.515	9.717	4.097	6.823	17.143	14.125	3.072	45.827	33.749	25.874	4.366	16.119
Others	2.201	2.458	2.333	0.049	0.010	0.029	0.084	0.022	0.052	0.004	0.001	0.003	0.052	0.001	0.000	0.002	0.047	0.240	2.726	2.759

Main Industry	1987			1988	1989			1990			1991			1992		
	Male	Female	Both	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both
Total Supply Labour	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
Demand Labour All Industry	36.867	44.994	39.599	57.598	68.947	43.755	55.252	69.202	42.875	55.590	69.513	42.086	55.657	68.721	42.878	55.563
Agriculture, forestry, hunting, fishery	18.918	25.040	60.654	32.216	37.284	24.947	31.063	38.496	24.118	31.226	37.225	22.942	30.009	36.759	23.270	29.944
Mining & quarying	0.000	0.000	0.000	0.000	0.581	0.009	0.338	0.660	0.125	0.389	0.687	0.141	0.411	0.626	0.125	0.373
Manufacturing industry	4.802	4.245	13.343	4.783	5.958	5.102	5.526	6.275	5.076	5.669	6.492	5.097	5.787	6.298	5.440	5.864
Electricity, gas & water	0.000	0.000	0.000	0.000	0.177	0.013	0.094	0.185	0.016	0.099	0.204	0.018	0.110	0.211	0.022	0.115
Construction	0.000	0.000	0.000	0.000	2.708	0.066	1.376	2.981	0.087	1.516	3.461	0.123	1.775	3.056	0.119	1.573
Wholesale trade, retail, restaurance	4.066	8.829	16.386	8.459	7.773	8.609	8.194	7.885	6.419	6.155	8.284	8.365	8.325	8.282	8.406	8.344
Transportation, storage, comunication	0.000	0.000	0.000	0.000	3.244	0.082	1.649	3.368	0.077	1.704	3.560	0.108	1.816	3.603	0.000	1.828
Financing, insurance, realestate & business service	0.000	0.000	0.000	0.000	0.463	0.137	0.298	0.527	0.122	0.352	0.568	0.188	0.378	0.596	0.225	0.406
	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Public service	6.693	4.831	17.543	9.057	8.723	4.658	6.673	8.739	4.674	6.683	8.945	4.078	6.941	9.231	4.896	7.041
Others	2.388	2.048	6.576	3.103	0.037	0.042	0.040	0.066	0.103	0.094	0.089	0.128	0.108	0.058	0.085	0.072

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Indonesian Labour Force by Sector and Educational Attainment

Industry	Educational Attainment	1971 Male	1971 Female	1971 Both	1976 Male	1976 Female	1976 Both	1977 Male	1977 Female	1977 Both	1978 Male	1978 Female	1978 Both	1980 Both	1982 Male	1982 Female	1982 Both
…stry		27 376 961	13 906 116	41 296 114	31 307 484	16 300 756	47 308 239	32 006 667	15 605 867	47 614 644	33 704 633	18 675 301	52 379 936	51 546 964	37 064 924	20 736 643	57 801 447
	Not Schooling	9 376 644	8 225 266	17 604 354	7 309 530	7 581 437	14 900 973	6 974 334	7 430 683	14 405 017	7 666 277	9 006 960	16 672 675	15 256 993	7 220 344	6 337 062	13 577 306
	Not/Not Yet Primary School	8 673 974	3 136 576	11 779 552	11 452 397	5 382 116	16 634 515	11 461 645	5 356 826	16 831 471	13 026 662	6 114 626	19 143 511	16 387 630	12 963 786	6 433 951	18 396 747
	Primary School	7 163 060	1 824 612	9 028 701	8 612 087	2 534 125	11 446 162	10 104 156	2 217 722	12 321 860	8 511 303	2 775 523	11 287 826	10 641 745	11 430 153	4 367 366	15 667 519
	Junior High School (General)	945 960	180 646	1 126 456	1 381 403	256 546	1 637 449	1 366 004	244 361	1 613 365	1 731 806	337 291	2 069 097	2 342 511	2 276 322	546 883	2 825 215
	Junior High School (Vocational)	418 449	110 266	528 545	408 653	114 664	523 717	449 145	116 447	565 583	596 552	164 408	762 961	566 904	456 964	167 326	636 180
	Senior High School General	432 534	73 611	506 143	616 891	106 626	723 519	636 029	120 575	756 096	640 645	120 260	761 133	1 236 436	1 146 667	236 745	1 366 433
	Senior High School Vocational	760 376	125 607	905 983	664 321	254 934	849 255	746 887	276 756	1 025 613	626 997	306 517	1 133 514	1 663 503	1 461 265	613 417	2 084 723
	Academy and University	171 013	30 291	200 794	232 016	36 603	266 619	230 230	35 720	265 950	167 071	46 646	246 927	417 476	366 600	94 642	463 646
	Not stated	0	0	0	0	0	0	6 006	2 630	8 636	0	0	0	6 561	3 447	2 241	5 686
…lture, forestry, hunting, fishery		17 092 371	6 495 [illegible]	23 477 373	10 396 205	9 716 076	20 117 963	20 084 196	9 676 284	29 664 480	20 647 361	10 699 038	31 345 399	29 634 941	22 443 213	11 150 081	31 593 294
	Not Schooling	7 646 666	5 465 437	13 094 073	5 726 121	4 963 133	10 587 253	5 505 133	4 800 744	10 306 677	5 950 542	5 636 166	11 566 730	10 466 543	5 302 447	5 114 466	10 416 915
	Not/Not Yet Primary School	6 016 179	1 926 941	7 947 120	7 960 311	3 344 110	11 234 421	7 958 375	3 266 161	11 240 537	8 637 334	3 503 666	12 380 222	12 139 643	8 080 080	3 666 866	11 739 646
	Primary School	4 018 176	1 025 630	5 045 816	5 209 912	1 411 341	6 621 253	6 006 974	1 502 764	7 506 786	5 017 306	1 607 437	6 624 745	6 345 470	6 063 060	2 164 764	6 217 154
	Junior High School (General)	211 212	35 944	247 156	376 580	91 562	440 142	346 458	46 387	374 633	517 211	106 908	626 116	447 746	653 540	133 303	786 743
	Junior High School (Vocational)	62 042	10 732	72 774	85 521	12 166	97 687	90 053	16 066	106 136	143 327	26 654	172 181	116 693	137 392	34 381	173 373
	Senior High School General	37 944	3 021	40 965	45 919	5 074	51 033	44 256	4 739	49 015	82 475	4 433	86 908	116 150	101 736	6 501	110 236
	Senior High School Vocational	31 539	3 756	35 292	62 160	6 229	66 389	64 196	3 330	67 446	72 573	9 333	81 903	119 770	114 216	24 377	136 566
	Academy and University	4 617	360	4 977	8 641	1 464	8 105	3 244	0	3 244	6 594	0	6 594	13 531	6 644	306	6 952
	Not stated	0	0	0	0	0	0	5 539	2 313	7 552	0	0	0	4 075	1 794	606	2 397
…ng & quarrying		79 720	6 129	85 629	96 407	16 956	113 363	148 073	22 791	170 864	105 419	17 301	122 719	387 231	323 651	66 610	390 661
	Not Schooling	11 637	2 644	14 281	16 826	11 572	29 396	29 640	11 646	41 566	18 456	6 291	24 717	82 123	56 637	31 583	90 420
	Not/Not Yet Primary School	17 183	632	17 675	39 849	4 256	44 105	46 496	4 236	50 734	44 306	6 036	52 342	144 476	121 916	18 629	140 545
	Primary School	26 791	1 157	27 948	23 831	680	24 511	31 727	2 543	34 270	21 256	1 806	22 665	78 133	63 523	5 566	91 361
	Junior High School (General)	7 536	421	7 657	4 663	0	4 663	14 531	0	14 531	7 743	0	7 743	30 644	14 661	634	15 525
	Junior High School (Vocational)	4 117	161	4 278	1 234	0	1 234	1 522	0	1 522	1 674	832	2 406	7 663	8 743	1 103	9 646
	Senior High School General	5 213	435	5 614	3 676	278	4 156	10 361	1 380	11 741	7 261	0	7 231	20 075	11 604	2 766	16 663
	Senior High School Vocational	4 290	331	4 741	2 676	0	2 676	7 313	1 626	8 141	3 360	0	3 360	10 167	14 270	1 966	15 236
	Academy and University	2 727	237	2 934	2 930	172	3 102	6 471	656	7 229	1 123	676	1 699	6 752	7 005	246	7 331
	Not stated	0	0	0	0	0	0	0	0	0	0	0	0	204	0	0	0
…facturing Industry		1 536 506	1 143 446	2 661 952	2 053 964	1 922 256	3 966 272	2 196 642	1 974 606	4 171 330	1 835 531	1 820 026	3 655 560	4 690 051	2 136 971	2 863 075	5 021 946
	Not Schooling	393 673	662 322	1 052 001	322 312	641 115	1 253 427	346 696	782 223	1 126 710	352 294	633 756	1 166 052	1 317 476	460 966	1 014 156	1 425 154
	Not/Not Yet Primary School	526 778	296 237	825 016	764 077	706 247	1 460 324	775 675	776 036	1 546 006	769 623	734 373	1 504 795	1 733 106	1 006 341	966 067	2 006 406
	Primary School	463 803	156 916	620 225	636 290	296 564	936 644	711 117	357 436	1 068 556	615 447	297 944	913 391	1 136 875	1 041 964	711 646	1 753 412
	Junior High School (General)	69 374	11 934	83 308	134 147	25 533	150 640	179 151	25 040	204 191	111 754	23 666	132 420	237 333	216 611	85 066	301 677
	Junior High School (Vocational)	29 085	2 533	31 616	39 856	6 560	45 526	37 321	10 854	48 275	63 372	11 612	64 734	66 036	63 630	16 066	131 831
	Senior High School General	32 294	3 521	35 765	54 633	9 190	63 823	71 173	12 331	83 501	55 193	10 760	65 953	139 544	115 561	29 190	144 751
	Senior High School Vocational	23 903	3 002	23 906	44 332	9 729	54 101	60 039	13 294	73 323	66 631	10 170	75 801	126 683	171 746	21 464	193 212
	Academy and University	9 810	851	9 791	11 235	2 153	13 365	16 136	2 579	18 715	11 066	646	11 912	26 904	93 013	3 664	23 636
	Not stated	0	0	0	0	0	0	42	0	42	0	0	0	0	1 006	305	1 311
…ricity, gas & water		35 877	1 422	37 358	29 338	705	27 043	30 633	1 227	32 060	13 106	242	13 348	66 059	54 569	6 363	50 872
	Not Schooling	2 433	223	2 656	176	0	176	1 000	0	1 000	532	0	532	4 381	1 413	663	2 336
	Not/Not Yet Primary School	5 232	173	5 435	3 637	0	3 637	2 781	164	3 073	522	0	522	10 333	6 323	1 006	6 326
	Primary School	12 531	257	12 796	7 274	0	7 274	8 411	0	8 411	6 666	0	6 666	14 633	16 064	2 666	16 922
	Junior High School (General)	3 965	249	4 133	4 297	64	4 333	3 661	0	3 661	373	342	631	7 131	7 662	0	7 652
	Junior High School (Vocational)	4 038	133	4 197	2 225	0	2 225	5 606	0	5 606	347	0	347	4 531	3 601	0	8 601
	Senior High School General	3 823	236	3 056	1 434	264	1 696	4 423	819	5 041	1 174	0	1 174	6 665	4 606	754	5 560
	Senior High School Vocational	3 774	143	3 917	5 663	354	6 018	5 067	424	5 487	3 466	0	3 466	14 527	10 257	754	11 011
	Academy and University	1 113	52	1 165	1 396	0	1 396	1 276	0	1 276	0	0	0	3 174	158	0	158
	Not stated	3	0	0	0	0	0	0	0	0	0	0	0	264	0	0	0
…truction		665 953	12 509	678 472	921 734	13 521	915 254	672 309	15 979	636 165	1 066 157	16 761	1 105 918	1 637 146	2 103 007	43 203	2 146 210
	Not Schooling	150 273	4 428	154 701	133 802	4 530	138 392	95 653	3 183	100 634	96 643	3 347	103 230	253 470	273 793	11 614	237 607
	Not/Not Yet Primary School	234 234	3 475	237 710	304 536	5 536	310 162	306 111	5 697	313 906	312 654	14 434	327 292	690 345	751 637	14 143	765 796
	Primary School	217 753	3 513	231 272	256 102	2 100	273 252	[illegible]	4 104	312 330	253 041	643	235 234	492 963	766 905	4 377	773 962
	Junior High School (General)	22 822	303	23 125	39 137	336	39 513	44 778	635	45 403	336 187	0	336 187	76 216	67 769	1 536	69 306
	Junior High School (Vocational)	16 645	136	16 782	16 437	0	15 437	21 633	0	21 533	31 343	0	31 343	34 004	31 666	1 338	53 307
	Senior High School General	9 951	333	10 294	15 197	434	15 633	17 276	467	17 743	25 628	423	27 232	41 960	69 014	4 643	73 719
	Senior High School Vocational	11 133	233	11 325	18 036	176	16 212	20 132	0	20 132	21 165	247	21 432	51 321	77 047	2 254	79 243
	Academy and University	3 152	123	3 275	5 419	131	5 551	6 256	0	6 256	635	423	1 376	10 785	13 119	3 125	15 243
	Not stated	0	0	0	0	0	0	0	0	0	0	0	0	176	0	0	0
…lesale trade, retail, restaurance		2 463 645	1 637 719	4 291 561	2 324 933	2 166 942	4 613 631	2 53[illegible]	2 618 752	6 277 072	2 944 316	4 022 313	7 706 531	6 676 532	4 215 730	4 225 176	8 533 618
	Not Schooling	541 540	1 139 809	1 681 349	545 502	1 454 575	3 041 177	553 838	1 421 290	1 675 116	526 906	1 863 630	2 923 256	1 633 740	580 303	1 637 611	2 236 114
	Not/Not Yet Primary School	737 953	404 385	1 142 246	1 253 323	974 634	2 257 677	1 236 242	951 635	2 164 066	1 507 404	1 253 011	2 772 415	2 337 864	1 362 246	1 241 045	2 603 793
	Primary School	913 511	217 029	1 070 906	1 232 637	566 666	1 821 566	1 373 946	90 364	1 464 330	1 050 765	545 338	1 619 121	1 653 363	1 642 968	646 643	2 329 536
	Junior High School (General)	150 579	32 354	182 933	276 132	90 223	366 333	234 956	65 560	324 436	216 977	119 930	338 532	372 640	290 737	133 316	563 753
	Junior High School (Vocational)	23 545	8 513	34 064	43 353	27 330	64 533	45 661	21 645	67 641	77 856	33 347	111 233	63 364	83 315	50 523	143 836
	Senior High School General	73 325	9 331	64 658	131 763	27 325	133 100	134 335	26 136	163 431	111 876	33 666	143 662	180 311	270 722	56 311	276 333
	Senior High School Vocational	23 342	4 807	28 143	52 944	23 729	75 673	56 039	15 961	73 730	66 760	23 333	67 172	63 356	110 675	46 464	157 453
	Academy and University	11 673	1 475	13 350	23 372	2 972	23 534	16 190	3 256	19 446	14 647	3 013	17 666	23 241	26 606	6 225	33 331
	Not stated	0	0	0	0	0	0	144	617	761	0	0	0	617	656	1 103	1 750
…sportation, storage, communication		935 613	15 965	951 334	1 237 810	16 173	1 253 943	1 365 291	26 297	1 473 944	1 273 331	15 033	1 288 564	1 456 416	1 778 676	17 434	1 796 112
	Not Schooling	173 256	2 507	175 773	156 056	2 034	156 130	147 110	9 411	156 521	164 613	1 026	165 641	153 136	156 304	2 045	160 349
	Not/Not Yet Primary School	257 316	2 277	259 963	413 529	2 640	415 462	453 953	6 737	453 990	436 667	5 047	441 716	493 225	545 448	4 529	546 977
	Primary School	341 329	4 219	347 617	477 066	4 391	481 471	553 729	12 527	566 336	433 577	3 136	421 665	499 179	633 627	364	633 991
	Junior High School (General)	61 473	2 904	64 296	113 709	1 369	115 125	116 466	2 357	120 643	116 669	371	117 243	143 337	173 647	1 181	173 266
	Junior High School (Vocational)	23 741	535	24 377	23 546	660	25 906	29 641	0	26 091	37 250	137	37 417	37 962	47 434	63	47 517
	Senior High School General	21 122	2 171	27 063	43 163	2 175	47 740	42 333	2 229	44 531	37 237	1 419	35 647	71 340	90 136	6 118	96 235
	Senior High School Vocational	14 033	663	14 728	21 465	1 539	77 031	25 103	2 067	30 173	25 415	1 531	36 567	64 453	63 350	2 122	67 672
	Academy and University	7 342	263	7 835	10 410	622	11 333	11 311	0	11 311	12 453	1 541	14 073	12 966	12 432	611	13 343
	Not stated	0	0	0	0	0	0	263	0	263	0	3	0	376	0	0	0
…ncing, insurance, realestate & business service		61 152	12 869	83 442	76 516	15 674	94 433	67 905	17 347	84 612	36 316	6 336	42 653	302 346	93 366	23 473	113 613
	Not Schooling	2 464	1 278	3 713	1 356	735	1 676	923	1 631	2 554	734	0	734	13 633	643	0	332
	Not/Not Yet Primary School	6 431	649	7 440	10 163	1 724	11 667	3 013	735	3 764	4 633	0	4 633	41 300	5 234	766	6 272
	Primary School	18 553	1 748	20 311	16 960	1 716	23 364	6 210	366	6 576	4 645	63	6 646	57 603	15 647	1 763	17 473
	Junior High School (General)	13 343	1 061	11 334	6 687	2 616	11 905	6 640	1 261	7 336	6 534	1 292	7 625	41 276	14 102	2 073	17 373
	Junior High School (Vocational)	3 157	434	3 931	1 766	314	2 142	6 236	275	6 464	640	0	640	6 734	1 506	717	2 273
	Senior High School General	23 314	2 755	24 750	21 134	3 721	24 635	23 639	6 548	30 257	6 751	2 046	15 637	73 640	23 329	6 616	32 336
	Senior High School Vocational	7 724	1 332	9 056	8 015	2 636	10 634	13 910	3 352	16 310	6 314	1 213	7 529	44 756	20 462	5 330	25 532
	Academy and University	6 437	801	8 236	6 604	2 116	10 716	6 606	646	6 706	1 635	1 663	3 296	22 633	9 063	1 663	10 545
	Not stated	0	0	0	0	0	0	0	0	0	0	0	0	116	0	0	0
…ic service		2 863 929	1 121 624	4 115 112	2 921 314	1 429 470	5 044 764	2 636 072	1 433 947	5 072 669	4 416 633	1 977 933	6 294 734	7 144 522	4 600 947	2 324 172	7 125 119
	Not Schooling	343 064	463 027	803 091	317 406	412 014	729 472	297 444	297 462	640 654	420 213	541 661	961 874	1 009 316	331 175	524 183	645 347
	Not/Not Yet Primary School	537 654	187 315	731 609	737 352	326 360	1 033 732	966 356	325 060	1 021 346	1 063 440	566 334	1 070 776	1 644 472	792 066	463 457	1 276 425
	Primary School	1 072 637	166 106	1 191 603	1 030 734	225 067	1 153 625	1 102 126	243 579	1 346 706	1 213 723	297 137	1 510 660	1 566 166	1 243 212	436 647	1 646 660
	Junior High School (General)	536 791	67 766	406 576	430 004	[illegible]	513 097	418 540	66 671	466 631	414 301	65 462	496 763	634 647	526 633	129 294	637 917
	Junior High School (Vocational)	223 225	75 650	298 875	187 441	[illegible]	292 735	209 964	65 236	271 720	252 623	90 607	343 725	236 225	227 450	74 953	302 433
	Senior High School General	182 810	36 254	218 064	296 445	66 365	355 640	272 417	62 602	335 016	310 946	73 490	362 436	675 331	606 454	121 576	633 034
	Senior High School Vocational	235 317	67 647	333 164	442 005	221 065	663 690	492 673	236 754	720 227	633 246	132 671	616 017	1 110 160	697 663	606 257	1 404 222
	Academy and University	111 270	20 067	131 367	164 301	26 102	190 403	161 505	26 137	166 633	146 356	60 641	166 900	263 636	391 666	76 541	347 666
	Not stated	0	0	0	0	0	0	0	0	0	0	0	0	1 044	0	225	221
…rs		642 646	1 013 250	1 676 199	31 107	4 716	23 015	36 067	10 163	46 260	2 001	473	2 424	21 616	342	0	342
	Not Schooling	168 044	464 671	632 717	6 033	1 575	7 606	6 675	4 967	11 642	0	0	0	3 156	0	0	0
	Not/Not Yet Primary School	277 641	267 663	545 234	5 460	131	5 591	10 357	1 232	11 666	1 676	0	1 676	6 096	0	0	0
	Primary School	245 636	202 344	444 180	5 476	1 402	6 676	1 666	3 664	5 653	423	0	423	4 600	0	0	0
	Junior High School (General)	67 665	37 060	104 625	1 637	14	1 651	263	0	263	0	473	473	3 367	0	0	0
	Junior High School (Vocational)	23 634	10 966	34 772	306	0	306	616	0	616	0	0	0	962	0	0	0
	Senior High School General	40 250	14 445	54 665	664	753	1 617	17 765	0	17 765	0	0	0	2 324	0	0	0
	Senior High School Vocational	26 247	13 457	41 704	1 062	176	1 240	606	0	636	0	0	0	1 346	0	0	0
	Academy and University	11 470	4 792	16 262	356	663	1 021	0	0	0	0	0	0	703	342	0	342
	Not stated	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

…ed by Moore Policy Studies, NRUP
…ce : Central Bureau of Statistics : – Indonesian Labour Force Condition
– Population of Indonesia

BEST AVAILABLE DOCUMENT

1985	1986			1987			1988	1989			1990			1991			1992		
Both	Male	Female	Both	Male	Female	Both	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both
3 472 210	37 853 412	25 634 290	64 739 751	45 175 863	27 830 729	73 390 597	72 512 409	44 108 830	29 324 364	73 432 814	46 477 888	29 422 879	75 660 544	47 229 672	29 194 107	76 423 179	47 888 588	30 381 787	78 218 372
1 438 703	5 342 723	7 429 797	12 993 917	5 167 750	7 215 728	12 363 456	12 350 725	5 348 119	8 868 142	11 037 251	4 802 166	6 503 378	11 306 527	4 443 719	5 798 564	10 243 263	4 443 884	5 984 980	10 428 884
3 247 290	11 412 988	8 980 964	20 253 873	12 208 518	8 640 221	25 944 526	23 641 326	11 661 290	8 678 838	23 573 318	[illegible] 321 513	6 644 653	20 240 388	10 651 510	7 853 363	18 808 873	11 280 114	8 430 344	19 473 180
3 630 618	14 364 220	7 774 160	21 915 446	15 757 172	8 327 534	24 084 675	23 389 960	16 808 213	9 548 553	29 164 798	14 150 252	8 801 837	27 852 168	18 617 431	10 380 874	29 008 408	18 638 571	10 525 587	29 154 188
1 523 493	2 953 364	1 132 536	4 081 348	3 875 336	1 223 346	4 896 406	5 440 862	4 238 614	1 313 715	5 553 171	4 866 631	1 634 806	6 345 758	5 297 523	2 000 215	7 292 538	5 315 227	2 029 188	7 343 218
375 641	588 894	203 253	793 421	886 921	237 621	823 143	843 124	898 560	236 468	933 035	734 135	243 675	848 281	807 441	253 442	1 083 803	837 477	323 730	1 181 207
1 458 994	1 843 364	514 566	2 158 107	4 827 174	634 626	5 363 027	3 157 429	3 843 798	868 747	5 542 533	3 015 588	850 378	3 865 837	3 442 711	1 080 103	4 542 818	3 340 844	1 183 879	4 728 573
1 380 370	1 529 901	812 366	2 440 380	2 257 773	1 020 178	3 086 953	3 217 512	2 290 862	1 132 298	3 442 131	2 483 479	1 223 373	3 716 031	2 873 200	1 231 884	3 801 864	2 838 787	1 408 887	4 249 684
577 550	529 522	208 754	732 675	888 117	273 520	1 161 617	1 063 672	887 343	338 251	1 236 580	864 670	381 778	1 376 637	1 068 517	453 925	1 543 443	1 181 101	483 408	1 674 510
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1 165 912	22 851 221	14 893 641	37 644 472	23 183 450	15 538 638	38 722 088	43 557 723	24 585 173	16 719 090	41 284 232	25 827 406	16 550 600	42 378 308	25 291 443	15 914 346	41 205 791	25 603 586	16 549 607	42 153 206
321 191	4 234 008	4 868 257	9 095 263	4 084 073	4 723 332	8 847 405	8 885 301	3 863 792	4 739 800	8 860 392	2 821 308	4 357 764	8 178 992	3 443 856	3 873 088	7 333 725	3 906 847	4 028 782	7 532 728
458 988	8 241 077	5 414 792	13 653 869	8 212 615	5 818 390	13 932 005	14 107 540	8 317 314	5 588 275	13 903 580	8 173 323	5 368 061	13 734 384	7 488 183	1 099 561	13 587 748	7 093 343	5 380 492	13 472 733
265 471	6 540 330	4 237 153	12 788 483	8 678 056	4 538 296	13 414 357	14 478 645	9 738 839	5 588 784	15 328 403	10 879 817	5 682 648	16 561 683	10 975 843	5 822 987	16 798 350	10 793 874	5 828 508	16 023 383
40 418	1 078 295	325 728	1 403 023	1 321 114	414 992	1 738 106	1 846 535	1 577 374	530 411	2 107 785	1 884 558	630 848	2 495 305	2 174 307	768 701	2 941 208	2 088 803	714 207	2 801 810
14 918	162 878	64 207	226 186	166 731	83 581	272 342	295 717	217 847	73 785	290 832	218 573	83 681	310 204	248 421	108 908	358 327	293 710	129 427	418 137
33 551	224 173	33 802	258 772	277 186	58 568	335 836	413 171	428 634	130 470	557 104	518 136	125 523	643 658	587 043	138 966	724 028	618 684	138 792	777 078
22 734	190 856	42 743	183 300	164 793	58 433	249 278	298 158	295 674	85 662	381 350	314 070	81 121	395 181	318 082	84 463	402 547	358 480	88 927	448 107
4 891	21 518	4 958	25 477	27 636	4 522	32 858	35 735	30 678	10 082	40 971	43 773	11 238	55 008	54 648	21 873	76 838	87 837	20 771	78 428
0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
136 650	3	0	0	0	0	0	0	362 479	64 425	448 901	443 527	65 089	526 227	468 067	97 722	564 590	436 006	88 826	524 934
12 980	0	0	0	0	0	0	0	25 842	11 466	37 408	25 771	22 573	48 344	47 033	27 805	74 840	30 435	18 794	50 228
35 087	0	0	0	0	0	0	0	112 373	18 717	131 040	122 234	25 121	147 325	123 758	31 463	155 232	108 262	28 488	137 770
38 446	0	0	0	0	0	0	0	117 837	24 033	141 872	158 868	29 167	168 153	152 298	27 024	179 313	153 240	21 748	164 988
14 300	0	0	0	0	0	0	0	45 175	6 853	52 024	37 638	3 013	40 832	45 088	843	45 742	43 786	2 763	43 883
6 867	0	0	0	0	0	0	0	7 785	928	8 724	7 754	0	7 754	12 493	0	12 493	7 347	322	7 708
30 884	0	0	0	0	0	0	0	30 244	2 803	32 831	80 029	2 475	53 103	38 448	4 073	43 523	43 067	3 678	52 808
16 328	0	0	0	0	0	0	0	31 363	1 672	33 211	29 152	1 618	29 768	30 908	2 563	33 492	28 341	2 218	30 537
11 425	0	0	0	0	0	0	0	11 771	0	11 771	8 164	1 730	10 921	15 823	4 038	18 864	18 006	1 018	17 883
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1 552 718	3 094 979	2 511 032	5 605 911	5 964 181	2 534 253	8 518 454	5 995 860	3 875 237	3 418 585	7 344 874	4 210 051	3 483 212	7 693 263	4 410 663	3 533 865	7 944 330	4 366 453	3 688 041	8 255 494
158 913	212 967	801 853	814 819	234 653	525 977	740 660	667 375	255 630	391 736	647 336	258 442	623 798	873 240	208 738	519 812	723 331	215 917	537 345	753 252
452 873	722 523	714 456	1 437 078	723 552	758 743	1 482 295	1 424 842	809 610	533 408	1 743 218	741 335	806 241	1 647 578	723 181	732 714	1 512 675	751 684	813 919	1 565 803
633 013	1 129 367	862 769	2 012 136	1 173 653	648 781	2 160 634	2 294 581	1 465 632	1 375 345	2 840 877	1 807 271	1 339 567	2 847 136	1 637 000	1 461 734	3 094 734	1 589 361	1 803 866	3 253 257
341 009	380 346	155 007	535 353	409 858	155 113	565 008	675 292	324 918	248 078	780 894	672 308	298 491	973 799	687 817	361 724	1 089 541	713 365	447 686	1 158 083
63 787	100 353	17 473	118 428	77 437	23 572	98 109	105 729	104 037	29 969	133 066	113 007	33 679	141 685	112 075	38 794	148 871	107 915	58 135	164 050
201 383	253 808	53 823	317 729	3 005 906	83 357	3 089 263	434 488	396 632	133 631	530 433	480 024	161 214	621 238	539 807	234 867	743 574	517 118	225 189	745 306
171 293	246 258	25 641	273 275	242 498	41 553	284 152	200 853	310 533	92 872	403 545	325 687	98 679	423 366	411 313	111 758	523 072	383 334	144 773	534 108
40 334	34 418	9 571	45 082	65 952	21 373	88 312	69 323	57 847	17 335	75 202	78 977	28 244	107 231	93 954	29 380	123 334	81 864	33 179	128 027
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38 113	0	0	0	0	0	0	0	119 750	8 471	125 221	123 879	10 848	134 719	138 294	12 298	150 440	144 796	15 574	162 370
190	0	0	0	0	0	0	0	2 858	2 075	4 843	1 422	453	1 875	2 877	1 805	4 442	4 560	845	5 405
1 718	0	0	0	0	0	0	0	4 371	1 257	6 234	3 761	453	4 240	4 873	630	5 833	5 252	661	5 913
5 805	0	0	0	0	0	0	0	15 840	1 293	17 133	23 387	2 452	25 849	25 844	3 371	30 253	29 183	3 843	33 000
5 700	0	0	0	0	0	0	0	15 258	253	15 541	13 203	446	13 649	12 874	379	13 053	17 792	274	18 088
1 488	0	0	0	0	0	0	0	6 547	0	6 547	5 975	0	5 975	5 333	0	5 333	8 450	841	9 291
8 298	0	0	0	0	0	0	0	22 331	1 485	23 836	29 291	4 673	33 963	31 930	1 331	33 261	25 860	3 647	29 507
11 858	0	0	0	0	0	0	0	42 237	836	43 343	37 063	1 060	38 145	45 483	4 579	50 072	42 047	3 092	45 738
4 165	0	0	0	0	0	0	0	6 678	1 292	7 840	10 015	1 304	11 318	8 274	271	8 545	13 872	1 574	15 446
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
755 109	0	0	0	0	0	0	0	1 754 152	44 481	1 828 633	2 000 054	53 451	2 053 508	2 331 460	65 114	2 436 534	3 130 338	84 408	2 214 744
51 163	0	0	0	0	0	0	0	65 475	6 633	105 329	87 452	5 274	102 738	136 797	9 138	117 433	110 235	8 138	118 341
227 727	0	0	0	0	0	0	0	418 842	8 969	428 611	464 848	12 004	478 897	464 175	21 315	485 490	180 843	14 029	204 872
239 134	0	0	0	0	0	0	0	794 347	17 741	812 088	804 137	18 414	927 553	1 090 188	22 347	1 118 533	1 080 636	28 474	1 129 112
71 836	0	0	0	0	0	0	0	175 117	1 921	177 038	315 407	3 531	218 921	283 052	3 380	290 442	290 535	3 300	289 835
25 533	0	0	0	0	0	0	0	48 321	0	48 321	49 378	446	48 824	58 518	1 805	58 421	88 561	0	88 561
62 364	0	0	0	0	0	0	0	95 454	4 148	100 900	136 021	7 691	113 718	138 628	13 763	153 422	168 878	14 424	183 103
62 378	0	0	0	0	0	0	0	112 925	925	113 650	124 758	6 044	130 312	142 125	5 184	147 316	145 253	8 551	153 808
21 193	0	0	0	0	0	0	0	38 572	3 215	42 818	34 483	5 037	38 545	49 465	6 032	57 537	55 472	5 522	61 014
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3 331 245	4 729 446	5 047 919	8 754 504	4 682 553	5 475 544	10 451 159	10 948 254	5 121 124	5 793 925	10 990 729	5 220 253	5 777 118	11 087 321	5 923 154	5 807 501	11 430 655	5 768 558	5 975 255	11 745 813
542 444	378 542	1 253 184	1 628 726	321 221	1 329 237	1 930 423	1 552 248	373 453	1 180 402	1 550 843	298 852	1 155 946	1 452 850	255 034	1 079 435	1 311 529	298 538	1 053 093	1 331 628
1 342 429	1 290 864	1 521 473	2 812 328	1 154 231	1 533 541	2 753 932	2 729 377	1 134 238	1 640 239	2 774 277	1 052 143	1 844 018	2 898 153	1 007 334	1 437 529	2 504 712	1 083 584	1 523 472	2 584 056
1 215 752	1 372 988	1 588 342	2 858 813	2 075 115	1 745 544	3 823 713	2 843 294	2 391 747	1 584 781	3 946 508	2 152 903	1 815 818	4 088 417	2 287 708	2 091 369	4 378 077	2 362 309	2 086 338	4 463 848
513 178	644 638	287 527	1 243 648	668 287	433 513	1 118 800	1 178 344	875 543	509 781	1 185 426	800 958	507 221	1 308 157	898 909	518 041	1 484 850	868 211	804 152	1 473 373
81 325	81 756	53 211	148 817	81 275	55 534	149 853	149 431	71 827	80 943	152 250	84 213	68 815	157 130	110 074	85 336	183 390	87 548	60 830	158 375
335 337	341 580	123 847	468 447	420 348	131 134	821 522	660 537	513 334	255 804	798 338	589 273	290 803	884 873	758 938	329 537	1 038 185	722 237	345 718	1 087 947
149 421	151 530	85 573	236 160	182 333	82 247	274 422	354 231	233 713	153 127	398 843	227 181	155 867	382 825	245 371	155 548	413 424	258 147	238 868	494 335
25 278	33 477	17 178	13 522	81 878	25 313	87 732	82 162	63 337	21 898	84 223	63 027	30 818	115 843	87 311	41 147	128 356	80 008	47 541	137 547
0	3	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0
933 135	0	0	0	0	0	0	0	2 137 253	54 838	2 192 149	2 259 418	53 054	2 312 472	2 419 733	74 901	2 493 424	2 509 753	84 022	2 373 809
54 339	0	0	0	0	0	0	0	133 819	4 510	138 129	111 133	4 621	115 760	110 673	8 853	120 529	106 318	5 478	113 797
248 572	0	0	0	0	0	0	0	522 114	9 382	511 506	453 838	6 344	472 324	493 732	12 501	478 293	448 034	6 265	437 332
321 203	0	0	0	0	0	0	0	834 523	15 703	810 298	879 183	14 741	843 879	1 003 532	11 880	1 015 512	1 544 908	15 278	1 032 844
137 339	0	0	0	0	0	0	0	295 273	3 027	289 308	350 871	4 649	355 323	383 365	6 727	388 372	445 462	6 648	452 128
35 372	0	0	0	0	0	0	0	57 613	0	57 813	52 020	287	52 307	65 121	648	66 313	83 328	948	84 278
63 537	0	0	0	0	0	0	0	142 274	11 393	134 367	188 081	11 644	207 725	230 858	17 531	248 409	218 517	15 818	232 138
63 379	0	0	0	0	0	0	0	92 524	7 518	100 324	127 258	3 509	130 774	122 314	8 151	130 465	148 845	5 358	153 321
18 823	0	0	0	0	0	0	0	17 343	3 253	20 607	37 118	7 214	34 330	31 008	8 783	37 801	33 832	6 308	38 834
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
174 131	0	0	0	0	0	0	0	304 534	31 731	396 531	333 725	124 675	478 361	343 683	130 183	519 268	414 896	153 586	574 533
1 353	0	0	0	0	0	0	0	5 775	4 634	10 411	3 163	1 315	8 378	7 116	3 514	18 628	8 808	5 431	11 337
5 473	0	0	0	0	0	0	0	13 133	5 304	22 484	13 063	6 327	18 577	13 591	3 527	17 122	18 442	7 028	22 471
23 840	0	0	0	0	0	0	0	43 811	6 699	52 540	50 844	6 734	53 120	61 210	12 003	64 113	64 652	8 067	68 633
18 148	0	0	0	0	0	0	0	42 779	7 545	50 344	44 613	7 649	53 703	44 078	6 358	58 431	58 106	6 225	68 423
4 253	0	0	0	0	0	0	0	6 557	1 635	10 402	8 808	1 181	10 987	18 447	1 264	17 711	5 228	2 294	7 523
61 341	0	0	0	0	0	0	0	94 153	31 308	122 467	113 031	39 170	152 001	111 458	44 754	160 217	148 108	60 703	308 808
54 560	0	0	0	0	0	0	0	52 109	10 521	62 630	44 653	23 418	72 298	62 434	19 235	61 681	53 277	38 787	88 874
35 518	0	0	0	0	0	0	0	44 834	23 531	63 225	64 511	36 946	104 653	75 538	32 938	108 173	87 180	42 100	109 283
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4 380 934	7 391 543	2 828 351	10 218 093	8 201 811	2 899 088	11 199 777	11 403 432	3 747 113	3 121 910	6 898 042	1 863 021	2 207 303	8 072 324	8 077 188	2 432 843	8 530 842	6 478 863	2 441 882	8 911 371
292 190	414 558	373 509	788 062	384 761	340 829	747 434	787 816	180 638	545 518	636 137	178 321	304 447	482 868	177 737	281 809	448 546	181 611	282 475	484 868
629 311	1 315 249	509 731	1 825 880	1 304 157	524 234	1 830 393	1 846 826	578 575	442 435	1 041 001	541 325	454 438	808 754	636 113	464 478	1 003 541	580 818	427 334	868 223
898 778	2 384 242	614 814	2 878 838	2 822 541	723 873	3 325 384	3 417 518	1 443 743	890 344	2 154 083	1 418 875	781 418	2 200 281	1 417 710	873 097	2 340 803	1 470 255	888 331	2 371 868
474 522	843 083	163 773	1 003 844	850 649	208 153	1 158 814	1 208 890	675 303	708 466	841 988	730 161	168 780	828 881	737 110	282 804	888 814	788 634	238 444	1 021 083
146 187	275 843	44 387	373 029	280 783	58 835	318 718	325 868	174 113	61 303	235 416	180 614	50 372	210 838	174 347	48 344	223 883	201 548	82 253	253 803
673 773	808 918	220 813	1 028 631	818 213	252 524	1 171 737	1 257 172	874 353	300 881	1 225 644	850 648	298 879	1 247 825	1 073 083	331 741	1 384 824	1 081 030	332 618	1 423 836
831 722	876 540	571 531	1 548 081	1 177 568	697 848	1 875 452	1 880 273	1 117 490	807 481	1 824 858	1 253 568	648 333	2 103 873	1 200 808	428 981	2 130 588	1 377 505	818 817	2 204 022
421 024	432 004	138 376	888 382	888 037	173 618	772 645	738 311	672 047	357 534	878 821	637 432	248 403	861 631	670 481	308 833	840 173	752 288	333 680	1 068 138
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8 048	88 542	1 644 220	1 714 762	2 878 878	1 271 153	4 196 083	2 808 330	24 878	37 842	82 318	57 808	70 420	128 028	60 274	66 802	148 878	40 481	80 378	100 841
1 344	8 008	333 828	331 007	181 613	225 613	417 478	298 787	1 847	14 361	16 248	5 415	29 968	35 583	11 760	38 360	51 120	3 388	84 831	87 818
224	22 173	450 535	472 707	630 613	348 111	880 024	857 321	3 862	6 183	10 844	16 631	21 610	38 131	17 593	31 606	48 188	18 884	18 237	30 001
1 333	25 479	452 643	478 161	1 007 544	350 036	1 357 572	1 731 831	9 372	3 544	12 838	20 081	7 878	28 070	16 223	14 481	32 714	16 543	18 823	27 448
891	5 234	80 424	81 883	327 809	84 258	421 877	433 321	1 782	1 372	3 104	8 767	4 278	11 088	1 844	1 631	8 935	5 885	3 478	8 183
0	1 784	22 075	23 881	78 823	14 029	83 484	88 332	0	0	0	1 142	408	1 548	1 638	0	1 418	0	880	880
1 388	2 044	83 364	65 404	295 636	88 134	363 882	375 041	6 027	848	8 873	5 431	2 047	7 478	1 884	1 384	3 262	3 388	1 848	8 314
381	3 128	162 541	165 870	380 620	123 028	363 848	403 883	1 848	1 507	3 353	1 370	3 108	4 478	1 522	884	3 220	436	481	817
875	738	41 571	43 278	133 448	44 744	180 313	180 224	0	234	234	633	1 003	1 675	1 647	0	1 647	1 198	0	1 198
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEST AVAILABLE DOCUMENT

Indonesian Labour Force by Sector and Educational Attainment (%)

Main Industry	Educational Attainment	1971 Male	1971 Female	1971 Both	1976 Male	1976 Female	1976 Both	1977 Male	1977 Female	1977 Both	1978 Male	1978 Female	1978 Both	1982 Male	1982 Female	1982 Both
All Industry		815	185	800	800	200	800	879	221	800	890	211	800	637	[illegible]	800
	Not Schooling	53 371	46 729	100	49 054	50 946	100	48 416	51 584	100	45 980	54 020	100	46 351	53 649	100
	Not/Not Yet Primary School	73 629	26 371	100	68 029	31 971	100	68 195	31 805	100	66 069	31 641	100	66 314	33 686	100
	Primary School	79 737	20 263	100	77 861	22 139	100	82 902	17 098	100	75 403	24 597	100	72 798	27 202	100
	Junior High School (General)	83 205	16 795	100	83 848	16 152	100	84 846	15 154	100	83 699	16 301	100	79 168	20 832	100
	Junior High School (Vocational)	79 209	20 791	100	78 064	21 932	100	79 412	20 588	100	78 451	21 549	100	78 274	21 726	100
	Senior High School General	85 457	14 543	100	85 026	14 973	100	84 163	15 836	100	84 196	15 804	100	82 805	17 195	100
	Senior High School Vocational	75 176	24 824	100	72 090	27 910	100	72 824	27 176	100	73 906	26 094	100	70 716	29 284	100
	Academy and University	85 381	14 619	100	86 374	13 626	100	86 569	13 431	100	80 176	19 824	100	80 390	19 610	100
	Not stated	0 000	0 000	0	0 000	0 000	0	69 553	30 447	100	0 000	0 000	0	60 601	39 399	100
Agriculture, forestry, hunting, fishery		658	141	800	639	161	800	734	166	800	648	152	800	702	188	800
	Not Schooling	58 076	41 924	100	54 088	45 912	100	53 417	46 583	100	51 357	48 643	100	50 902	49 098	100
	Not/Not Yet Primary School	75 728	24 272	100	70 119	29 881	100	70 753	29 247	100	71 660	28 340	100	68 739	31 261	100
	Primary School	79 646	20 354	100	78 685	21 315	100	79 989	20 011	100	75 736	24 264	100	73 682	26 338	100
	Junior High School (General)	85 457	14 543	100	86 013	13 987	100	87 743	12 257	100	82 606	17 394	100	83 069	16 931	100
	Junior High School (Vocational)	85 253	14 747	100	87 546	12 454	100	83 275	16 725	100	83 242	16 754	100	80 054	19 946	100
	Senior High School General	92 625	7 375	100	90 057	9 943	100	90 291	9 709	100	94 899	5 101	100	92 290	7 711	100
	Senior High School Vocational	86 357	13 643	100	90 882	9 106	100	95 080	4 920	100	88 605	11 395	100	82 414	17 586	100
	Academy and University	92 767	7 233	100	81 937	18 063	100	100 000	0 000	100	100 000	0 000	100	96 559	3 441	100
	Not stated	0 000	0 000	0	0 000	0 000	0	73 345	26 655	100	0 000	0 000	0	74 666	25 334	100
Mining & quarrying		741	18	800	733	65	800	712	68	800	866	114	800	893	107	800
	Not Schooling	81 486	18 514	100	59 251	40 749	100	71 281	28 719	100	74 669	25 331	100	65 060	34 940	100
	Not/Not Yet Primary School	96 129	3 871	100	90 350	9 650	100	91 651	8 349	100	84 647	15 353	100	86 532	13 468	100
	Primary School	95 860	4 140	100	97 226	2 774	100	92 580	7 420	100	93 020	6 960	100	89 938	10 062	100
	Junior High School (General)	94 709	5 291	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100	95 916	4 084	100
	Junior High School (Vocational)	96 237	3 763	100	100 000	0 000	100	100 000	0 000	100	77 889	22 111	100	88 800	11 200	100
	Senior High School General	91 486	8 514	100	93 311	6 689	100	88 246	11 754	100	100 000	0 000	100	83 382	16 618	100
	Senior High School Vocational	92 596	7 404	100	100 000	0 000	100	80 002	19 994	100	100 000	0 000	100	87 085	12 915	100
	Academy and University	92 947	7 053	100	94 455	5 545	100	88 293	11 707	100	56 178	43 822	100	96 644	3 356	100
	Not stated	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0
Manufacturing Industry		819	181	800	547	233	800	665	235	900	575	225	800	624	276	800
	Not Schooling	37 042	62 958	100	30 107	69 833	100	30 716	69 284	100	26 703	73 297	100	32 170	67 830	100
	Not/Not Yet Primary School	63 861	36 139	100	52 611	47 389	100	50 192	49 808	100	51 155	48 835	100	50 256	49 744	100
	Primary School	74 265	25 735	100	68 151	31 849	100	66 549	33 451	100	63 370	36 630	100	59 422	40 586	100
	Junior High School (General)	85 140	14 860	100	83 424	16 531	100	87 247	12 753	100	84 364	15 606	100	71 821	29 179	100
	Junior High School (Vocational)	91 124	8 876	100	81 165	18 802	100	77 309	22 691	100	82 856	17 144	100	81 253	18 737	100
	Senior High School General	90 161	9 839	100	85 601	14 339	100	85 233	14 767	100	83 886	16 314	100	79 834	20 166	100
	Senior High School Vocational	87 444	12 556	100	81 843	18 237	100	81 883	18 117	100	86 758	13 242	100	88 871	11 109	100
	Academy and University	83 581	13 019	100	83 837	16 053	100	86 220	13 780	100	92 864	7 102	100	83 746	16 254	100
	Not stated	0 000	0 000	0	0 000	0 000	0	100 000	0 000	100	0 000	0 000	0	76 735	23 265	100
Electricity, gas & water		791	39	800	777	23	800	774	25	800	554	48	730	713	87	800
	Not Schooling	91 604	8 395	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100	59 008	40 992	100
	Not/Not Yet Primary School	96 817	3 183	100	100 000	0 000	100	94 016	5 984	100	100 000	0 000	100	89 216	10 784	100
	Primary School	97 814	2 186	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100	84 854	15 146	100
	Junior High School (General)	93 978	6 022	100	97 873	2 231	100	100 000	0 000	100	53 531	46 413	100	100 000	0 000	100
	Junior High School (Vocational)	96 666	3 312	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100
	Senior High School General	92 277	7 723	100	84 412	15 548	100	87 721	12 279	100	100 000	0 000	100	86 439	13 561	100
	Senior High School Vocational	96 349	3 651	100	94 113	5 851	100	92 273	7 727	100	100 000	0 000	100	93 152	6 848	100
	Academy and University	95 536	4 464	100	100 000	0 000	100	100 000	0 000	100	0 000	0 000	0	100 000	0 000	100
	Not stated	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0
Construction		783	17	800	786	14	800	788	12	800	756	44	800	761	39	800
	Not Schooling	97 151	2 849	100	96 683	3 317	100	94 860	5 140	100	96 758	3 242	100	95 892	4 108	100
	Not/Not Yet Primary School	98 538	1 462	100	98 177	1 823	100	98 247	1 753	100	95 589	4 411	100	98 153	1 847	100
	Primary School	98 410	1 590	100	99 223	0 777	100	98 686	1 314	100	99 655	0 345	100	99 432	0 568	100
	Junior High School (General)	98 690	1 310	100	99 099	0 901	100	98 623	1 377	100	100 000	0 000	100	98 453	1 547	100
	Junior High School (Vocational)	99 261	0 739	100	100 000	0 000	100	100 000	0 000	100	100 000	0 000	100	97 490	2 510	100
	Senior High School General	96 753	3 233	100	97 074	2 925	100	97 358	2 632	100	98 447	1 553	100	93 672	6 328	100
	Senior High School Vocational	98 231	1 903	100	99 084	0 915	100	100 000	0 000	100	98 849	1 153	100	97 216	2 784	100
	Academy and University	96 244	3 756	100	96 523	3 393	100	100 000	0 000	100	66 901	33 099	100	80 761	19 239	100
	Not stated	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0
Wholesale trade, retail, restaurance		324	228	800	329	271	800	343	317	900	319	292	800	334	306	800
	Not Schooling	32 229	67 791	100	28 734	71 266	100	28 940	71 060	100	24 382	75 618	100	25 928	74 072	100
	Not/Not Yet Primary School	65 237	34 733	100	56 833	43 167	100	56 499	43 501	100	54 411	45 589	100	52 328	47 672	100
	Primary School	75 972	24 008	100	67 672	32 328	100	93 829	6 171	100	64 899	35 101	100	61 483	38 517	100
	Junior High School (General)	82 314	17 648	100	73 373	24 627	100	73 922	26 378	100	64 607	35 393	100	66 935	33 065	100
	Junior High School (Vocational)	77 619	22 381	100	59 754	40 246	100	67 557	32 443	100	73 111	26 889	100	64 830	35 170	100
	Senior High School General	88 965	11 003	100	82 828	17 172	100	82 179	17 821	100	79 605	20 395	100	79 131	20 869	100
	Senior High School Vocational	82 923	17 077	100	69 991	30 009	100	78 718	21 282	100	76 661	23 339	100	69 595	30 405	100
	Academy and University	88 951	11 049	100	87 613	12 385	100	83 248	16 752	100	83 102	16 898	100	76 521	23 479	100
	Not stated	0 000	0 000	0	0 000	0 000	0	18 922	81 078	100	0 000	0 000	0	37 216	62 784	100
Transportation, storage, communication		772	21	800	773	25	800	871	24	900	775	24	800	782	18	800
	Not Schooling	98 574	1 425	100	98 714	1 286	100	93 987	6 013	100	99 016	0 984	100	98 926	1 074	100
	Not/Not Yet Primary School	99 214	0 786	100	99 289	0 711	100	97 907	2 093	100	98 857	1 143	100	99 177	0 823	100
	Primary School	98 766	1 234	100	99 089	0 911	100	97 788	2 213	100	99 272	0 728	100	99 642	0 358	100
	Junior High School (General)	95 639	4 361	100	98 781	1 219	100	98 050	1 950	100	99 684	0 316	100	99 325	0 675	100
	Junior High School (Vocational)	97 792	2 208	100	96 783	3 256	100	100 000	0 000	100	99 580	0 420	100	99 867	0 133	100
	Senior High School General	91 976	8 022	100	95 444	4 556	100	94 999	5 001	100	95 078	4 922	100	93 587	6 408	100
	Senior High School Vocational	95 322	4 678	100	94 317	5 683	100	93 149	6 851	100	95 864	4 136	100	96 284	3 716	100
	Academy and University	95 047	4 953	100	92 682	7 318	100	100 000	0 000	100	88 766	11 234	100	95 315	4 685	100
	Not stated	0 000	0 000	0	0 000	0 000	0	100 000	0 000	100	0 000	0 000	0	0 000	0 000	0
Financing, insurance, realestate & business service		881	119	800	643	163	800	628	172	800	687	133	800	666	134	800
	Not Schooling	64 379	35 621	100	63 280	36 720	100	56 139	43 861	100	100 000	0 000	100	100 000	0 000	100
	Not/Not Yet Primary School	87 245	12 753	100	85 497	14 503	100	80 627	19 373	100	100 000	0 000	100	86 915	13 085	100
	Primary School	91 394	8 606	100	91 587	8 413	100	95 710	4 290	100	98 805	1 195	100	89 794	10 206	100
	Junior High School (General)	87 016	12 984	100	77 345	22 751	100	82 409	17 591	100	83 491	16 509	100	82 589	17 411	100
	Junior High School (Vocational)	88 014	11 986	100	83 473	16 527	100	96 504	3 496	100	100 000	0 000	100	66 286	33 714	100
	Senior High School General	84 163	15 337	100	85 079	14 971	100	78 323	21 677	100	83 751	16 249	100	78 566	21 434	100
	Senior High School Vocational	85 292	14 708	100	73 544	26 456	100	67 136	22 902	100	83 896	16 104	100	79 151	20 849	100
	Academy and University	91 329	8 671	100	83 276	16 724	100	90 748	9 252	100	49 576	50 424	100	82 988	17 012	100
	Not stated	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0	0 000	0 000	0
Public service		838	202	800	591	209	800	586	214	800	574	229	800	535	345	800
	Not Schooling	42 344	57 656	100	45 515	54 485	100	42 218	57 783	100	43 687	56 313	100	38 717	61 283	100
	Not/Not Yet Primary School	73 111	26 889	100	68 866	31 134	100	68 081	31 919	100	65 094	34 906	100	62 027	37 973	100
	Primary School	85 865	14 105	100	82 078	17 922	100	81 900	18 100	100	80 333	19 667	100	75 396	24 603	100
	Junior High School (General)	83 327	16 673	100	83 806	16 194	100	83 878	16 122	100	83 899	17 101	100	79 733	20 267	100
	Junior High School (Vocational)	74 688	25 312	100	75 139	24 861	100	78 298	23 702	100	73 602	26 398	100	75 214	24 786	100
	Senior High School General	83 435	16 565	100	82 309	16 691	100	81 314	18 686	100	81 528	18 472	100	80 703	19 297	100
	Senior High School Vocational	70 631	29 369	100	67 663	32 337	100	67 536	32 463	100	67 724	32 276	100	65 944	34 063	100
	Academy and University	84 702	15 298	100	86 291	13 709	100	85 168	14 832	100	78 651	21 349	100	79 171	20 829	100
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Others		477	323	800	630	170	800	577	123	700	300	100	300	100		100
	Not Schooling	26 559	73 441	100	79 298	20 702	100	58 056	41 944	100	0 000	0 000	0	0 000	0 000	0 000
	Not/Not Yet Primary School	50 921	49 079	100	97 657	2 343	100	69 369	30 631	100	100 000	0 000	100	0 000	0 000	0 000
	Primary School	54 874	45 126	100	79 616	20 384	100	29 524	70 476	100	100 000	0 000	100	0 000	0 000	0 000
	Junior High School (General)	64 563	35 437	100	98 163	0 644	100	100 000	0 000	100	0 000	100 000	100	0 000	0 000	0 000
	Junior High School (Vocational)	68 457	31 543	100	100 000	0 000	100	100 000	0 000	100	0 000	0 000	0	0 000	0 000	0 000
	Senior High School General	73 590	26 410	100	53 432	46 568	100	100 000	0 000	100	0 000	0 000	0	0 000	0 000	0 000
	Senior High School Vocational	67 732	32 268	100	85 645	14 355	100	100 000	0 000	100	0 000	0 000	0	0 000	0 000	0 000
	Academy and University	70 533	29 467	100	35 868	64 132	100	0 000	0 000	0	0 000	0 000	0	100 000	0 000	100
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= Source : Central Bureau of Statistics : Indonesian Labour Force Condition
= Printed by Macro Policy Studies, MPMP

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1986			1987			1989			1990			1991			1992		
Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both	Male	Female	Both
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56 911	43 186	100	57 468	42 511	100	57 822	42 178	100	57 288	42 731	100	57 730	42 300	100	56 754	43 246	100
64 460	36 638	100	66 424	34 576	100	63 395	36 605	100	64 933	35 067	100	64 179	36 821	100	63 808	36 081	100
72 362	27 749	100	73 631	26 480	100	72 743	27 257	100	73 868	26 142	100	72 575	27 425	100	73 380	27 620	100
74 815	25 688	100	74 520	25 470	100	74 664	25 344	100	74 271	25 729	100	73 896	26 102	100	72 131	27 879	100
76 169	23 532	100	88 269	11 731	100	74 630	25 375	100	76 036	23 964	100	76 224	23 776	100	74 909	25 091	100
62 673	37 364	100	67 095	32 808	100	65 861	34 139	100	67 073	32 927	100	68 433	31 567	100	66 823	33 177	100
71 643	29 211	100	76 535	23 465	100	72 566	27 434	100	71 541	29 458	100	79 571	20 429	100	70 534	29 466	100
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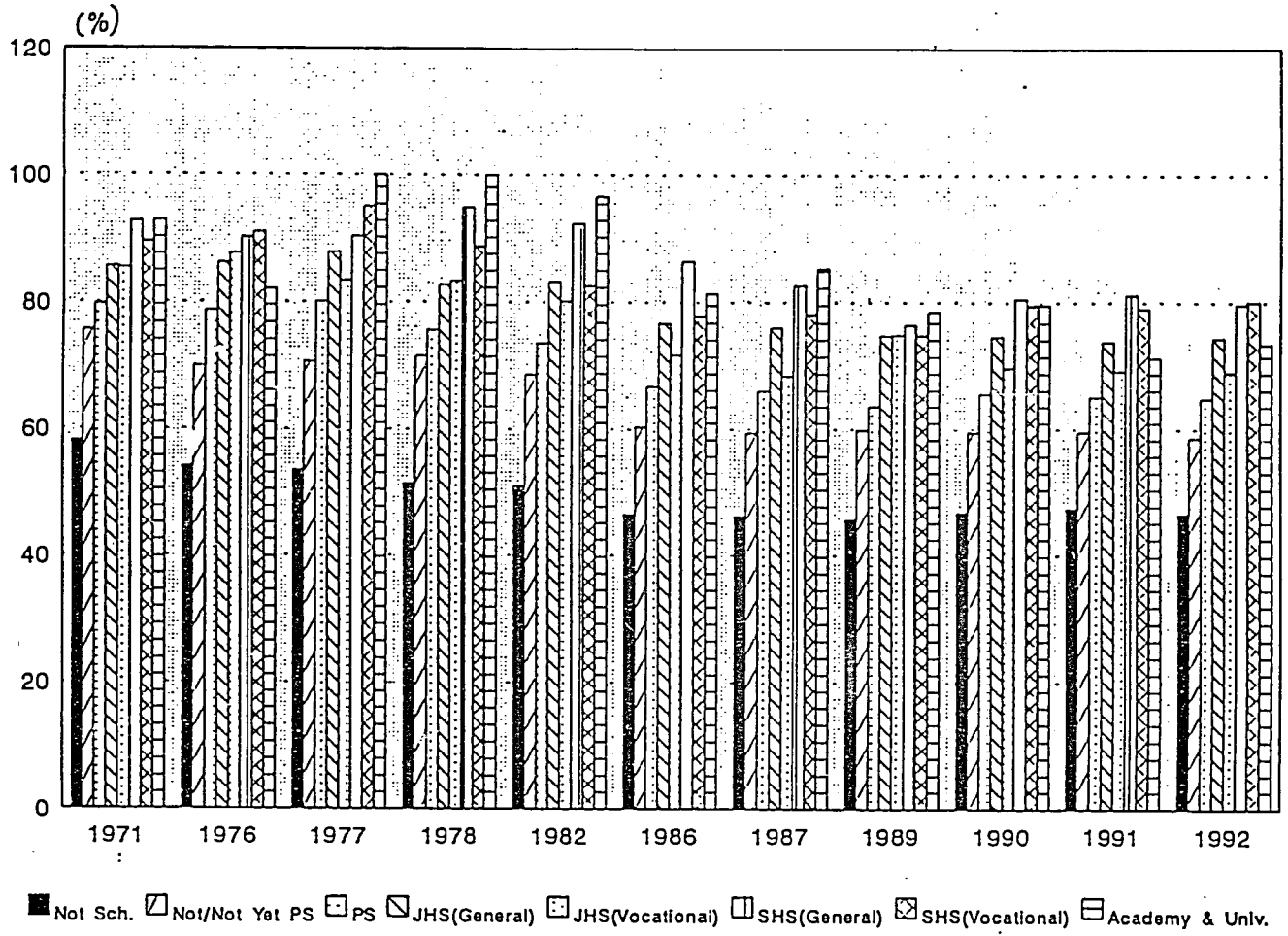
BEST AVAILABLE DOCUMENT

Agriculture, forestry, hunting, fishery

(Male)



Source : Central Bureau of Statistics
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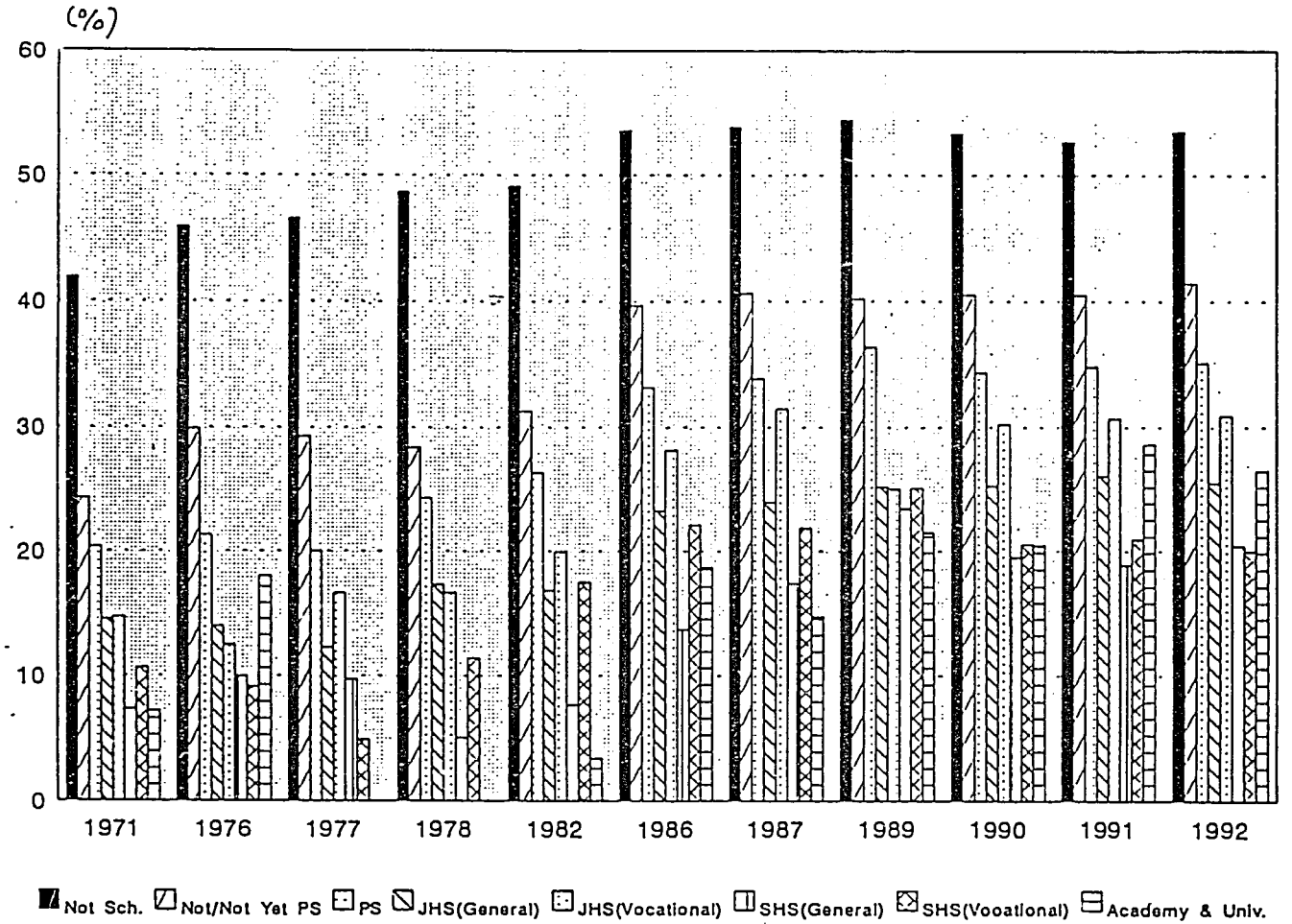
BEST AVAILABLE DOCUMENT

Agriculture, forestry, hunting, fishery
(Female)

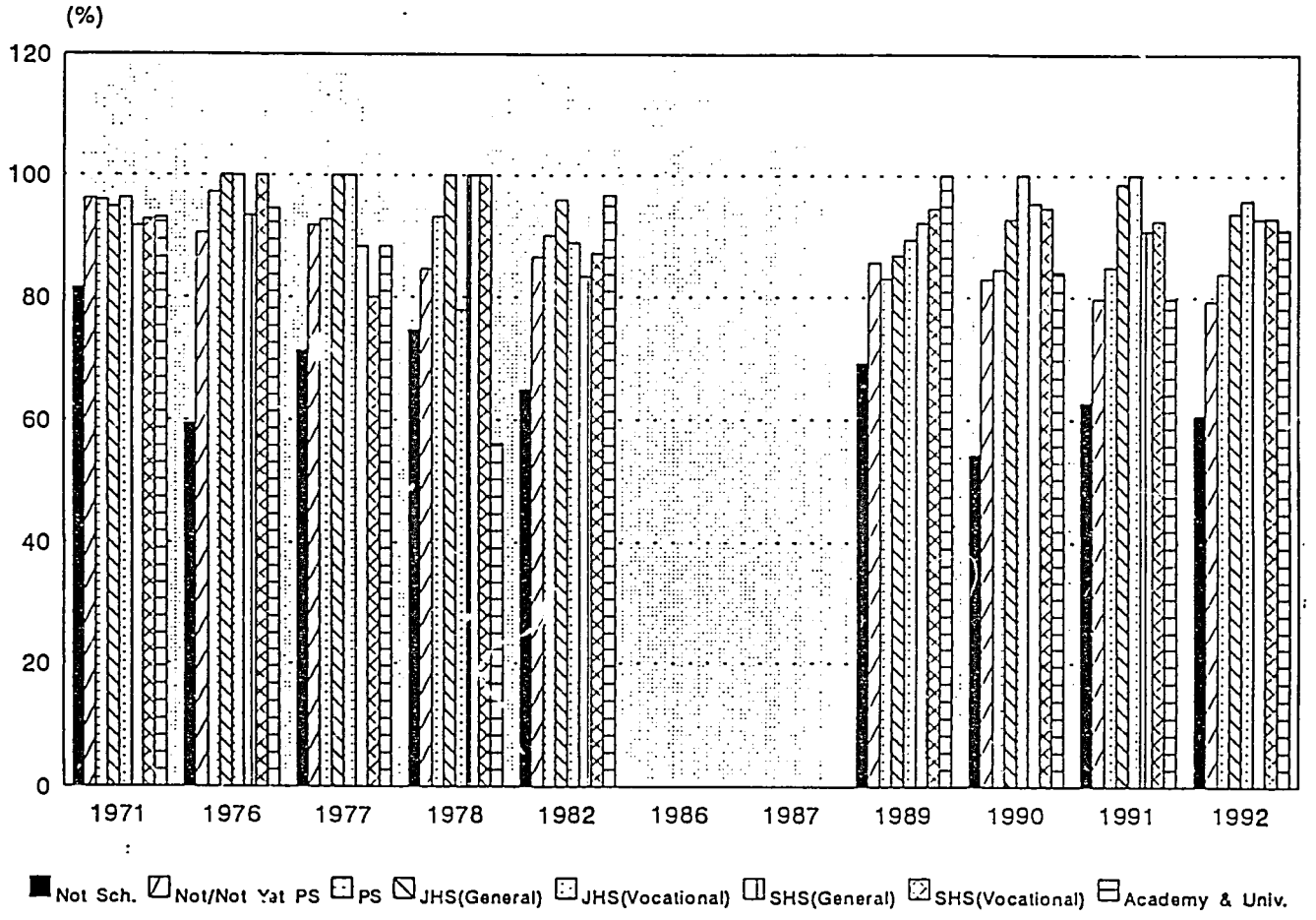


Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

BEST AVAILABLE DOCUMENT

103

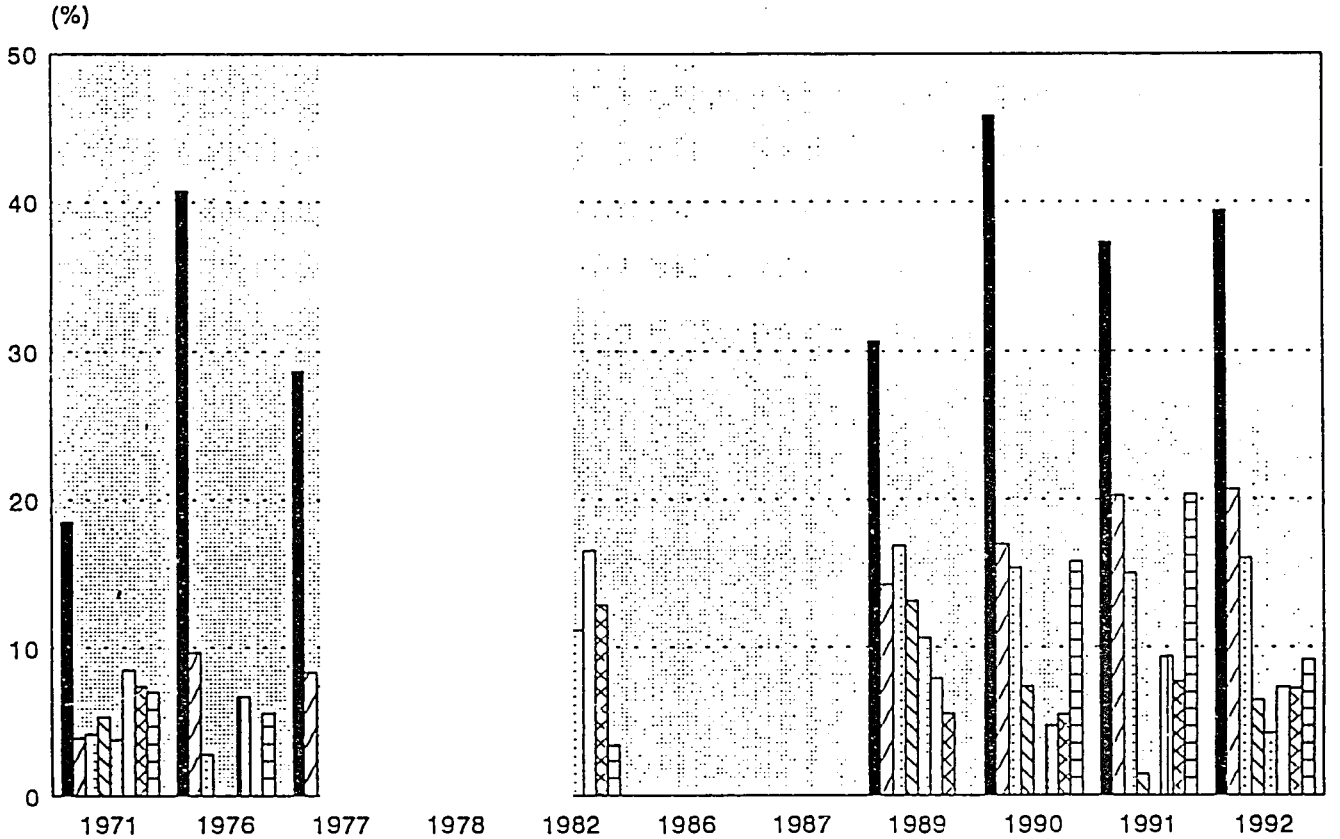
(Male)



Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

BEST AVAILABLE DOCUMENT

Mining and Quarrying
(Female)

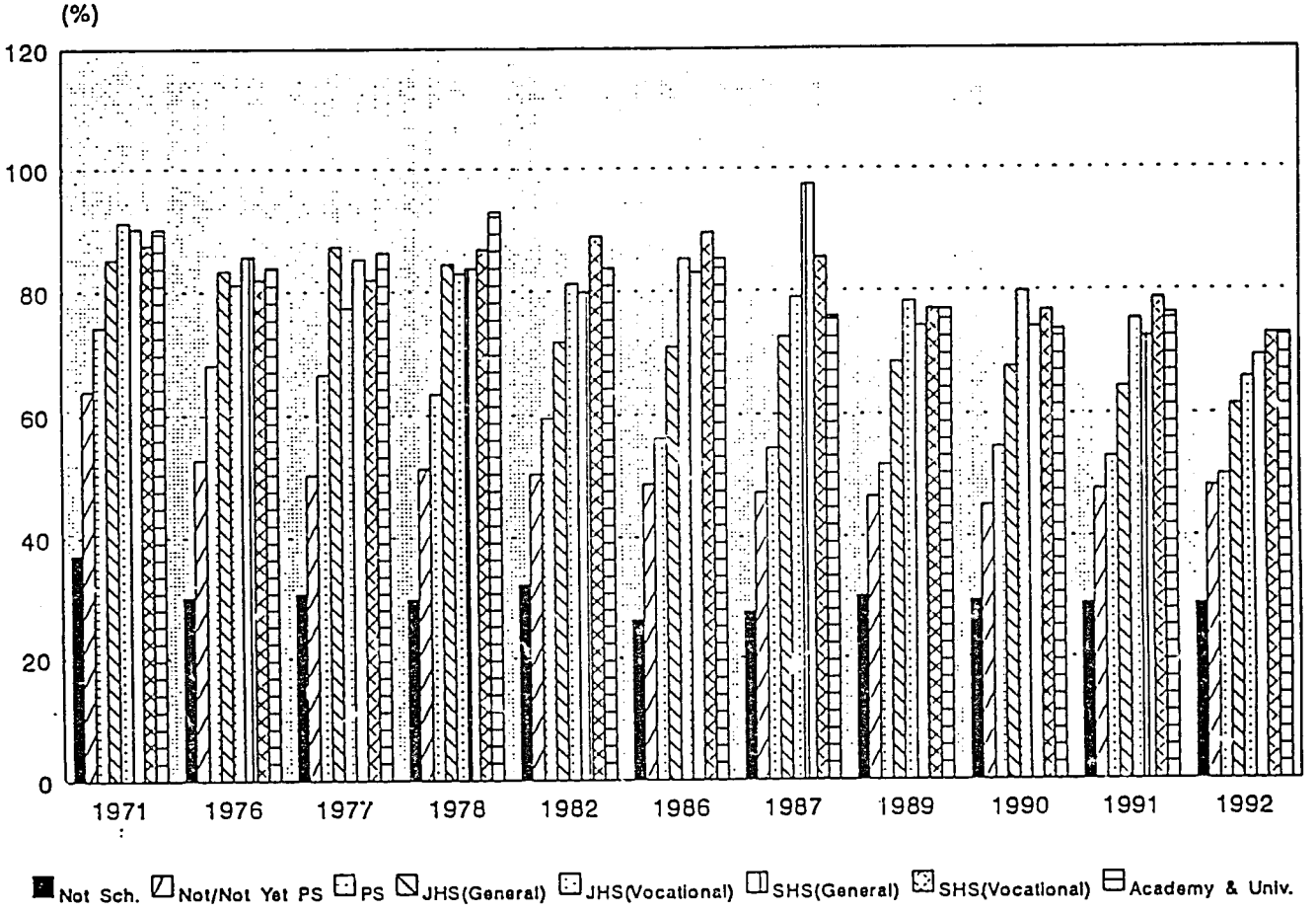


Not Sch. Not/Not Yet PS PS JHS(General) JHS(Vocational) SHS(General) SHS(Vocational) Academy & Univ.

Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

BEST AVAILABLE DOCUMENT

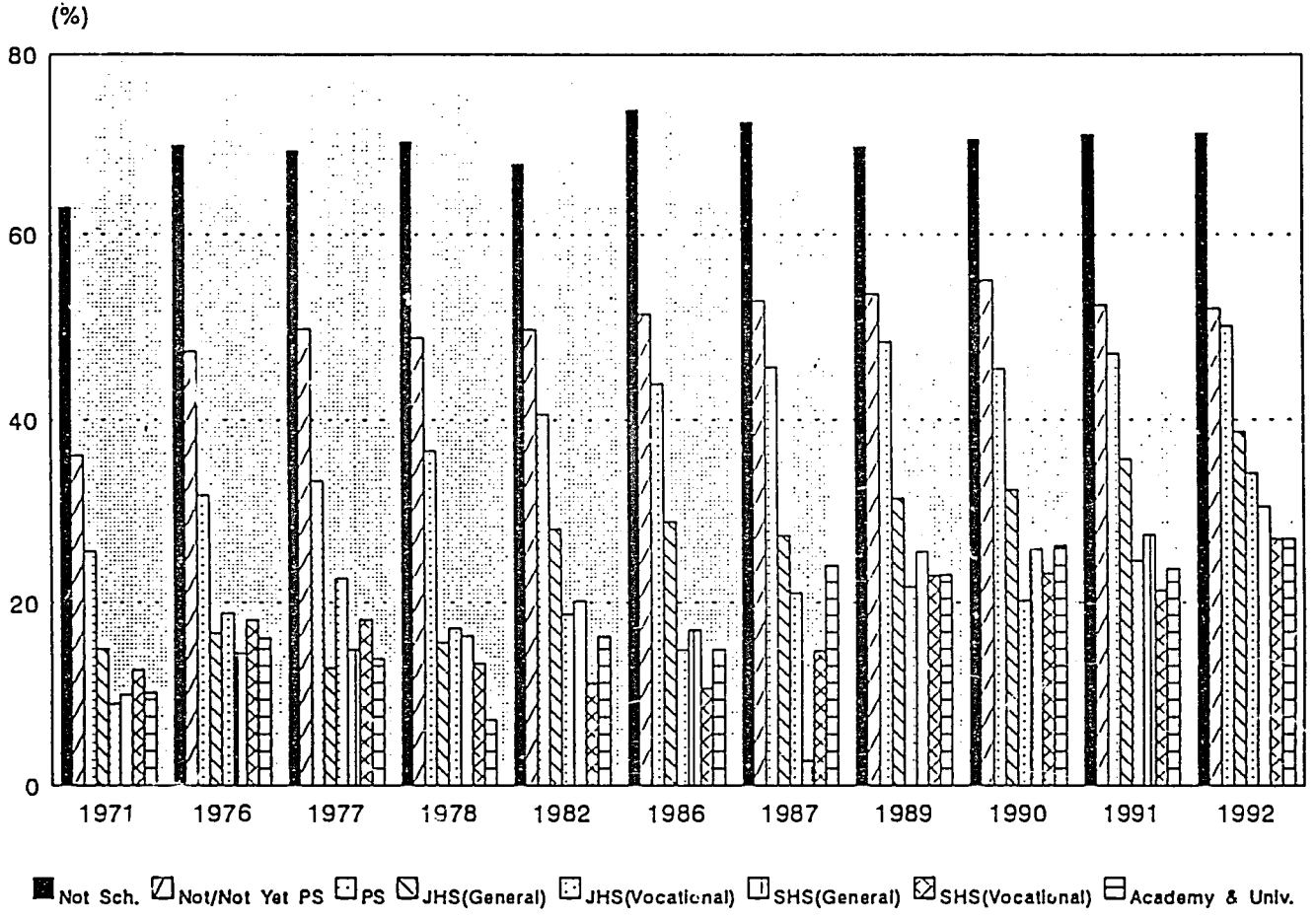
Manufacturing Industry
(Male)



Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

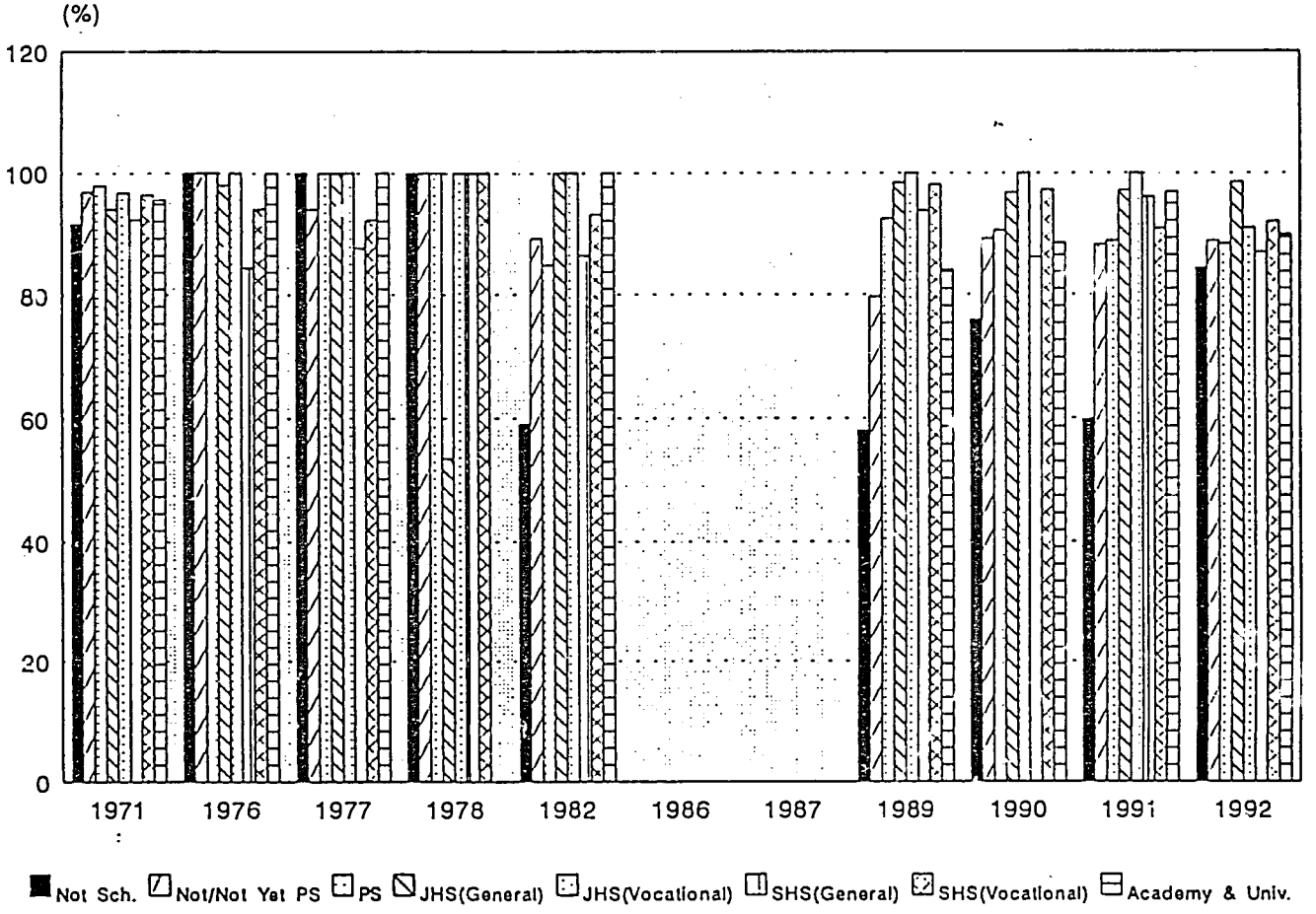
BEST AVAILABLE DOCUMENT

Manufacturing Industry
(Female)



Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

Electricity, gas & Water
(Male)



Source : Central Bureau of Statistics
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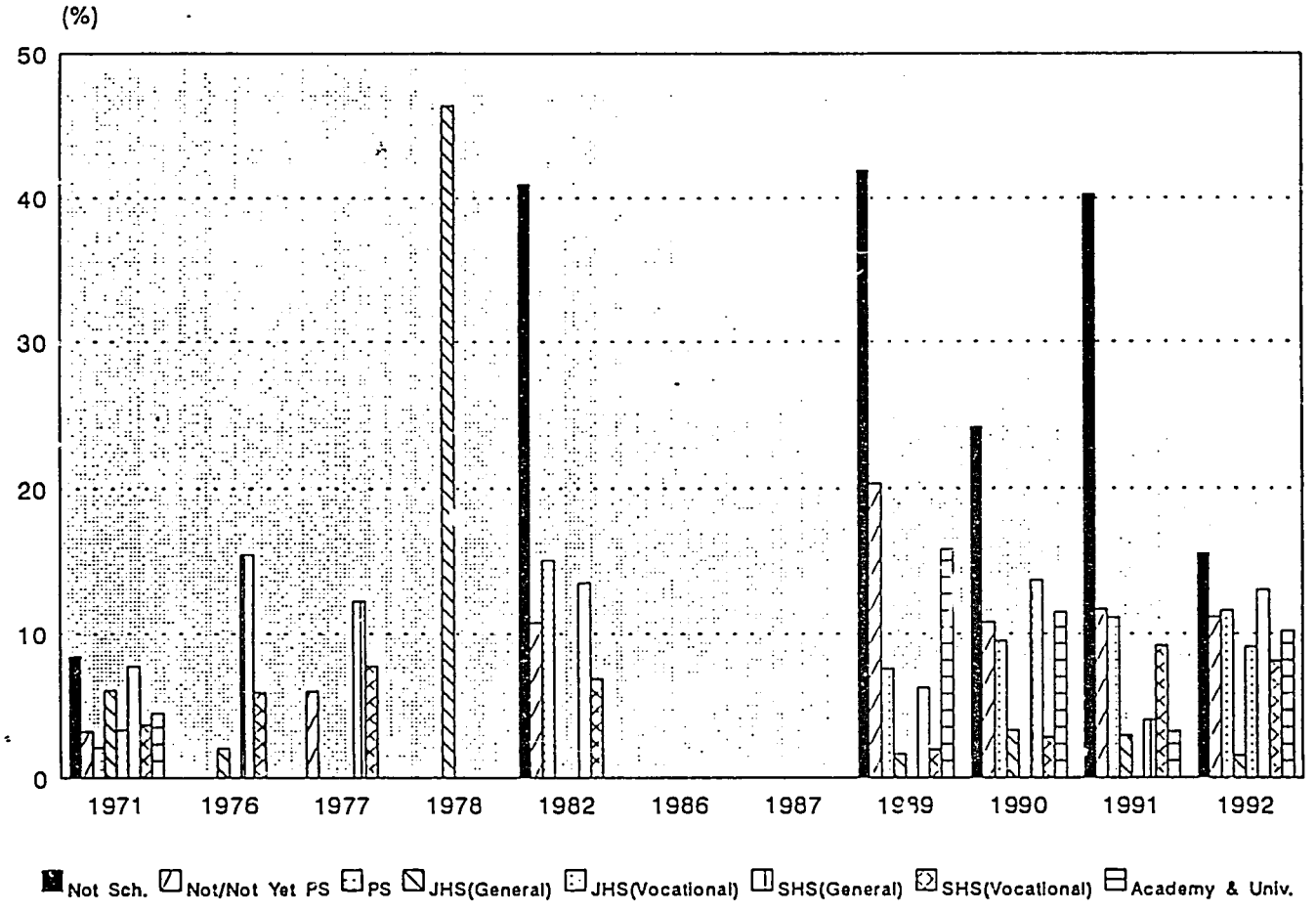
Electricity, gas & Water
(Female)



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Printed by Macro Policy Studies, NRMP

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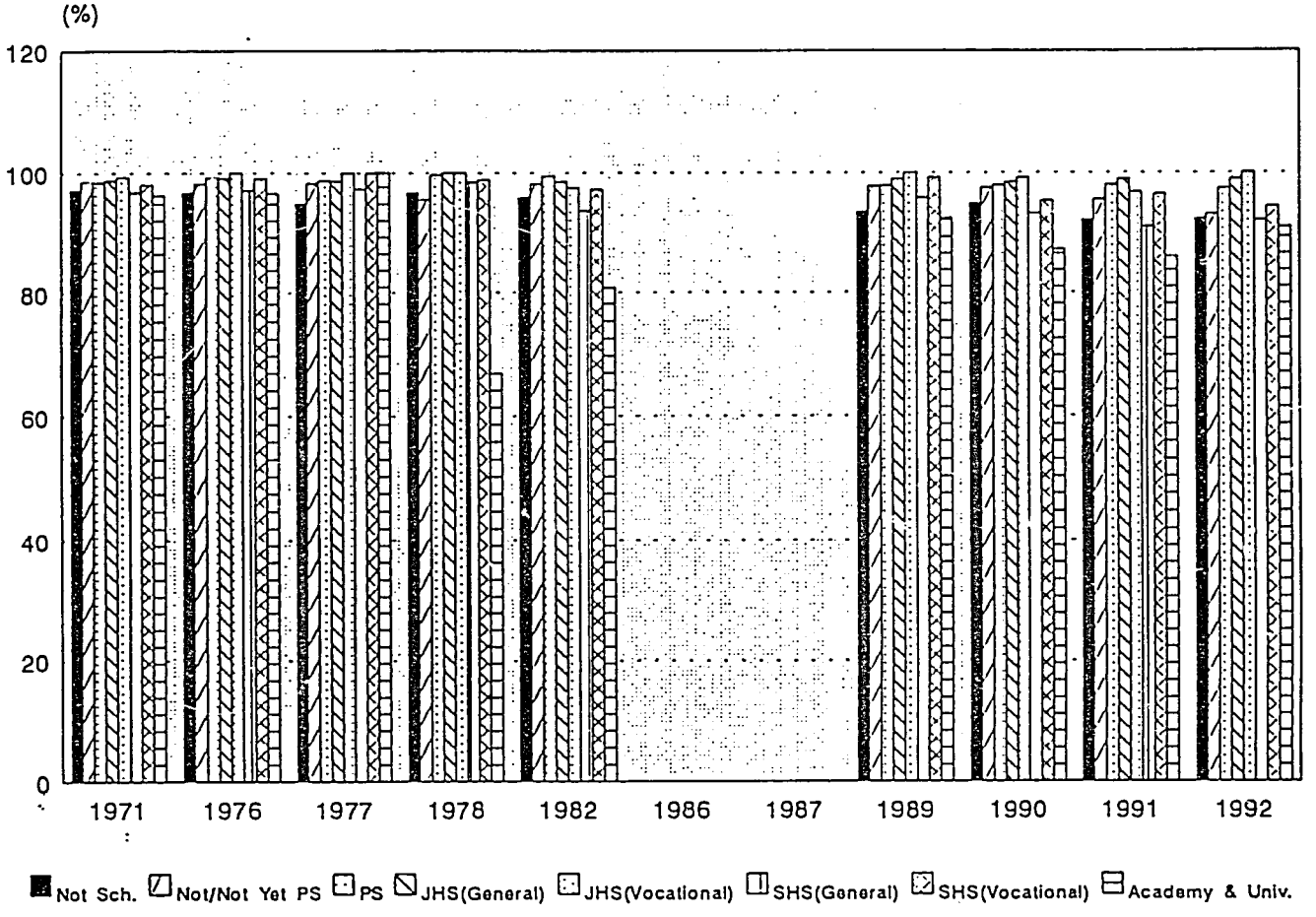
Construction
(Male)



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Printed by Macro Policy Studies, NRMP

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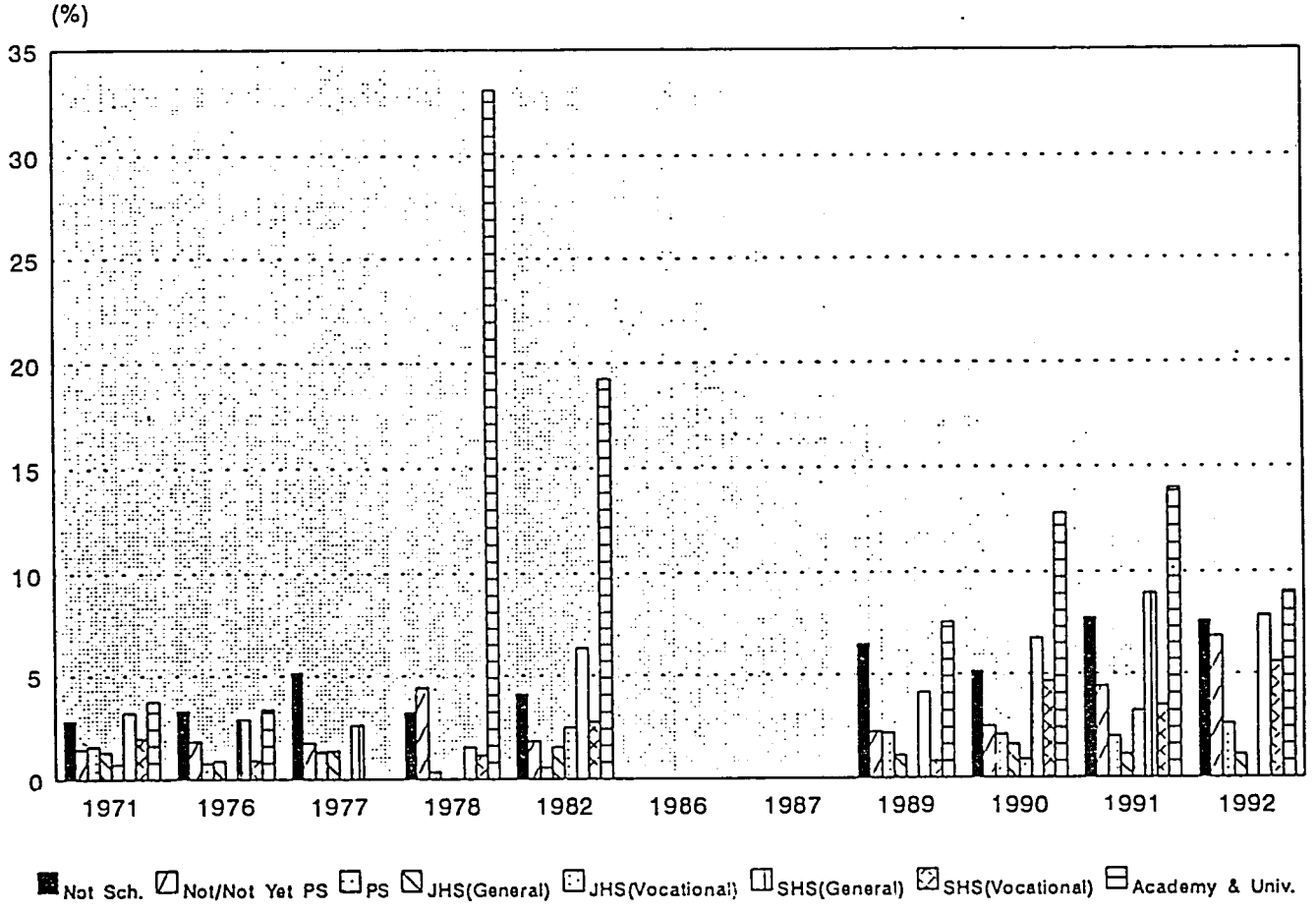
Construction
(Female)



Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

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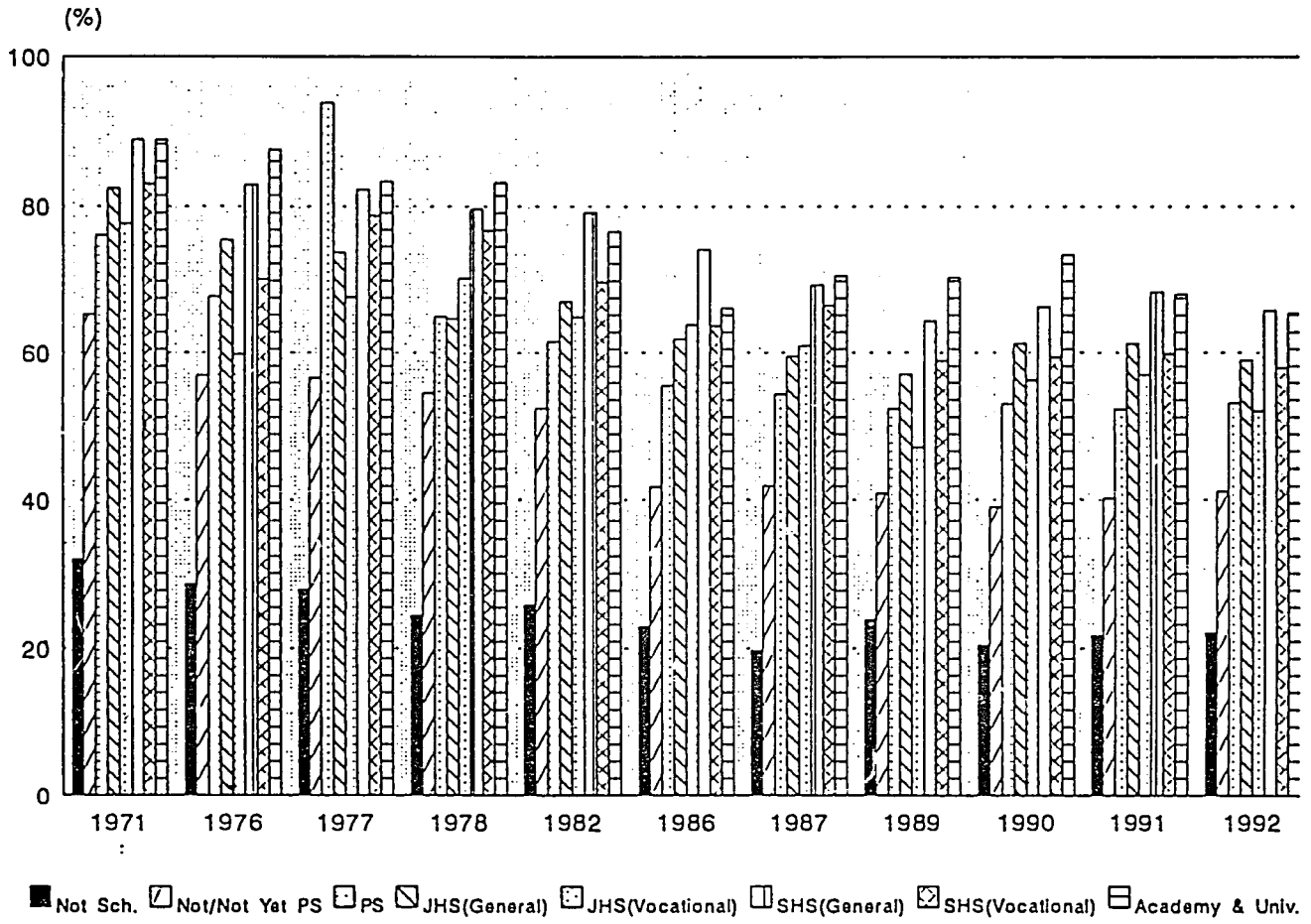
Wholesale trade, Retail, Restaurance

(Male)



Source : Central Bureau of Statistics
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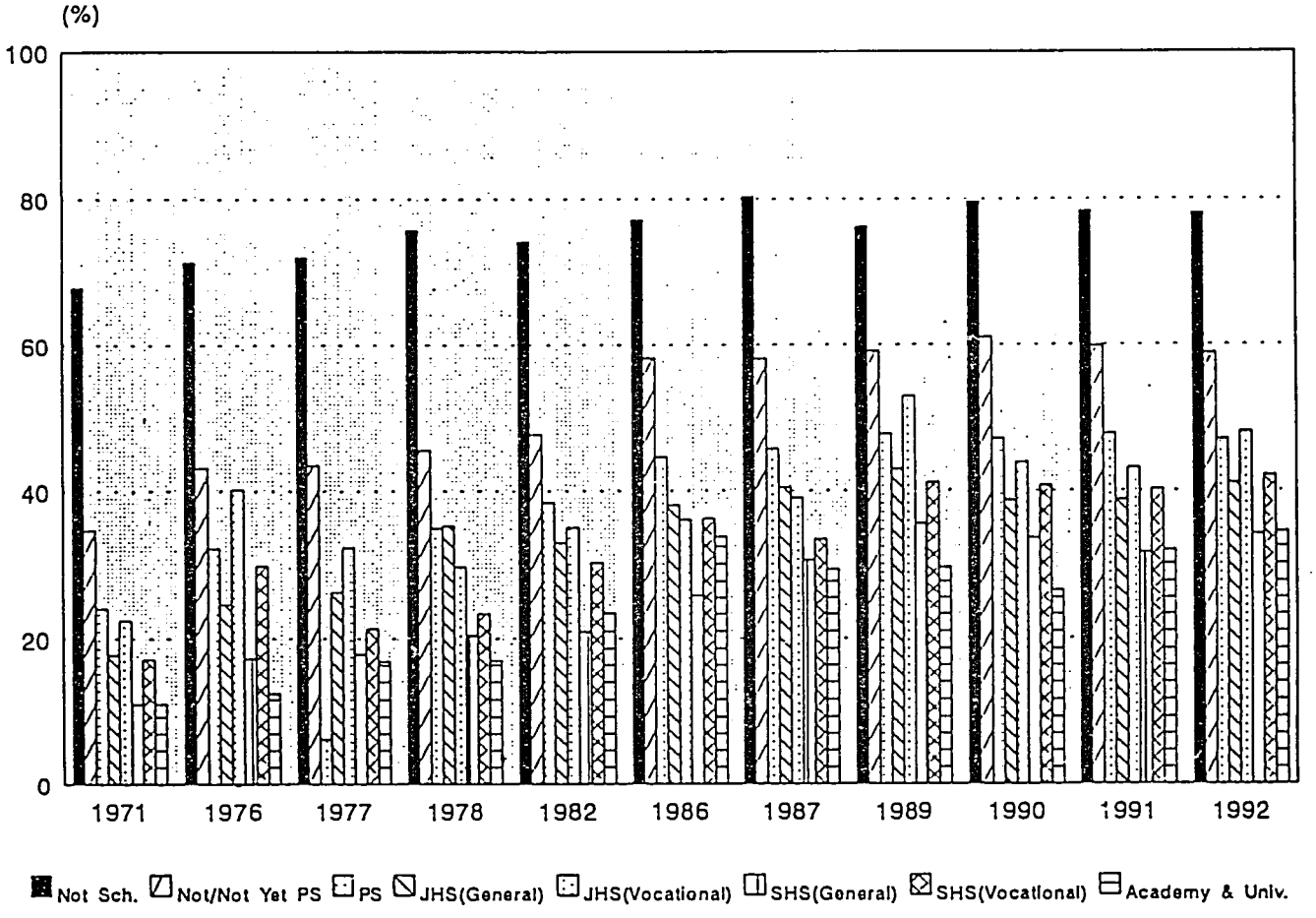
Wholesale trade, Retail, Restaurance
(Female)



Source : Central Bureau of Statistics
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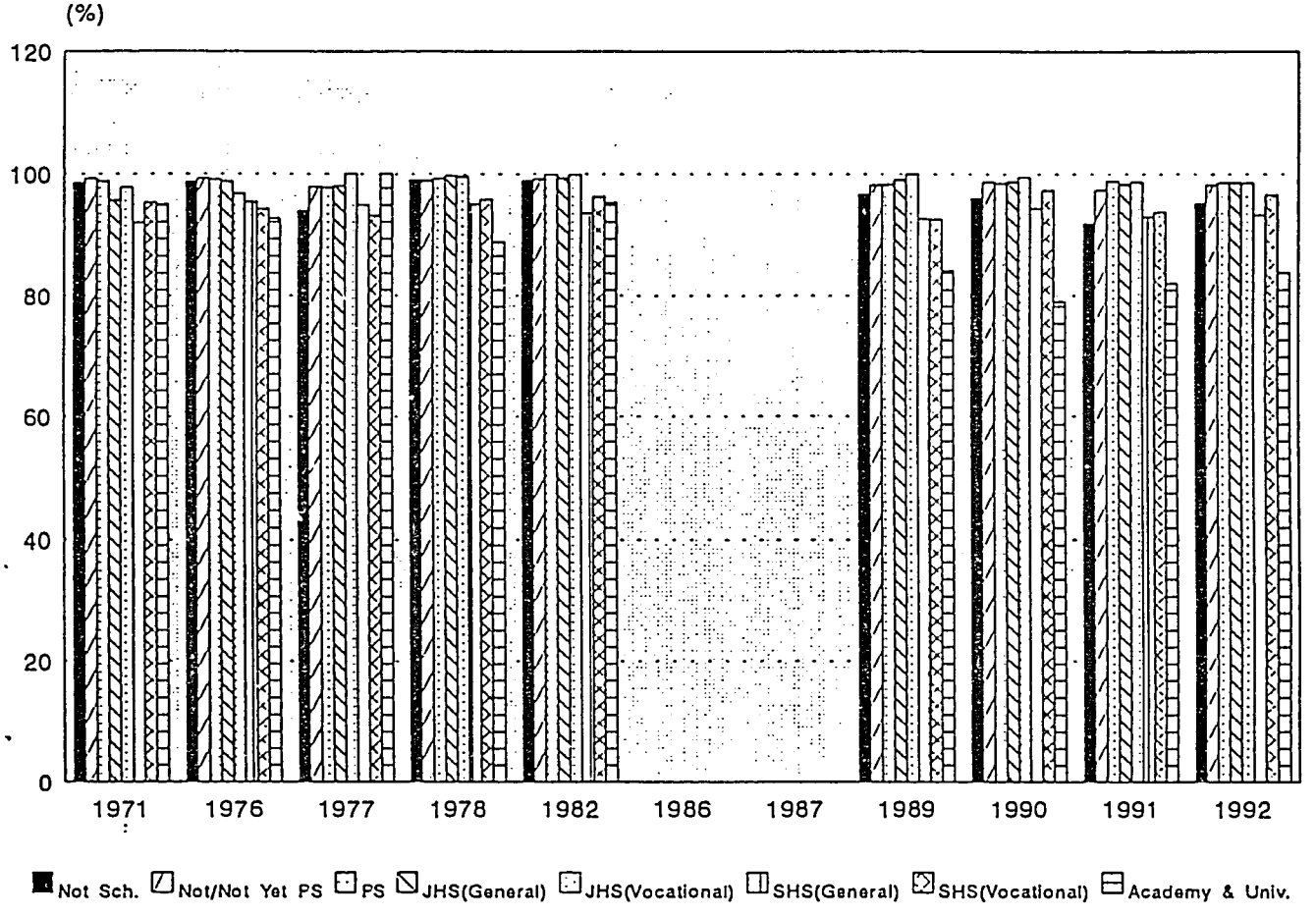
Transportation, Storage, Communication
(Male)



Source : Central Bureau of Statistics
Printed by Macro Policy Studies, NRMP

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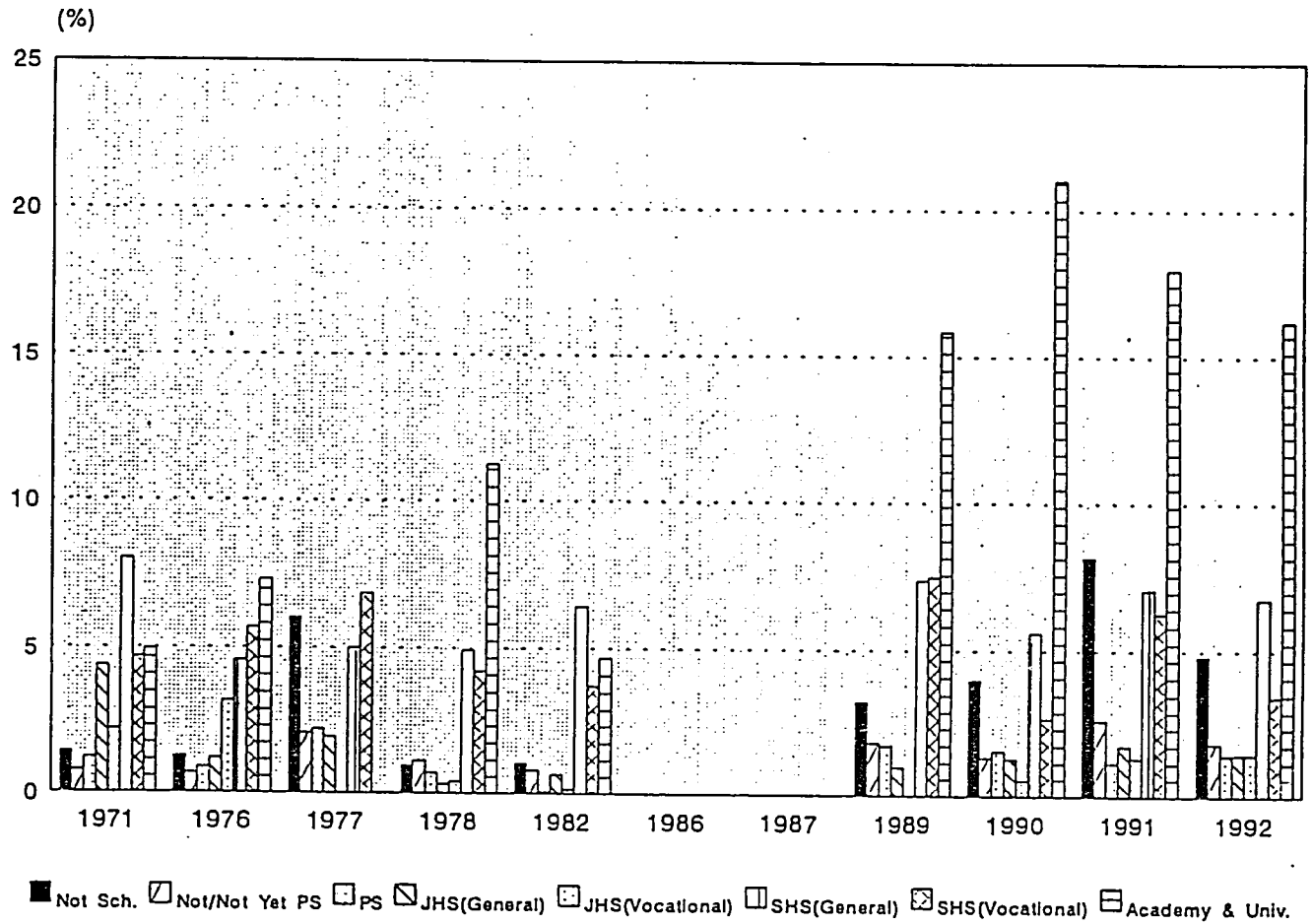
Transportation, Storage, Communication
(Female)



Source : Central Bureau of Statistics
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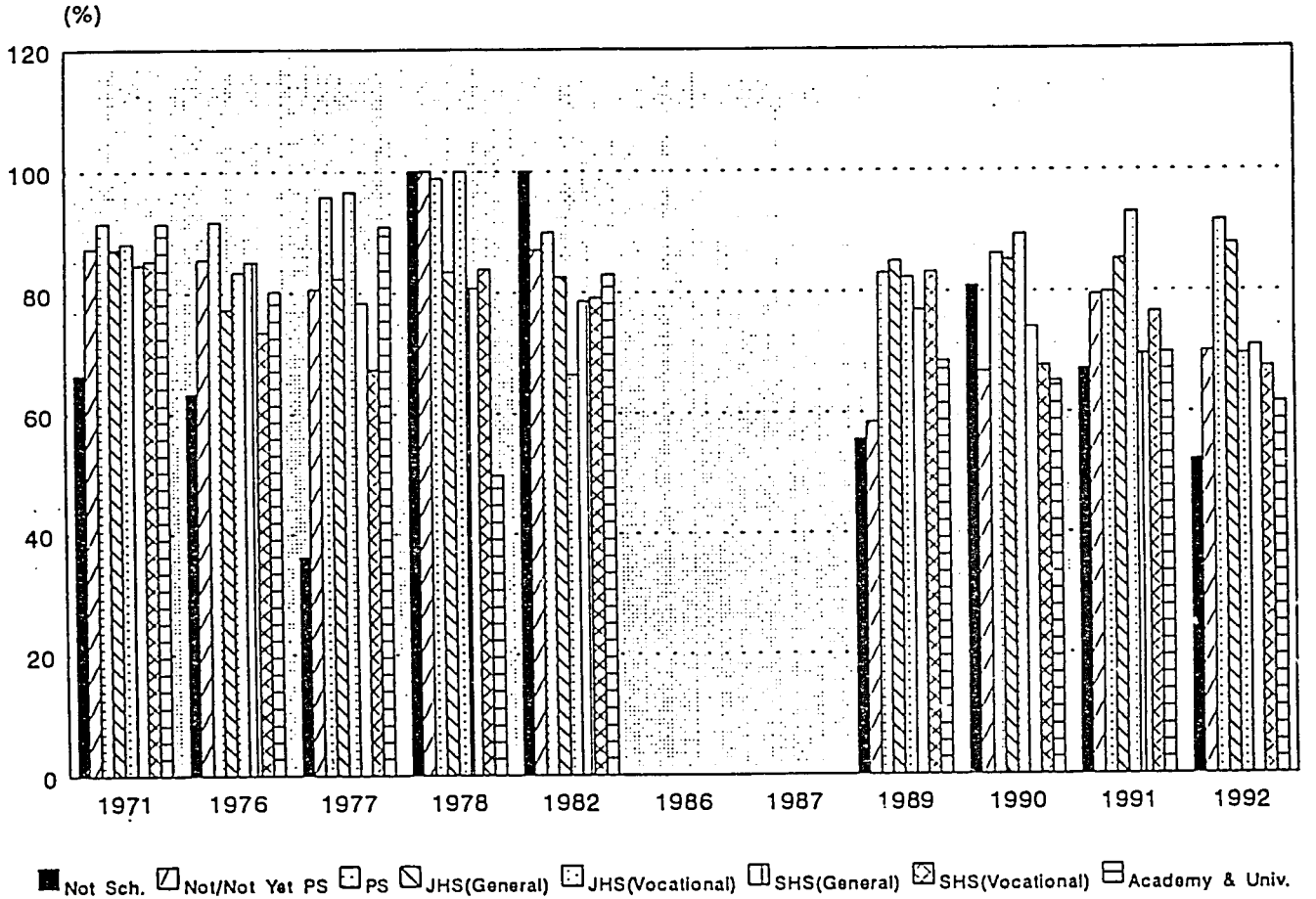
Financing, Insurancce, Realestate & Business Service

(Male)



Source : Central Bureau of Statistics
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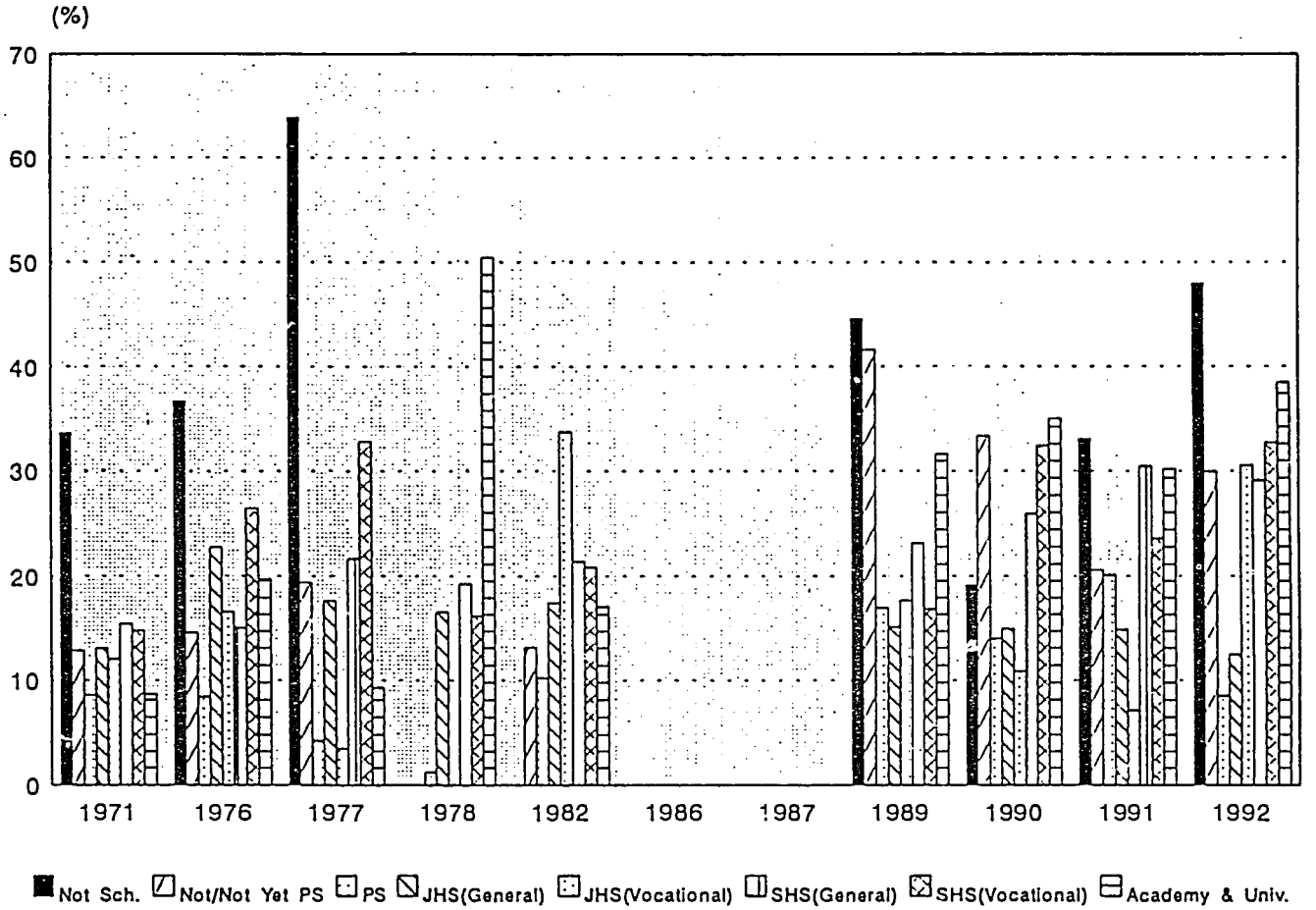
Financing, Insurancce, Realestate & Business Service
(Female)



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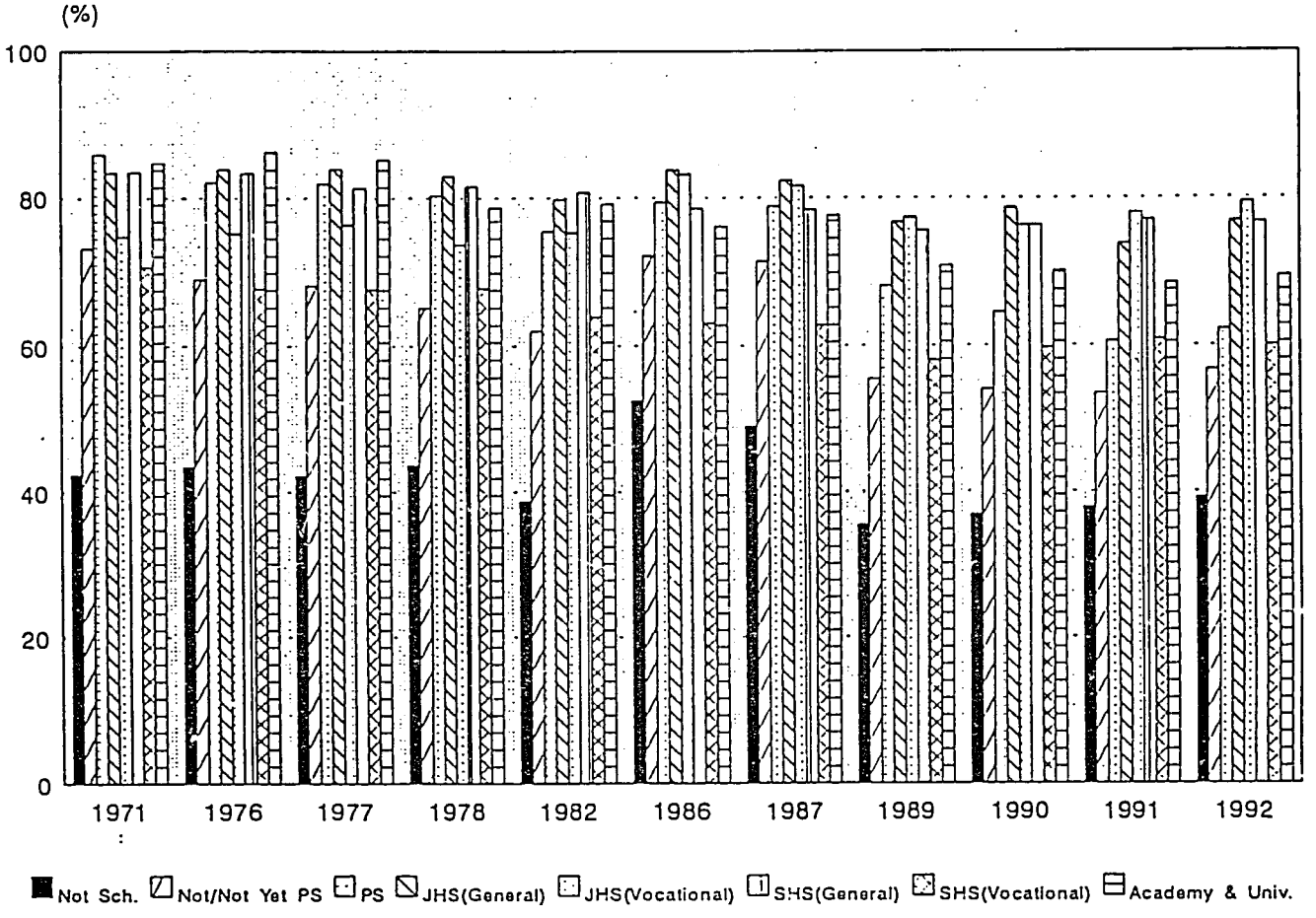
Public Service
(Male)



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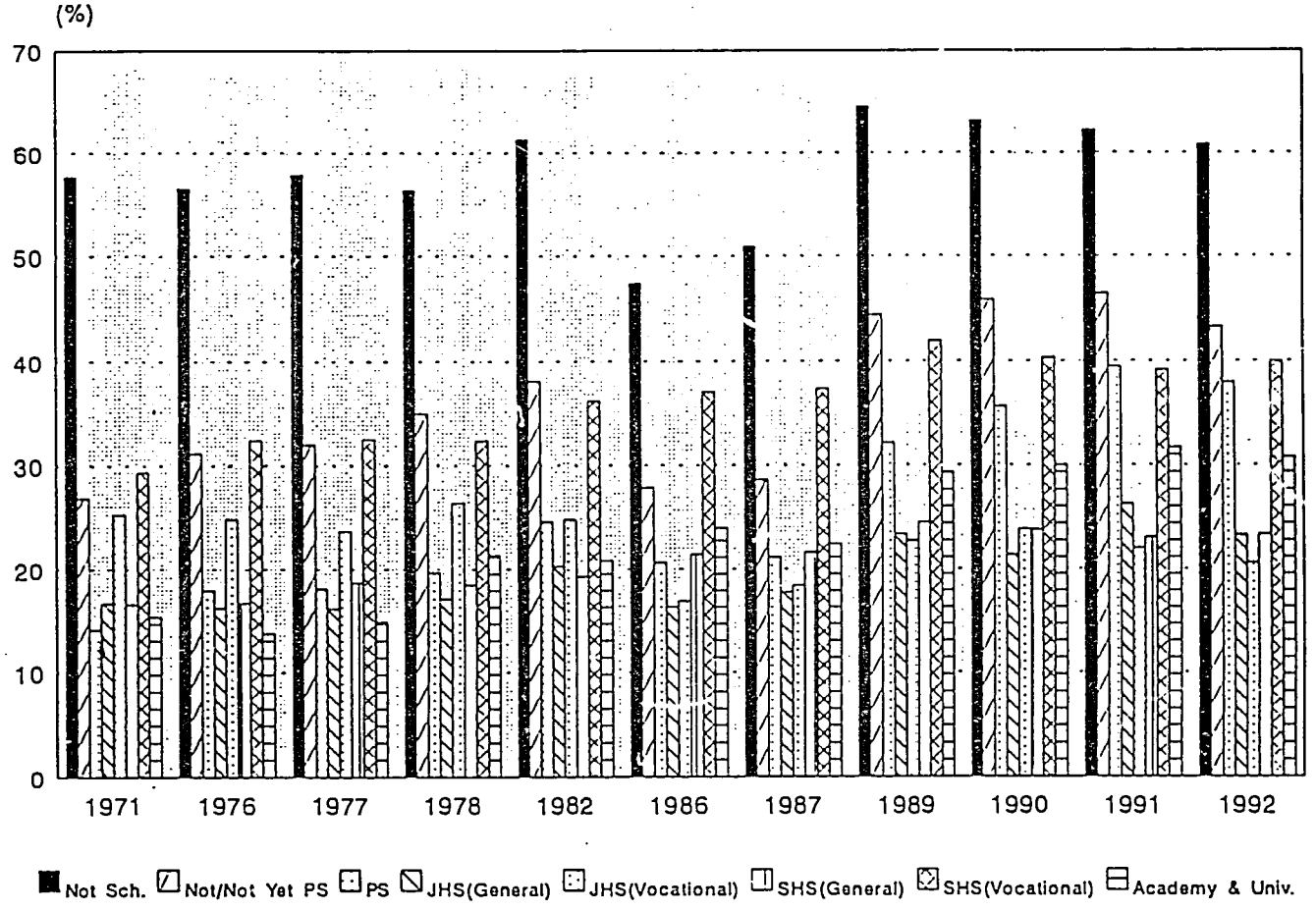
Public Service
(Female)



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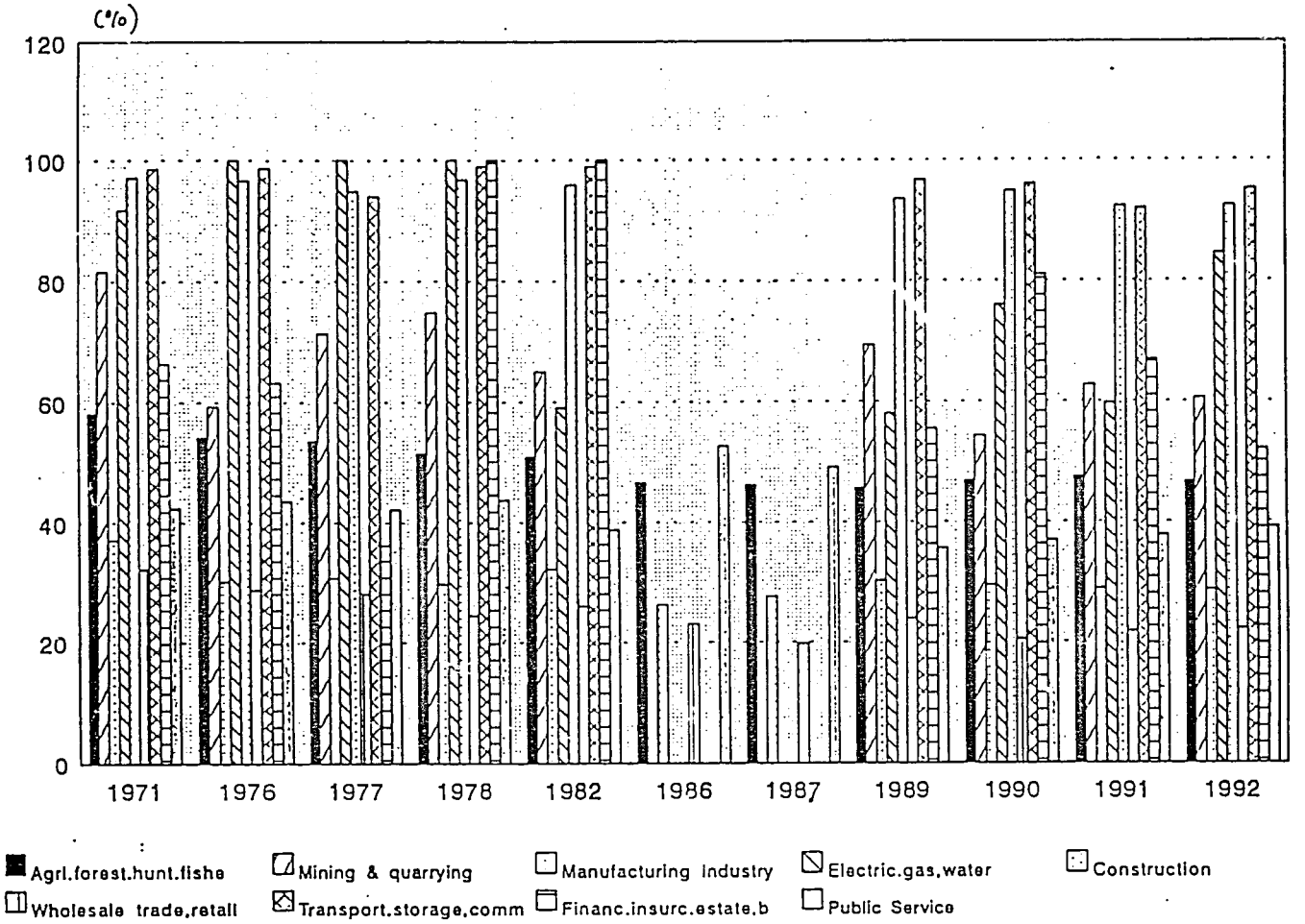
Not Schooling
(Male)



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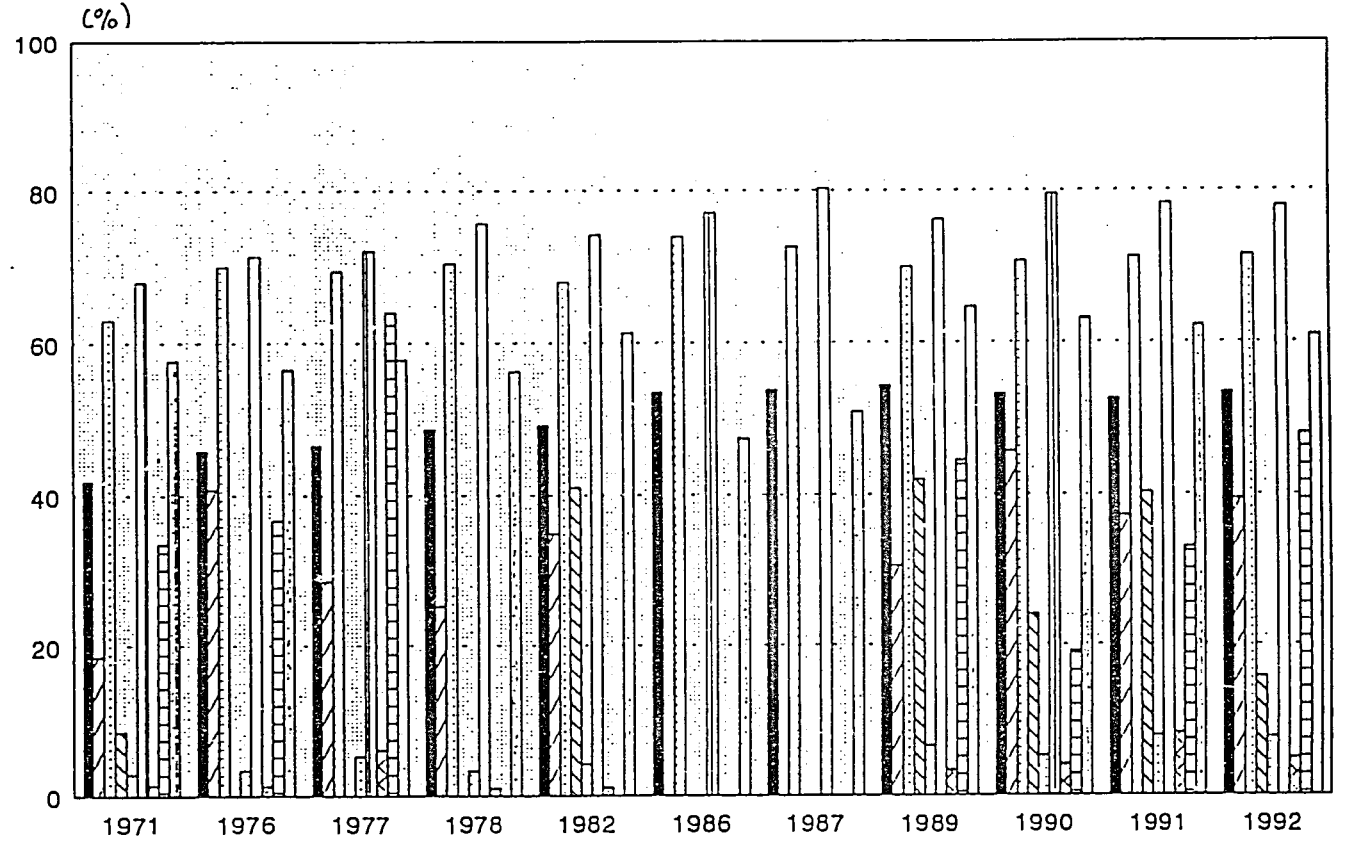
Not Schooling
(Female)



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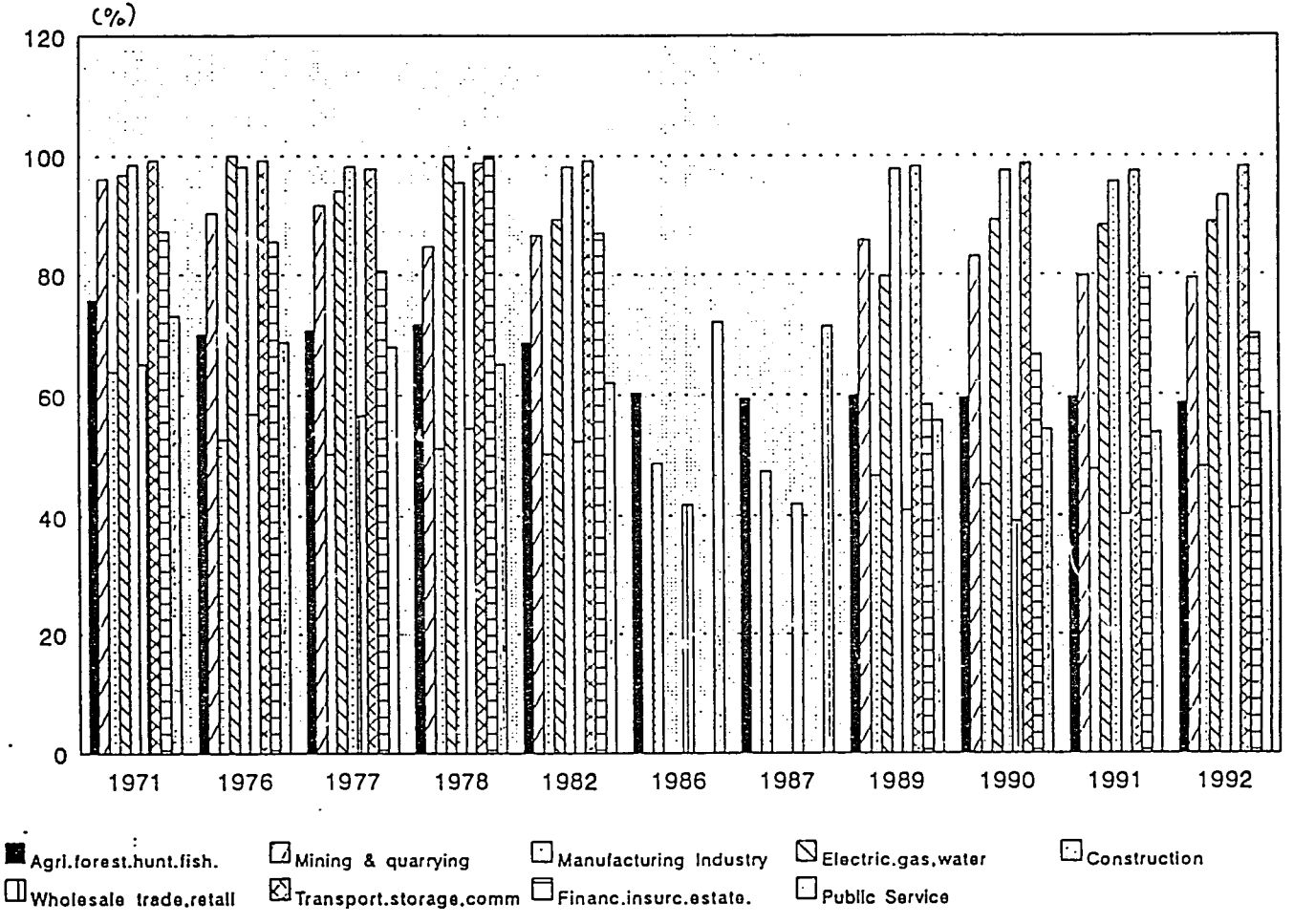
Not/Not Yet Primary School

(Male)



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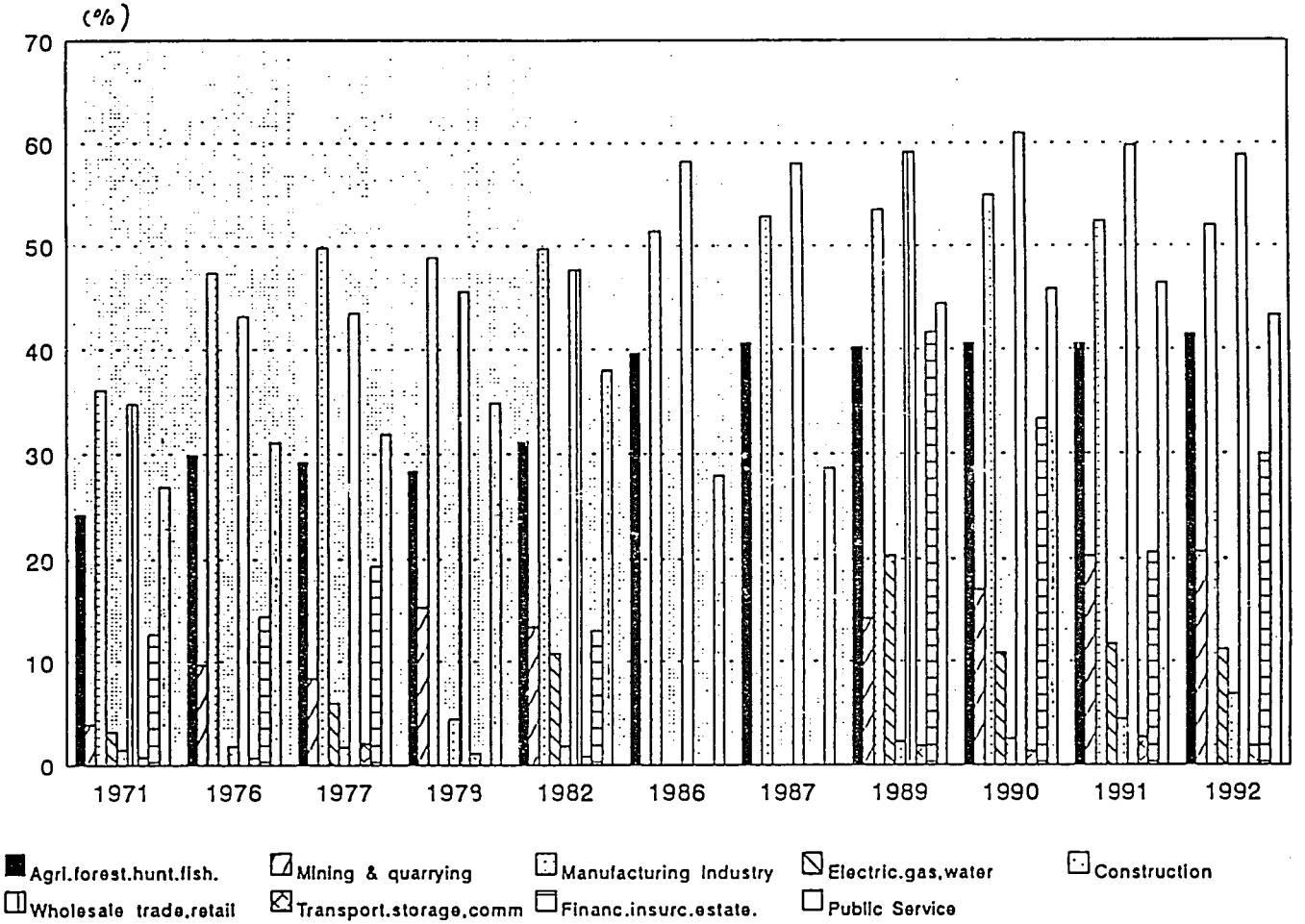
Not/Not Yet Primary School
(Female)



Source : Central Bureau of Statistics
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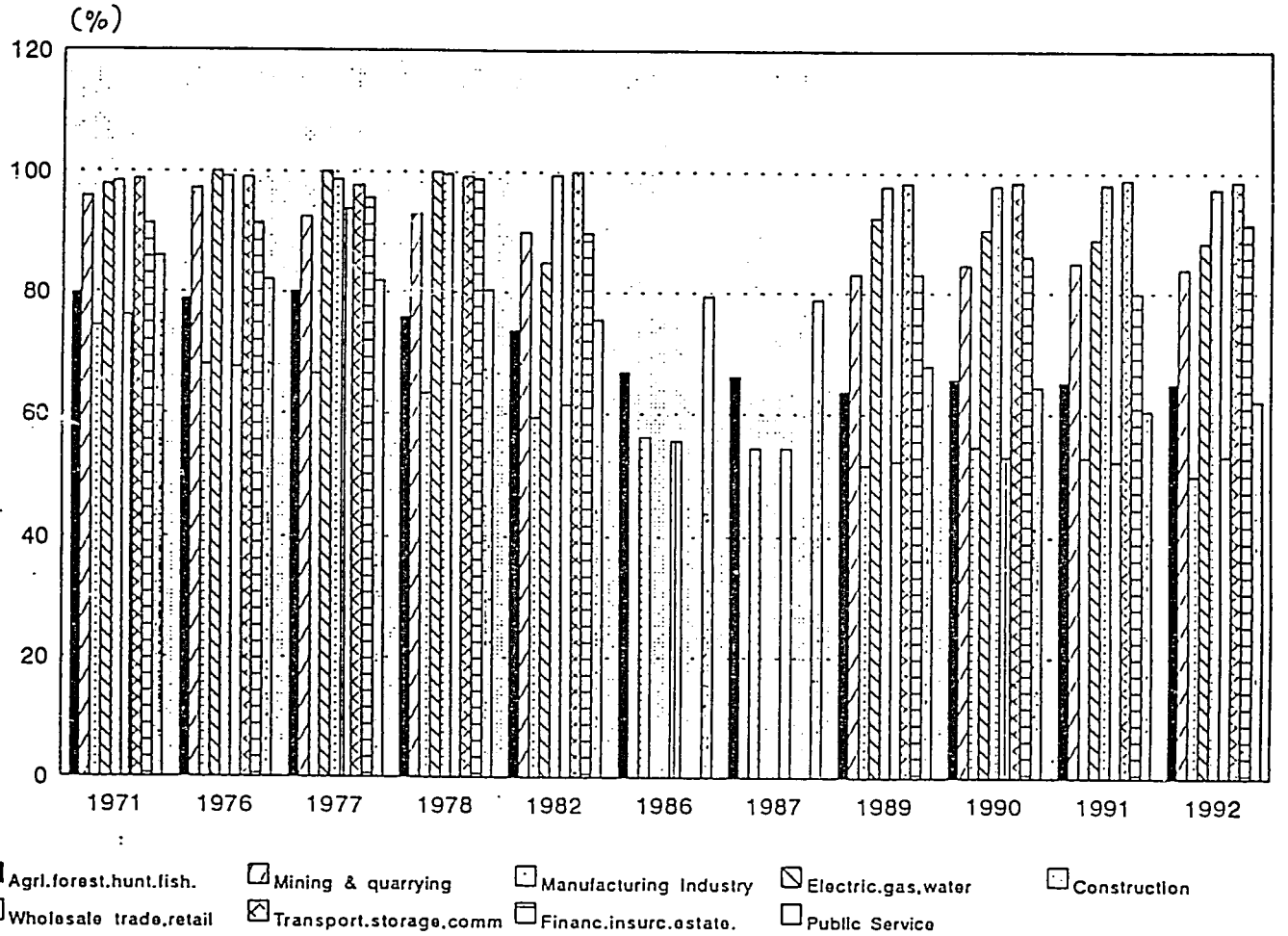
223

Indonesian Labour Demand

Primary School

(Male)



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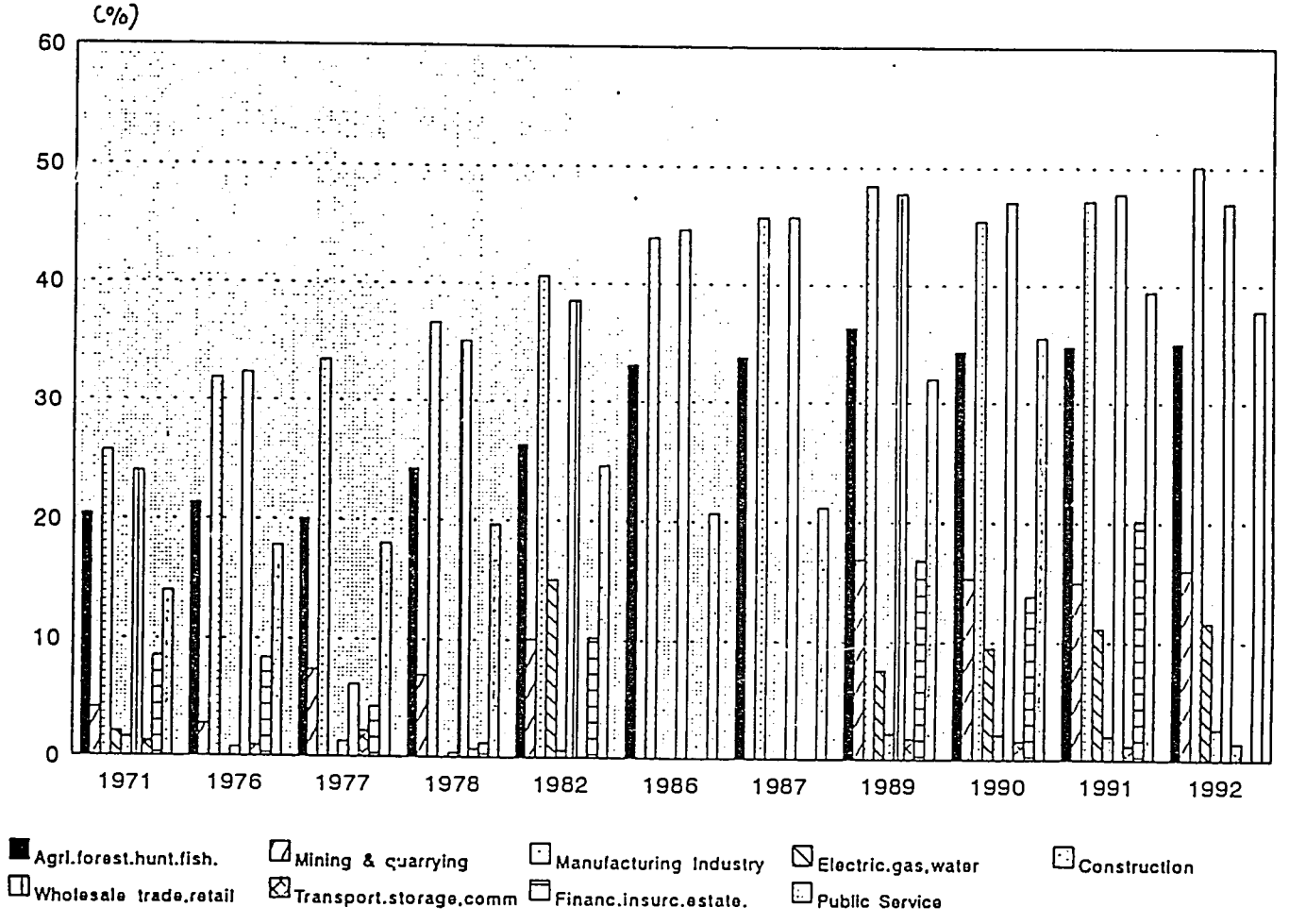
Indonesian Labour Demand

Primary School

(Female)



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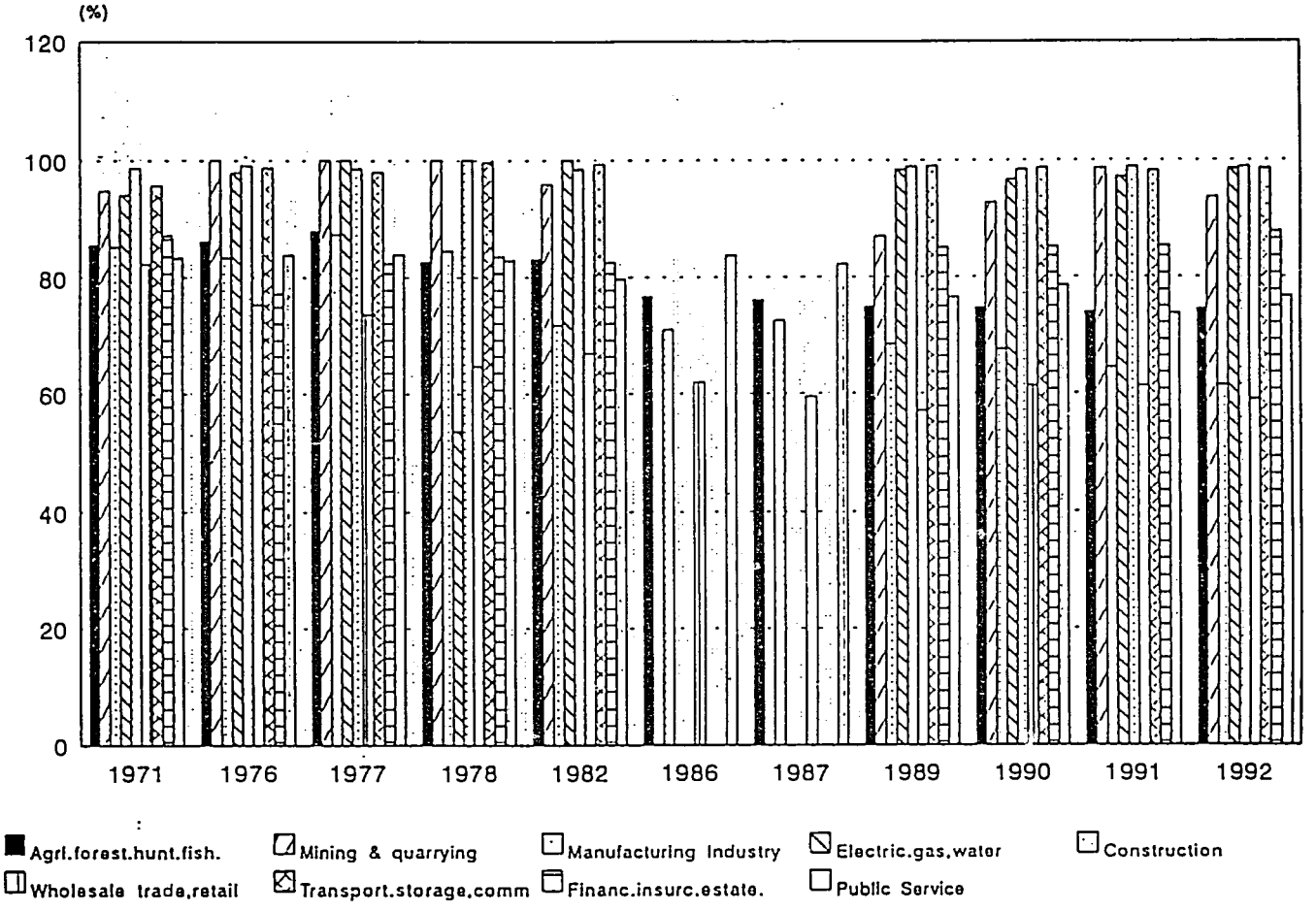
Junior High School (General)

(Male)



Source : Central Bureau of Statistics
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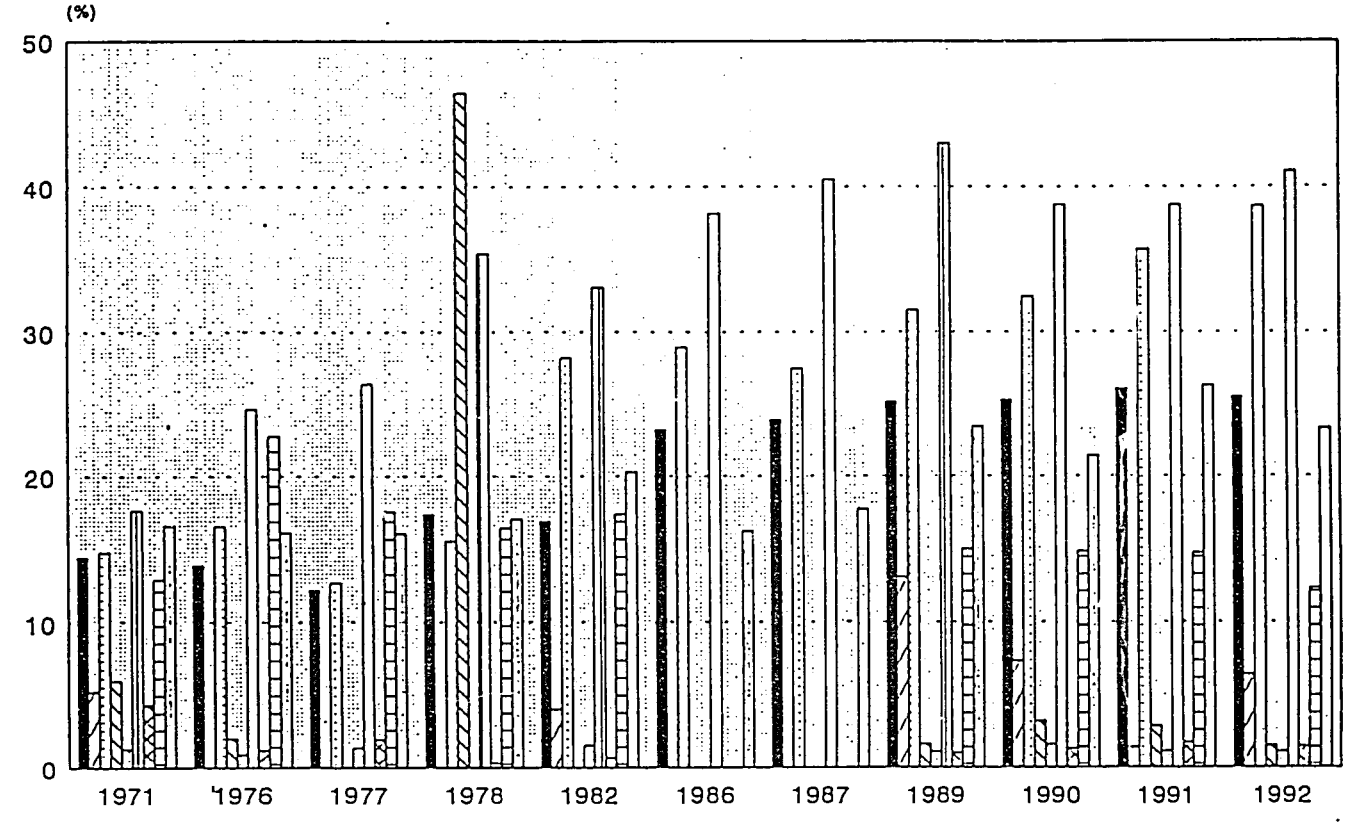
226

Indonesian Labour Demand

Junior High School (General)

(Female)



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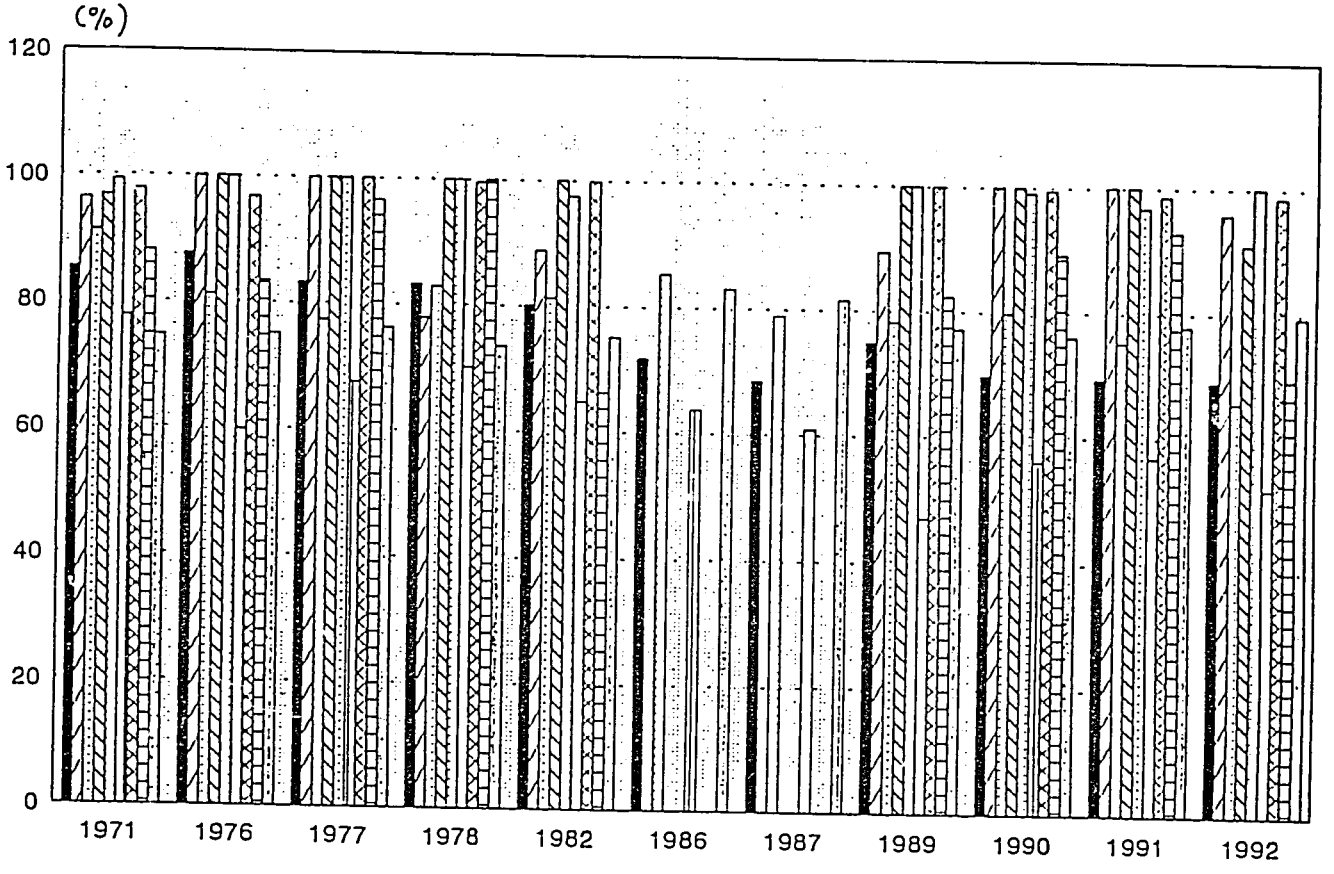
Indonesian Labour Demand

Junior High School (Vocational)

(Male)



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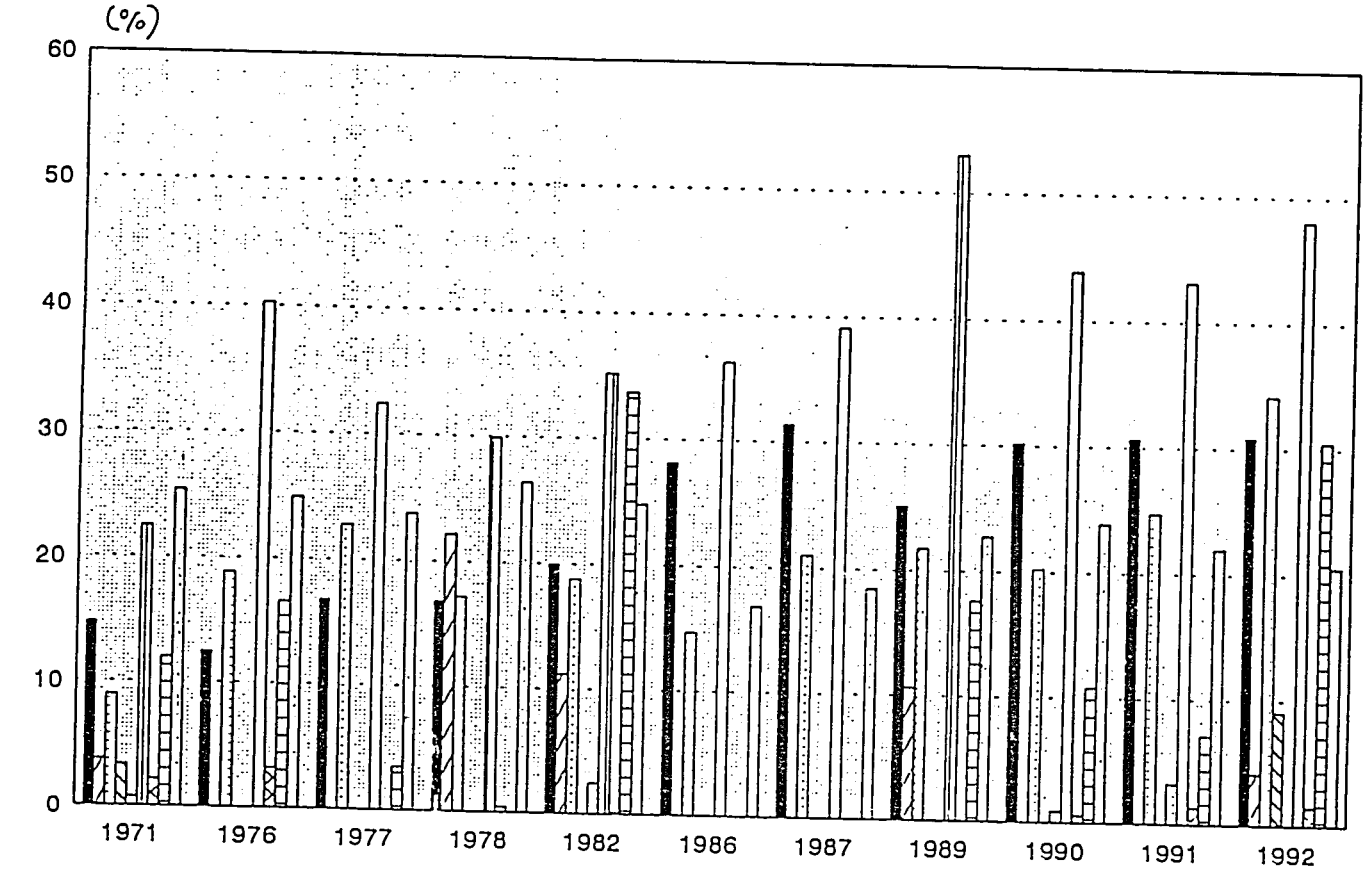
Indonesian Labour Demand

Junior High School (Vocational)

(Female)



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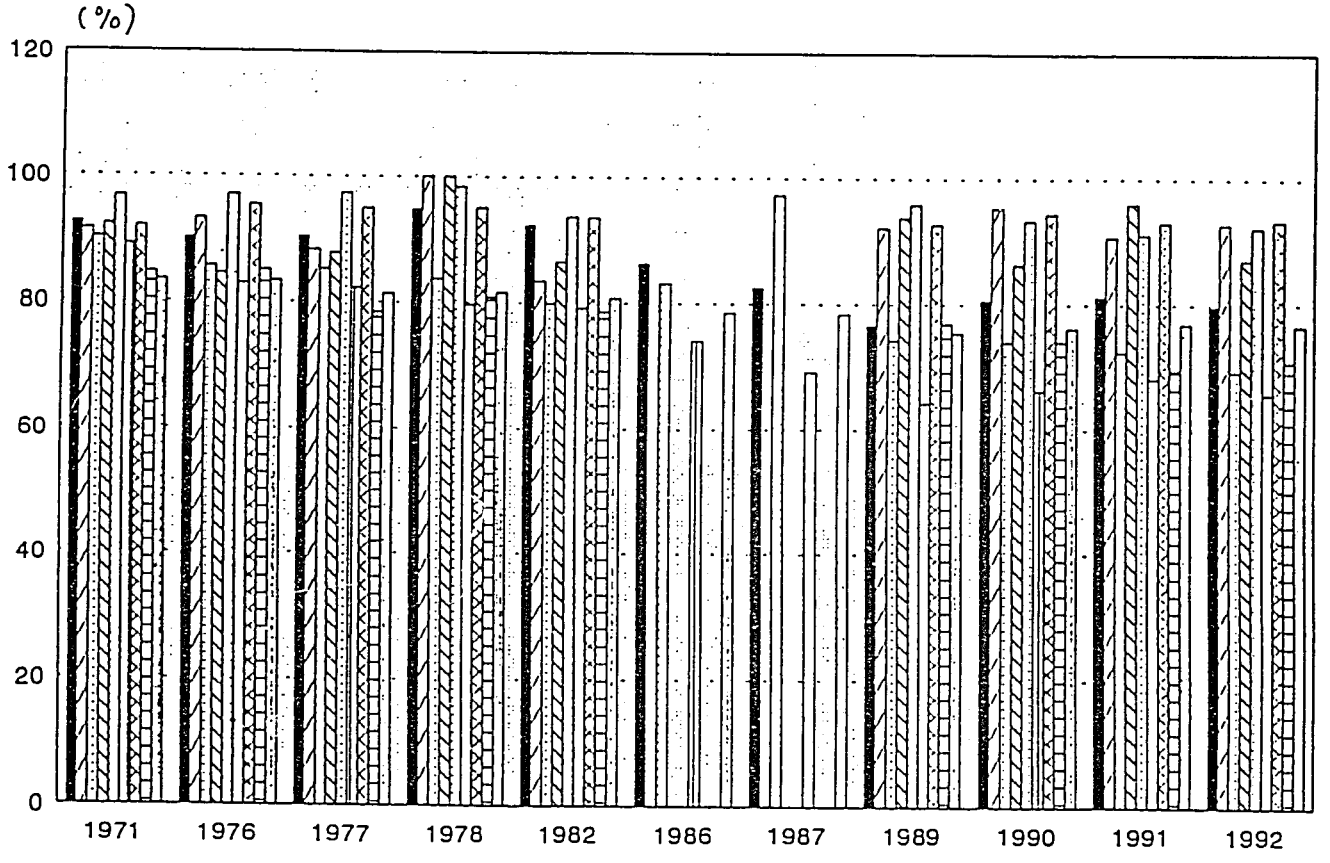
Indonesian Labour Demand

Senior High School (General)

(Male)



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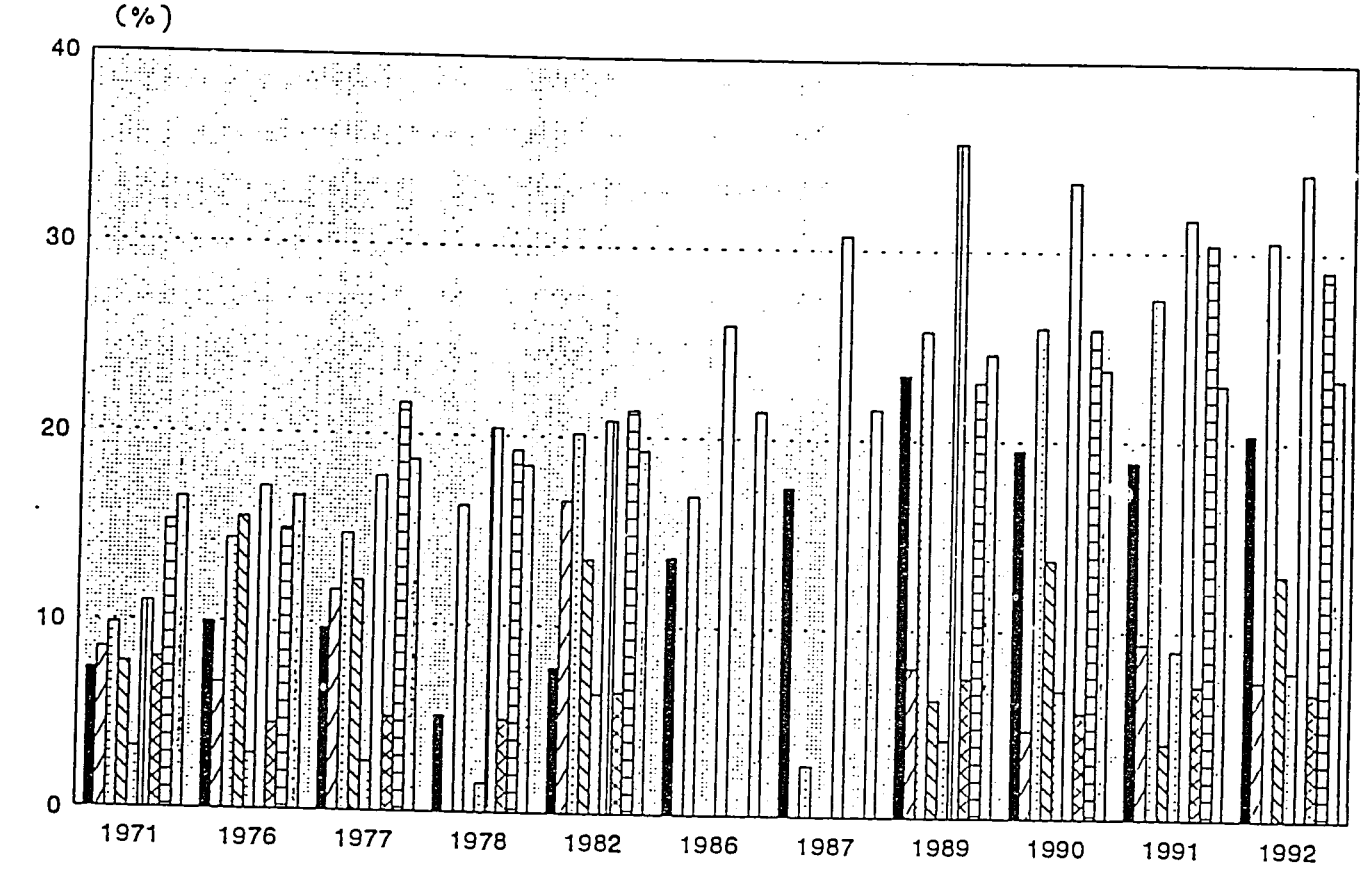
Indonesian Labour Demand
Senior High School (General)
(Female)



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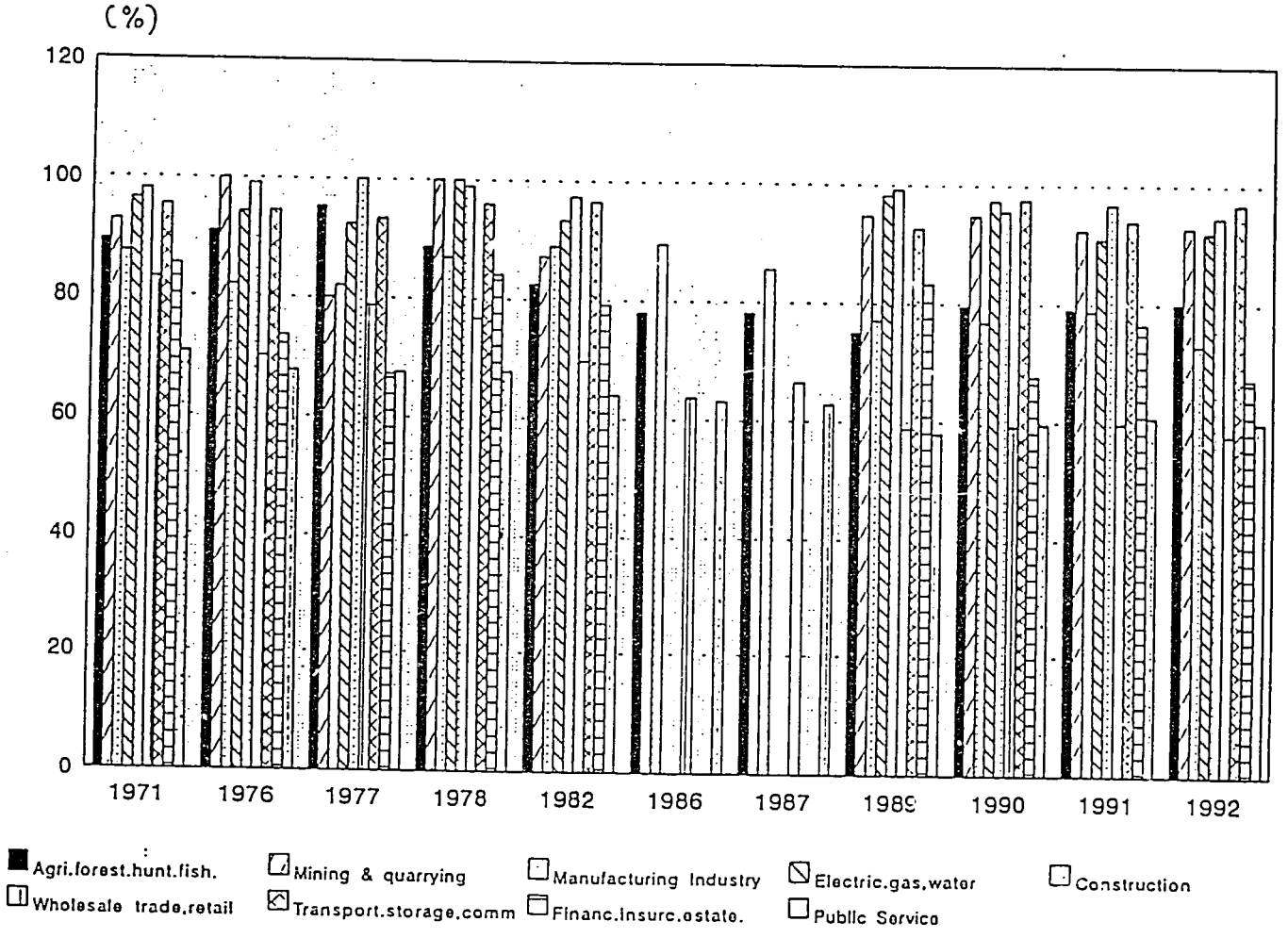
Senior High School (Vocational)

(Male)



Source : Central Bureau of Statistics
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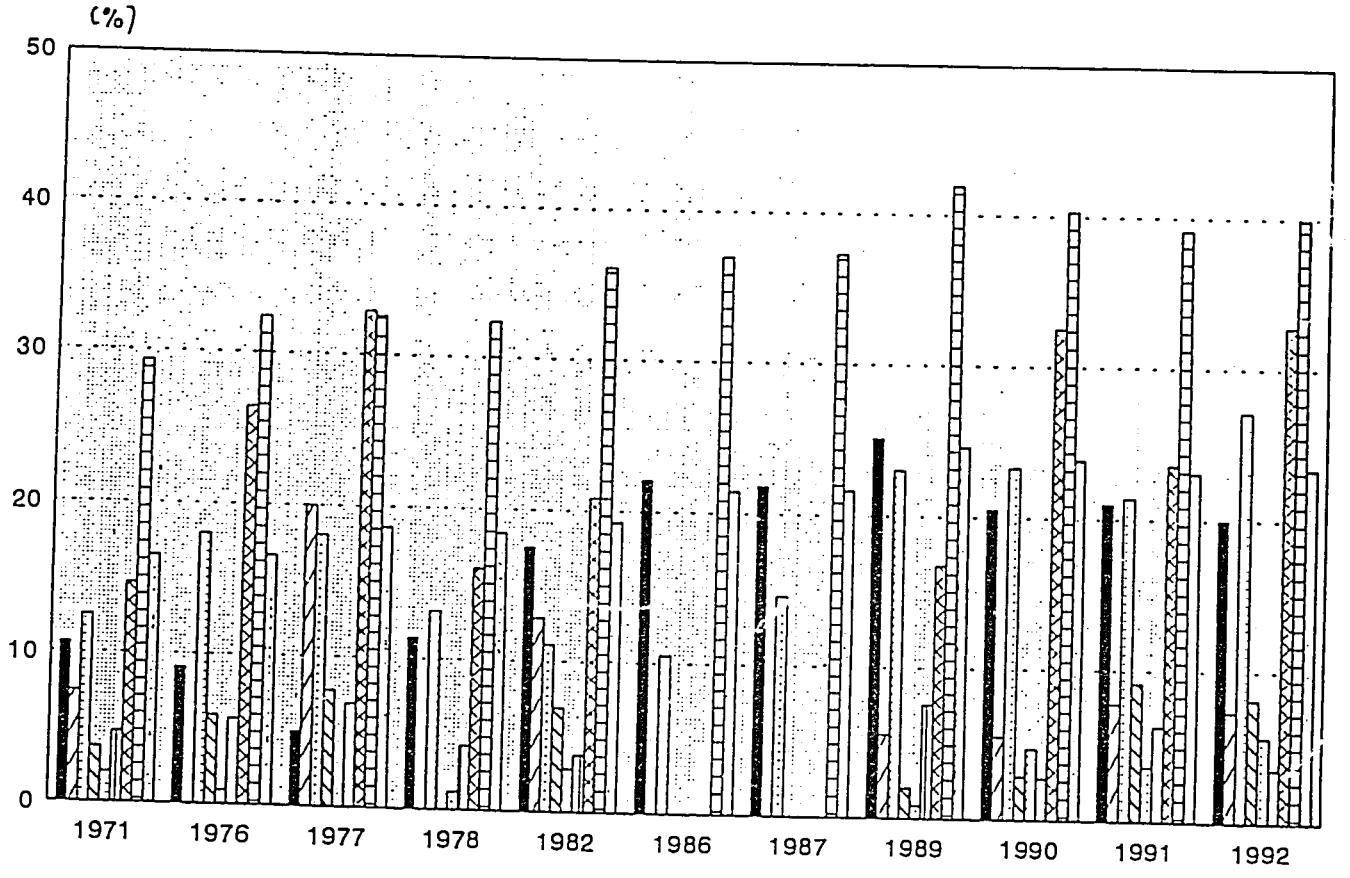
Senior High School (Vocational)

(Female)



Source : Central Bureau of Statistics
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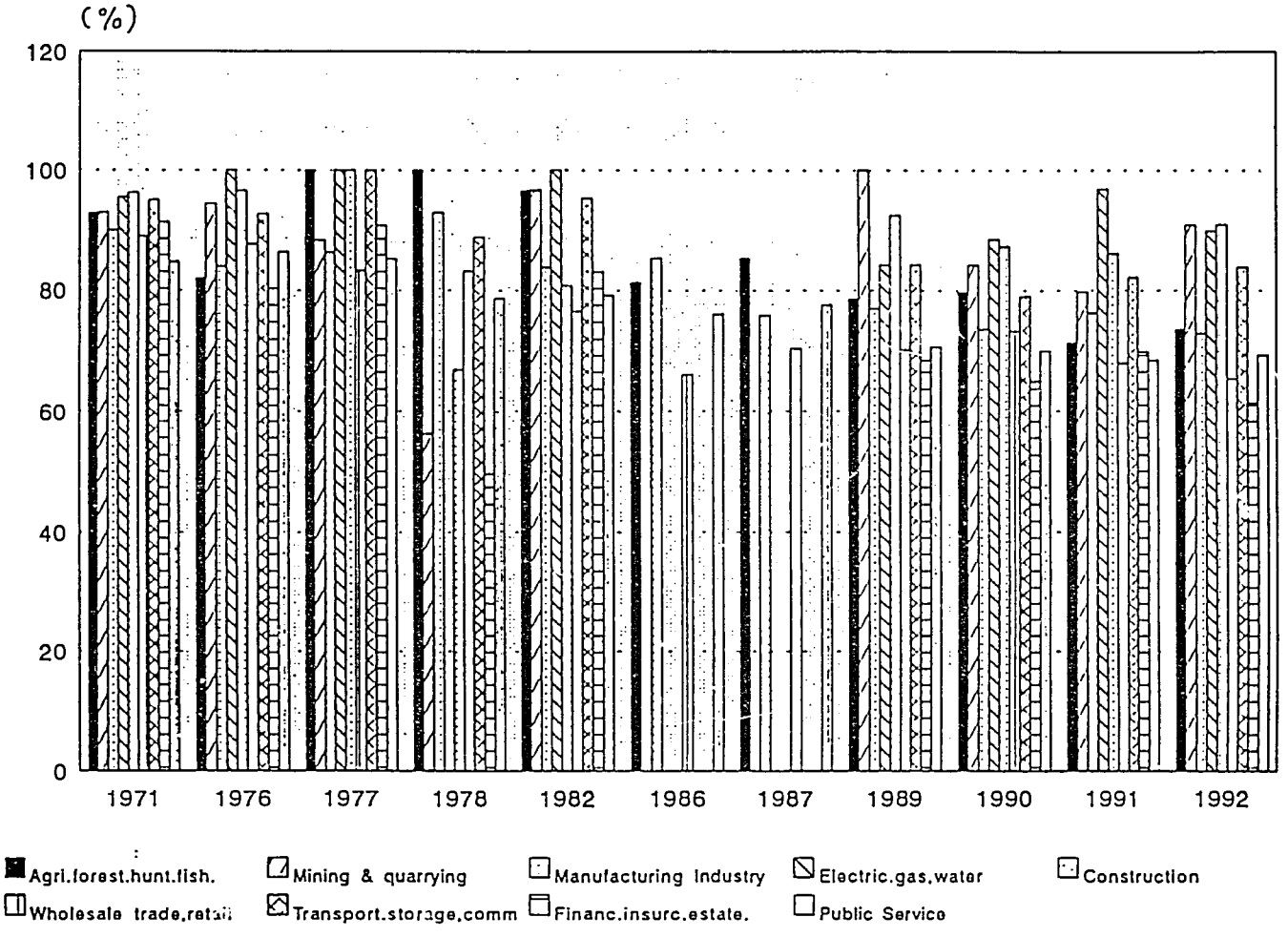
232

Academy and University
(Male)



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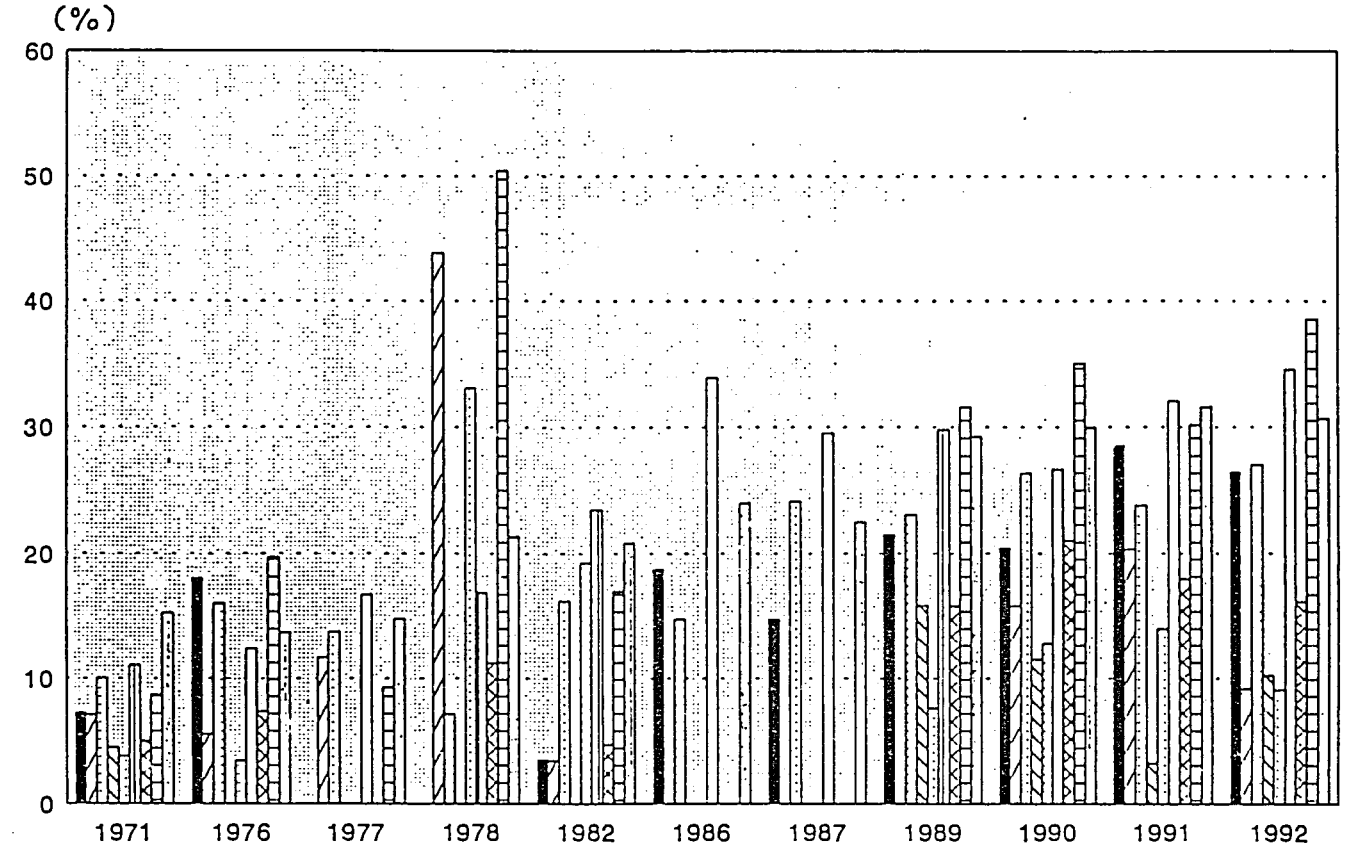
234

Academy and University
(Female)



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ANNEX VI

SUPPORTING DATA AND RESULTS,

INPUT - OUTPUT FORECASTS TO THE YEAR 2020

Compiled By

Tony Sinaga, and
Rudianto
Policy Secretariat

Annual Sectoral Outputs and Employment Under The Base Scenario (MS1), 1985–2020

Sector	1985		1990		1995		2000	
	GDP	Emp.	GDP	Emp.	GDP	Emp.	GDP	Emp.
1 Agriculture, forestry, hunting, fishery	16.43%	43.72%	18.14%	46.69%	16.65%	41.75%	16.27%	38.94%
2 Mining & quarrying	9.68%	1.01%	9.37%	0.66%	7.45%	0.73%	6.23%	0.79%
3 Manufacturing industry	30.02%	11.11%	26.46%	6.34%	26.64%	10.19%	26.78%	10.90%
4 Electricity, gas & water	1.07%	0.19%	1.13%	0.20%	1.25%	0.24%	1.43%	0.29%
5 Construction	11.25%	4.41%	9.42%	3.65%	10.90%	3.93%	9.86%	3.99%
6 Wholesale trade, retail, restaurance	11.66%	17.84%	12.54%	17.69%	12.88%	18.21%	13.30%	18.86%
7 Transportation, storage, comunication	6.03%	3.95%	6.88%	4.37%	7.26%	4.52%	7.86%	4.82%
8 Financing, insurance, realestate & business service	4.76%	0.30%	5.45%	0.33%	5.68%	0.34%	6.17%	0.36%
9 Public service	9.10%	17.47%	10.61%	19.86%	11.07%	20.09%	12.07%	21.04%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Sector	2005		2010		2015		2020	
	GDP	Emp.	GDP	Emp.	GDP	Emp.	GDP	Emp.
1 Agriculture, forestry, hunting, fishery	14.66%	37.65%	13.64%	27.63%	12.34%	32.85%	12.25%	33.30%
2 Mining & quarrying	5.65%	0.78%	5.24%	1.02%	4.79%	1.02%	4.75%	0.99%
3 Manufacturing industry	27.17%	9.37%	27.96%	11.12%	28.08%	9.93%	26.29%	8.53%
4 Electricity, gas & water	1.42%	0.32%	1.67%	0.46%	1.96%	0.54%	2.60%	0.80%
5 Construction	11.26%	4.35%	11.17%	5.44%	12.72%	5.42%	11.64%	5.19%
6 Wholesale trade, retail, restaurance	13.24%	19.02%	13.23%	22.01%	13.25%	19.80%	13.77%	20.61%
7 Transportation, storage, comunication	7.98%	5.08%	8.11%	5.79%	8.15%	5.20%	8.58%	5.42%
8 Financing, insurance, realestate & business service	6.27%	0.39%	6.37%	0.44%	6.37%	0.39%	6.79%	0.41%
9 Public service	12.35%	23.04%	12.58%	26.10%	12.34%	24.85%	13.32%	24.74%
	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

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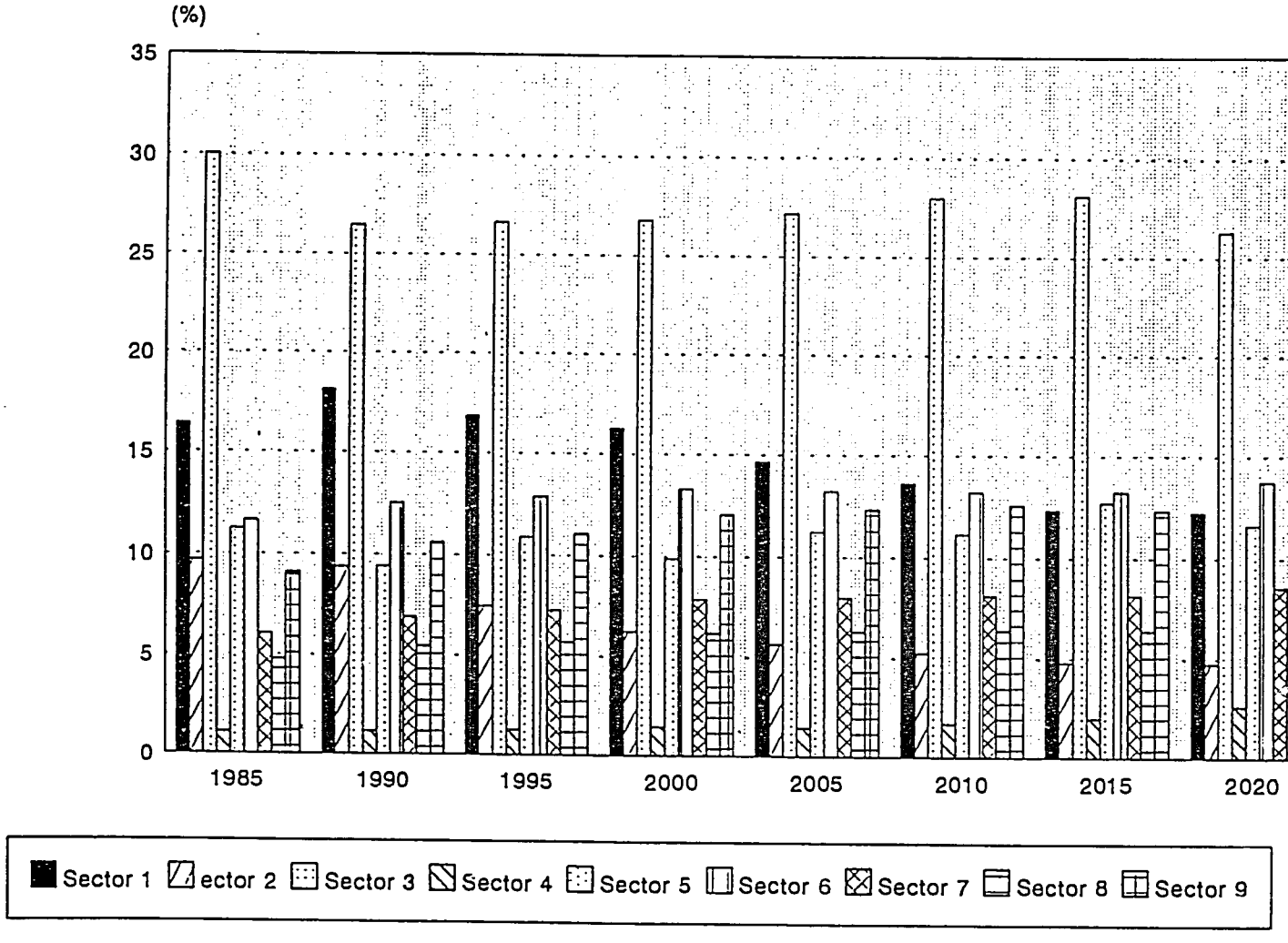
Under MS1, 1985-2020(millions)



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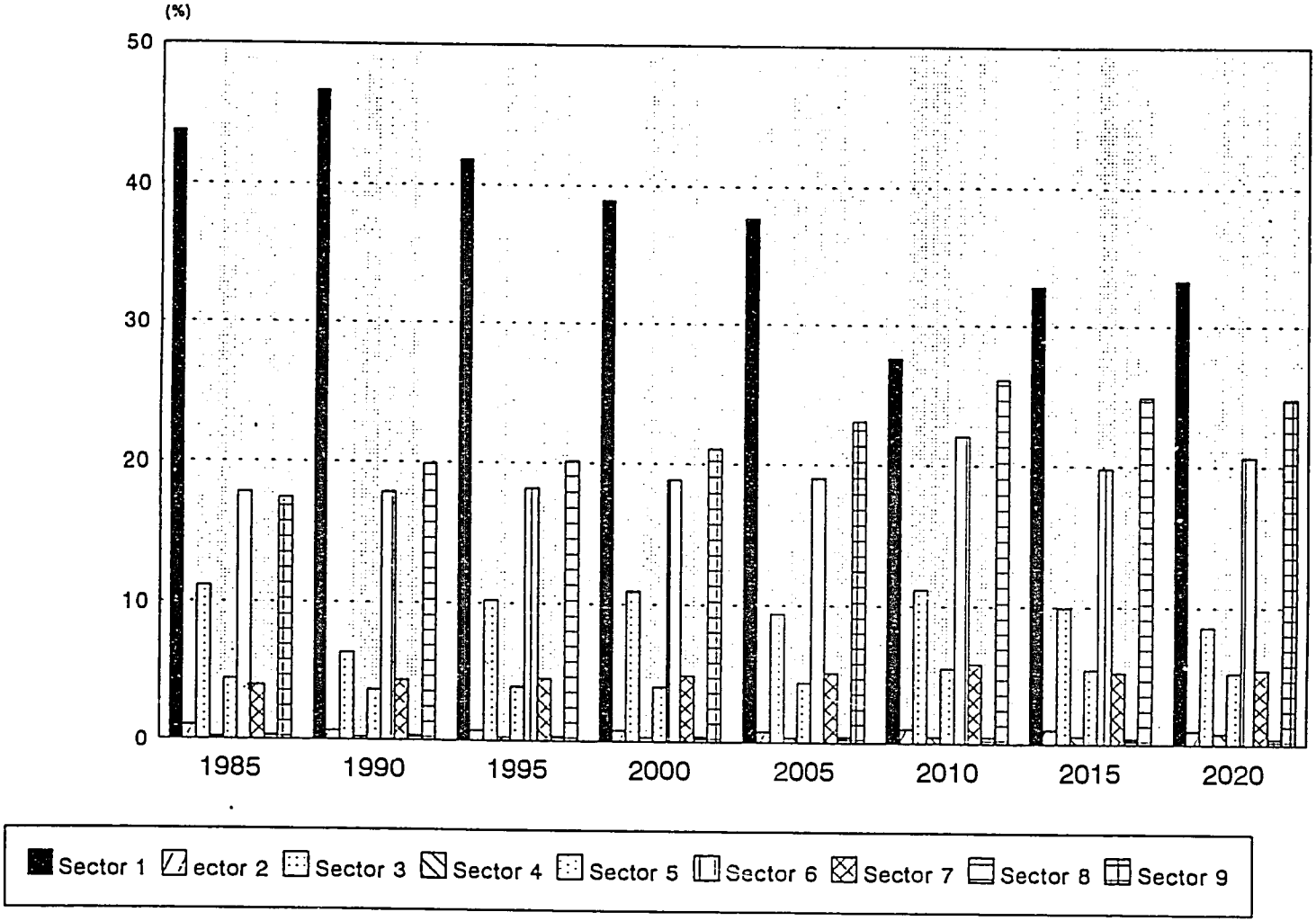
1985 - 2020 (Billion Rupiah)



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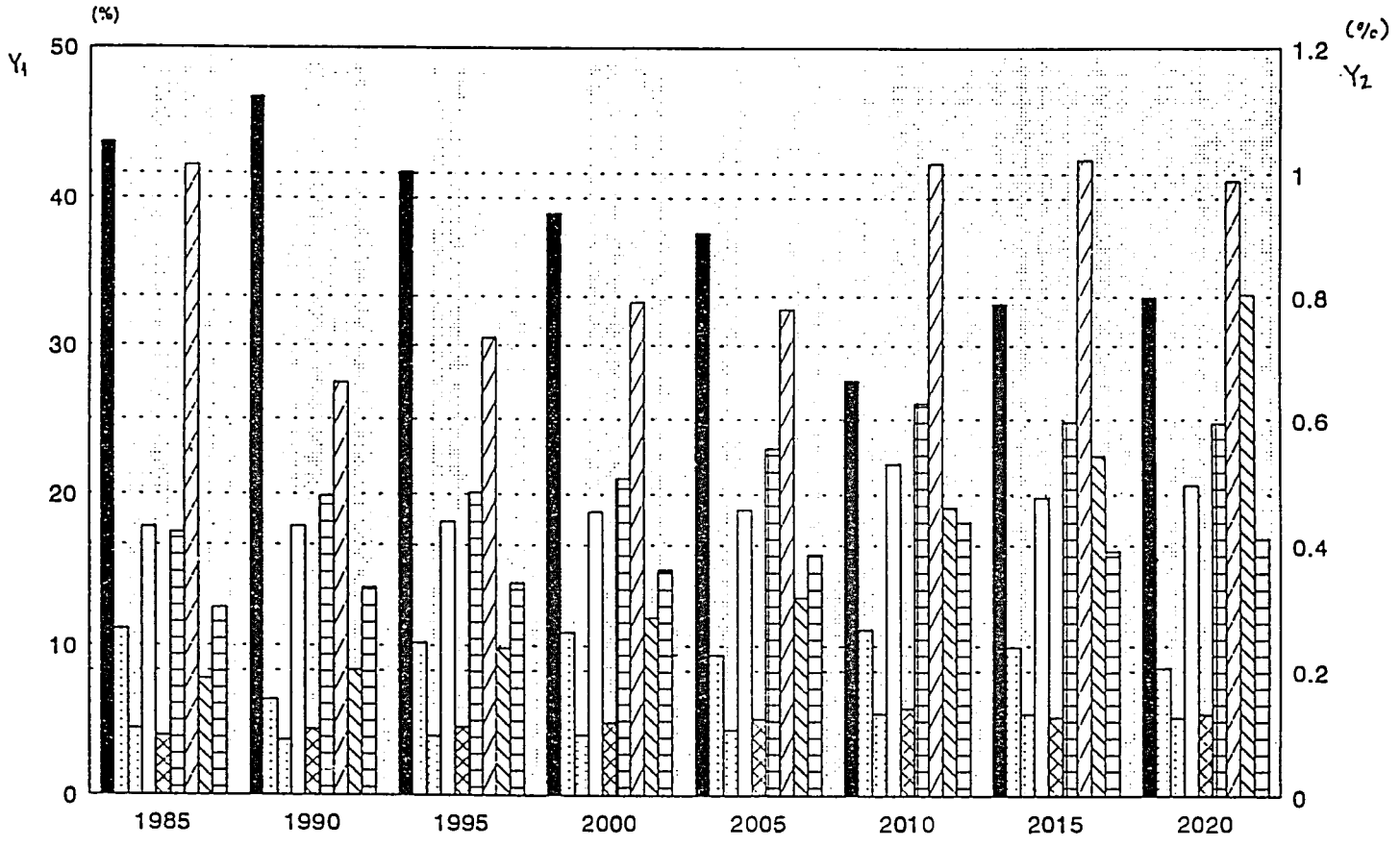
1985 - 2020 (Billion Rupiah)



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Year	Sector 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1985	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
1986	1.79%	3.08%	3.79%	7.50%	8.52%	9.28%	2.56%	1.21%	7.04%	−10.33%	4.41%	23.29%	0.11%	2.74%	−19.58%	−8.49%	−14.99%	0.03%	11.36%	2.34%	2.73%	6.02%	−7.69%	2.51%	3.75%	3.02%	4.85%	6.76%	5.64%
1987	1.58%	2.96%	2.44%	6.86%	7.38%	8.45%	0.00%	0.87%	6.25%	−14.56%	4.19%	18.55%	−1.61%	2.23%	−35.61%	−10.93%	−27.84%	−0.96%	10.22%	0.89%	1.06%	3.67%	−8.79%	0.05%	3.24%	3.49%	3.94%	4.33%	4.62%
1988	1.51%	2.89%	2.97%	6.47%	10.34%	7.83%	2.50%	1.81%	6.30%	−8.23%	4.08%	18.17%	0.76%	2.44%	−43.57%	−2.69%	−32.14%	2.00%	9.25%	1.95%	2.11%	6.04%	0.61%	2.02%	3.30%	4.45%	4.79%	5.97%	4.70%
1989	1.43%	2.83%	3.51%	6.20%	10.65%	7.30%	4.88%	2.25%	6.12%	−3.67%	3.96%	16.29%	2.38%	2.47%	−57.96%	1.90%	−36.49%	3.44%	8.49%	2.90%	3.09%	5.70%	4.89%	3.79%	3.23%	5.17%	5.20%	3.62%	4.94%
1990	1.44%	2.80%	7.71%	6.25%	10.20%	6.80%	15.12%	2.98%	6.59%	10.87%	3.97%	14.49%	7.17%	3.65%	156.25%	7.63%	66.76%	5.75%	7.81%	6.95%	7.30%	6.59%	5.27%	6.96%	5.30%	6.85%	6.50%	3.32%	3.43%
1991	1.97%	3.05%	2.89%	6.63%	5.54%	5.98%	26.26%	−0.92%	5.06%	−6.77%	4.52%	6.84%	5.71%	3.76%	−59.02%	1.10%	−57.47%	2.65%	6.71%	5.63%	6.98%	7.87%	4.87%	4.04%	6.12%	6.06%	6.09%	8.45%	6.62%
1992	1.97%	3.03%	6.64%	6.58%	7.79%	5.68%	28.80%	0.36%	5.72%	12.58%	4.48%	7.82%	10.71%	4.71%	142.39%	12.15%	37.45%	6.32%	6.27%	9.37%	10.43%	8.85%	11.55%	7.82%	6.36%	7.89%	7.55%	7.78%	6.99%
1993	1.50%	2.94%	6.65%	6.24%	6.88%	5.37%	22.96%	0.31%	5.41%	11.37%	4.31%	7.08%	10.01%	4.57%	70.29%	10.14%	41.68%	5.78%	5.92%	8.86%	9.84%	7.66%	9.14%	7.99%	6.02%	7.66%	7.14%	7.23%	6.79%
1994	1.64%	2.86%	6.34%	5.85%	6.50%	5.12%	19.70%	0.28%	5.06%	10.99%	4.14%	6.69%	9.10%	4.37%	42.87%	9.58%	32.23%	5.42%	5.57%	8.14%	9.32%	7.56%	8.79%	6.85%	5.68%	6.89%	6.64%	6.74%	6.14%
1995	1.53%	2.79%	6.42%	5.59%	7.03%	4.85%	17.30%	0.67%	5.02%	13.87%	4.00%	6.86%	9.32%	4.25%	37.33%	11.97%	33.89%	6.07%	5.29%	8.02%	8.85%	6.61%	11.17%	7.15%	5.50%	6.84%	6.61%	6.31%	5.89%
1996	1.89%	2.90%	6.94%	7.00%	6.83%	5.39%	20.50%	1.89%	6.51%	17.52%	4.36%	5.42%	11.79%	4.79%	45.88%	15.01%	35.33%	8.01%	6.80%	11.15%	9.64%	8.14%	14.34%	8.99%	6.91%	8.86%	8.70%	7.79%	7.45%
1997	1.73%	2.82%	6.49%	6.55%	6.10%	5.09%	17.01%	1.70%	6.05%	14.09%	4.19%	4.96%	10.61%	4.51%	31.10%	12.15%	26.11%	7.08%	6.37%	10.03%	9.07%	7.89%	11.62%	8.96%	6.48%	8.45%	8.01%	7.23%	7.24%
1998	1.41%	2.72%	5.31%	6.06%	2.63%	4.84%	13.01%	0.11%	5.29%	3.27%	3.97%	2.78%	7.41%	3.96%	16.79%	7.39%	12.24%	3.33%	5.99%	8.03%	7.05%	6.31%	1.52%	6.32%	5.74%	6.78%	6.41%	6.74%	6.49%
1999	1.07%	2.59%	3.84%	5.51%	−1.22%	4.58%	9.26%	−1.91%	4.47%	−8.21%	3.72%	0.36%	3.76%	3.19%	5.60%	−7.56%	−1.06%	−0.92%	5.64%	3.79%	5.18%	5.31%	−9.24%	1.68%	4.92%	4.26%	4.54%	6.31%	5.05%
2000	0.91%	2.49%	0.90%	4.95%	0.45%	4.34%	6.82%	−1.92%	3.90%	−11.90%	3.50%	1.34%	1.66%	2.15%	−10.15%	−6.33%	−32.66%	−0.86%	5.35%	3.37%	2.68%	4.45%	−3.78%	−0.60%	4.46%	2.90%	3.76%	3.94%	4.03%
2001	1.00%	2.38%	2.24%	5.53%	1.15%	4.31%	8.70%	0.50%	10.50%	−5.13%	3.53%	0.80%	4.93%	2.59%	−1.17%	−0.90%	−24.90%	−1.30%	14.38%	3.59%	5.88%	5.68%	1.20%	2.37%	5.10%	4.82%	5.39%	6.26%	6.37%
2002	1.00%	2.36%	3.30%	5.38%	3.17%	4.33%	9.61%	1.64%	9.83%	4.32%	3.48%	2.07%	6.53%	2.95%	7.01%	6.01%	−8.85%	1.00%	12.57%	4.78%	6.79%	5.65%	7.71%	4.67%	5.13%	5.63%	5.90%	5.89%	6.39%
2003	0.97%	2.33%	4.27%	5.23%	4.06%	4.17%	9.90%	2.29%	9.16%	10.56%	3.43%	2.68%	7.48%	3.17%	13.83%	9.44%	17.81%	2.39%	11.16%	5.43%	7.32%	5.55%	10.09%	6.22%	5.08%	6.15%	6.15%	5.57%	6.37%
2004	0.95%	2.30%	5.03%	5.05%	4.73%	4.02%	9.90%	2.78%	8.55%	14.69%	3.37%	3.14%	8.06%	3.37%	17.73%	11.61%	36.14%	3.42%	10.05%	5.82%	7.54%	5.77%	11.41%	7.23%	5.00%	6.44%	6.25%	5.27%	6.46%
2005	0.91%	2.27%	5.85%	4.90%	5.25%	3.87%	10.08%	3.26%	8.05%	17.63%	3.31%	3.56%	8.62%	3.59%	20.59%	13.07%	44.95%	4.43%	9.13%	6.28%	7.85%	5.68%	12.15%	8.31%	4.94%	6.80%	6.37%	5.01%	6.43%
2006	2.13%	2.37%	5.02%	5.27%	5.32%	4.60%	14.16%	3.32%	8.94%	9.48%	4.60%	4.05%	7.50%	4.30%	12.04%	9.14%	6.88%	6.45%	9.81%	11.16%	8.67%	6.88%	10.25%	7.55%	5.17%	6.79%	6.52%	5.53%	6.99%
2007	1.96%	2.34%	6.65%	5.15%	4.08%	4.41%	13.37%	3.07%	8.36%	11.08%	4.46%	3.36%	8.02%	4.66%	18.02%	7.86%	30.26%	5.77%	8.94%	10.89%	8.97%	6.84%	6.59%	6.94%	5.00%	6.45%	6.33%	5.23%	6.47%
2008	1.82%	2.25%	4.38%	4.77%	6.10%	4.21%	11.60%	3.49%	7.60%	10.32%	4.23%	4.70%	6.98%	3.81%	8.90%	10.56%	3.73%	6.43%	5.21%	8.97%	7.32%	6.21%	12.31%	6.39%	4.73%	5.92%	5.91%	4.98%	5.95%
2009	1.43%	2.20%	4.85%	4.55%	0.54%	4.02%	9.38%	0.97%	6.56%	0.25%	4.04%	0.96%	5.20%	3.71%	9.01%	−0.76%	11.13%	1.60%	7.58%	8.08%	6.70%	5.50%	−1.81%	4.61%	4.24%	4.94%	4.77%	4.74%	5.60%
2010	1.20%	2.08%	2.30%	4.13%	0.32%	3.83%	7.50%	0.13%	6.15%	−5.32%	3.78%	0.77%	3.04%	2.75%	0.23%	−2.89%	−12.83%	0.04%	7.05%	6.10%	4.68%	4.54%	−1.70%	1.32%	3.74%	3.23%	3.73%	4.52%	4.44%
2011	1.19%	2.39%	2.77%	5.32%	1.07%	5.19%	8.99%	−0.45%	6.97%	−6.39%	3.67%	1.71%	4.68%	3.87%	3.32%	−3.22%	−20.33%	1.17%	7.57%	10.53%	6.57%	5.95%	−1.52%	2.25%	4.83%	4.38%	5.14%	5.33%	5.94%
2012	1.30%	2.38%	3.30%	5.14%	3.42%	4.96%	9.83%	1.71%	6.77%	5.06%	3.62%	4.64%	6.30%	4.06%	6.34%	6.96%	−17.32%	5.06%	7.04%	10.12%	7.04%	6.07%	9.71%	4.66%	4.95%	5.49%	5.54%	5.23%	5.97%
2013	1.37%	2.39%	5.43%	5.13%	7.05%	4.76%	10.33%	3.15%	6.64%	15.15%	3.62%	5.77%	8.15%	4.64%	13.81%	12.40%	20.21%	7.40%	6.58%	10.37%	8.10%	6.44%	13.03%	8.03%	5.11%	6.84%	6.55%	4.98%	6.45%
2014	1.39%	2.38%	6.48%	4.99%	8.29%	4.56%	10.41%	4.17%	6.42%	20.09%	3.57%	6.69%	9.03%	4.91%	16.48%	15.50%	38.22%	5.75%	6.17%	10.05%	5.55%	6.45%	15.32%	9.74%	5.14%	7.45%	6.85%	4.74%	6.55%
2015	1.19%	2.33%	6.71%	4.77%	5.76%	4.37%	9.38%	3.06%	6.01%	14.32%	3.46%	4.98%	5.05%	4.78%	15.34%	10.14%	35.56%	6.53%	5.81%	9.22%	8.12%	5.93%	8.97%	8.79%	4.84%	6.91%	6.25%	4.32%	6.23%
2016	2.08%	2.00%	6.39%	4.99%	3.42%	4.90%	10.70%	4.62%	5.42%	6.24%	4.53%	3.61%	7.34%	5.58%	13.65%	4.12%	16.50%	4.19%	4.54%	13.24%	9.09%	5.34%	3.33%	6.46%	4.82%	5.91%	6.07%	5.33%	6.10%
2017	2.00%	1.93%	4.33%	4.64%	5.89%	4.67%	9.71%	5.12%	5.06%	7.19%	4.30%	5.28%	6.54%	4.73%	8.44%	7.52%	−1.47%	5.14%	4.34%	11.20%	7.58%	5.32%	9.29%	5.70%	4.57%	5.33%	5.72%	5.24%	5.31%
2018	1.64%	1.88%	3.96%	4.40%	2.45%	4.44%	8.29%	3.17%	4.68%	0.84%	4.10%	2.63%	5.32%	4.35%	6.78%	1.23%	−3.03%	2.22%	4.16%	9.59%	6.79%	5.02%	2.00%	5.11%	4.19%	4.59%	4.93%	4.98%	5.40%
2019	1.33%	1.81%	3.22%	4.13%	0.00%	4.24%	7.11%	1.55%	4.30%	−4.62%	3.89%	1.04%	3.93%	3.87%	4.60%	−3.52%	−8.84%	−0.24%	4.00%	8.65%	5.94%	4.37%	−2.98%	3.06%	3.78%	3.81%	4.09%	4.74%	4.76%
2020	1.15%	1.74%	1.68%	3.84%	0.07%	4.06%	6.22%	1.03%	3.98%	−7.89%	3.68%	1.02%	2.92%	3.21%	1.30%	−4.65%	−26.61%	−1.02%	3.84%	7.52%	4.81%	3.99%	−2.66%	1.66%	3.47%	3.02%	3.53%	4.53%	4.20%

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	Sector																													
Year	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
1985	7 040	7 429	5 380	4 842	1 585	2 123	78	14 477	852	1 317	16 414	2 602	933	1 093	2 043	730	17 044	7 075	3 945	1 541	183	133	19 446	14 323	5 826	10 420	5 232	6 373	9 344
1986	7 166	7 638	5 384	5 205	1 720	2 320	80	14 652	912	1 181	17 141	3 208	934	1 123	1 643	668	14 489	7 077	4 393	1 577	188	141	17 930	14 682	6 163	10 943	8 631	6 806	9 875
1987	7 279	7 885	5 720	5 562	1 847	2 316	80	14 780	969	1 009	17 660	3 603	919	1 148	1 038	595	10 455	7 009	4 842	1 591	190	149	16 372	14 687	6 486	11 325	8 971	7 237	10 131
1988	7 389	8 113	5 890	5 922	2 038	2 713	82	15 047	1 030	926	18 389	4 494	926	1 176	397	579	7 095	7 149	5 290	1 622	194	138	16 472	14 984	6 830	11 829	9 401	7 669	10 517
1989	7 495	8 343	6 097	6 289	2 255	2 911	86	15 386	1 093	892	19 325	5 226	948	1 205	351	590	4 506	7 395	5 739	1 669	200	167	17 277	15 552	7 187	12 441	9 890	8 100	11 351
1990	7 603	8 577	6 567	6 682	2 485	3 109	99	15 845	1 165	989	20 092	5 983	1 016	1 249	593	635	7 514	7 820	6 187	1 785	215	178	18 188	16 634	7 582	13 293	10 533	8 531	11 967
1991	7 733	8 839	6 757	7 125	2 630	3 295	125	15 700	1 224	922	21 000	6 392	1 074	1 296	243	642	3 196	8 027	6 602	1 889	230	192	19 074	17 306	8 046	14 098	11 174	9 252	12 759
1992	7 906	9 107	7 206	7 594	2 835	3 482	161	15 757	1 294	1 038	21 940	6 892	1 189	1 357	589	720	4 393	8 534	7 016	2 066	254	209	21 278	18 660	8 558	15 210	12 018	9 972	13 651
1993	8 048	9 375	7 683	8 068	3 030	3 669	198	15 806	1 364	1 156	22 886	7 380	1 308	1 419	1 003	793	6 224	9 027	7 431	2 249	279	225	23 223	20 131	9 073	16 375	12 876	10 693	14 578
1994	8 180	9 643	8 172	8 540	3 227	3 857	237	15 850	1 433	1 283	23 833	7 874	1 427	1 481	1 433	869	8 230	9 516	7 845	2 432	305	242	25 264	21 532	9 588	17 303	13 731	11 414	15 473
1995	8 305	9 912	8 697	9 017	3 454	4 044	278	15 936	1 505	1 461	24 787	8 414	1 560	1 544	1 968	973	11 019	10 094	8 260	2 627	332	258	28 086	23 071	10 115	18 700	14 638	12 134	16 384
1996	8 462	10 199	9 301	9 648	3 690	4 262	335	16 258	1 603	1 717	25 868	8 870	1 744	1 618	2 871	1 119	14 912	10 903	8 822	2 920	364	279	32 113	25 144	10 814	20 357	15 911	13 079	17 603
1997	8 608	10 487	9 905	10 280	3 915	4 479	392	16 535	1 700	1 959	26 951	9 310	1 929	1 691	3 764	1 255	18 605	11 675	9 384	3 213	397	301	35 846	27 397	11 515	22 077	17 186	14 025	18 879
1998	8 729	10 772	10 431	10 903	4 018	4 696	443	16 554	1 790	2 023	28 020	9 569	2 072	1 758	4 396	1 285	21 107	12 064	9 946	3 471	425	320	36 390	29 128	12 176	23 574	18 288	14 970	20 104
1999	8 822	11 051	10 832	11 504	3 969	4 911	434	16 238	1 870	1 857	29 063	9 603	2 150	1 814	4 642	1 184	20 883	11 953	10 507	3 672	447	337	33 026	29 617	12 775	24 579	19 118	15 915	21 120
2000	8 902	11 326	10 929	12 074	3 987	5 124	517	15 926	1 943	1 636	30 080	9 732	2 190	1 855	4 171	1 109	14 063	11 850	11 069	3 803	459	352	31 779	29 438	13 245	25 293	19 836	16 860	21 972
2001	8 991	11 596	11 174	12 744	4 033	5 355	562	16 005	2 147	1 552	31 143	9 810	2 298	1 [illegible]	4 122	1 099	10 562	11 696	12 661	3 951	486	372	32 160	30 193	14 025	26 513	20 905	17 916	23 416
2002	9 081	11 870	11 543	13 430	4 161	5 587	616	16 268	2 358	1 619	32 228	10 013	2 448	1 937	4 411	1 165	9 627	11 813	14 253	4 140	519	393	34 641	31 604	14 744	28 006	22 139	18 972	24 958
2003	9 169	12 147	12 036	14 132	4 330	5 820	677	16 640	2 574	1 790	33 332	10 281	2 631	2 019	5 021	1 275	11 342	12 095	15 844	4 365	557	416	38 138	33 370	15 493	29 729	23 300	20 028	26 597
2004	9 256	12 426	12 642	14 846	4 555	6 054	744	17 102	2 794	2 053	34 454	10 604	2 843	2 087	5 911	1 423	15 441	12 509	17 436	4 619	599	440	42 489	35 997	16 267	31 644	24 968	21 084	28 316
2005	9 340	12 708	13 381	15 573	4 773	6 288	819	17 659	3 019	2 415	35 595	10 982	3 088	2 162	7 128	1 609	22 382	13 063	19 028	4 909	646	465	47 653	38 989	17 070	33 793	26 559	22 140	30 136
2006	9 539	13 009	14 053	16 393	5 022	6 577	935	18 245	3 289	2 644	37 233	11 427	3 329	2 255	7 986	1 756	23 922	13 905	20 895	5 457	702	497	52 536	41 933	17 953	36 090	28 291	23 364	32 244
2007	9 726	13 313	14 987	17 237	5 227	6 867	1 060	18 806	3 564	2 937	38 895	11 811	3 596	2 360	9 425	1 894	31 161	14 708	22 763	6 051	765	531	55 997	44 843	18 851	38 419	30 083	24 587	34 329
2008	9 903	13 613	15 644	18 059	5 546	7 156	1 183	19 462	3 835	3 246	40 540	12 366	3 847	2 450	10 264	2 094	32 323	15 654	24 631	6 594	821	564	62 893	47 708	19 743	40 693	31 861	25 811	36 373
2009	10 045	13 912	16 402	18 880	5 576	7 444	1 294	19 631	4 098	3 254	42 177	12 485	4 047	2 541	11 189	2 078	35 919	15 905	26 499	7 127	876	595	61 755	49 906	20 580	42 704	33 380	27 034	38 410
2010	10 166	14 202	16 780	19 639	5 594	7 729	1 391	19 676	4 350	3 081	43 771	12 581	4 170	2 611	11 715	2 018	31 310	15 912	28 367	7 562	917	622	60 705	50 564	21 349	44 085	34 625	28 257	40 117
2011	10 287	14 542	17 244	20 704	5 654	8 130	1 116	19 587	4 653	2 884	45 379	12 796	4 365	2 712	11 587	1 953	24 938	16 098	30 515	8 358	980	659	59 782	51 701	22 320	46 103	36 406	29 819	42 501
2012	10 421	14 888	17 513	21 768	5 961	8 533	1 162	19 721	4 968	3 030	47 021	13 390	4 640	2 822	12 322	2 089	20 568	16 912	32 663	9 204	1 049	699	65 584	54 108	23 488	48 635	38 533	31 380	45 040
2013	10 564	15 244	18 781	22 885	6 381	8 939	1 134	20 549	5 298	3 489	48 721	14 163	5 018	2 953	14 024	2 348	24 725	18 164	34 511	10 158	1 134	744	74 130	58 463	24 689	51 962	41 055	32 942	47 945
2014	10 711	15 607	19 998	24 027	6 910	9 347	2 325	21 403	5 638	4 190	50 461	15 110	5 471	3 098	16 335	2 712	34 174	19 754	36 959	11 179	1 231	792	85 484	64 162	25 958	55 835	43 867	34 503	51 084
2015	10 838	15 970	21 339	25 172	7 308	9 755	2 215	22 060	5 977	4 790	52 207	15 862	5 913	3 246	18 840	2 987	46 430	21 044	39 107	12 210	1 331	839	93 153	69 802	27 214	59 692	46 609	36 064	54 269
2016	11 063	16 290	22 703	26 429	7 558	10 233	2 452	23 080	6 301	5 089	54 574	16 435	6 347	3 427	21 412	3 110	54 090	21 926	40 883	13 826	1 452	888	96 252	74 310	28 525	63 220	49 440	38 057	57 577
2017	11 284	16 605	23 687	27 654	8 003	10 711	2 990	24 261	6 620	5 455	56 920	17 303	6 762	3 589	23 220	3 344	53 296	23 052	42 659	15 375	1 562	937	105 195	78 546	29 830	66 604	52 267	40 030	60 751
2018	11 469	16 918	24 624	28 871	8 199	11 157	3 213	25 031	6 930	5 301	59 251	17 793	7 122	3 745	24 794	3 385	51 681	23 564	44 435	16 896	1 668	984	107 303	82 558	31 081	69 859	54 846	42 043	64 030
2019	11 622	17 224	25 416	30 062	8 199	11 661	3 120	25 418	7 228	5 247	61 553	17 978	7 402	3 890	25 934	3 266	47 114	23 508	46 211	18 357	1 767	1 027	104 103	85 086	32 255	72 524	57 089	44 035	67 075
2020	11 736	17 523	25 542	31 215	8 201	12 134	3 314	25 681	7 516	4 833	63 819	18 162	7 618	4 015	26 270	3 114	34 579	23 268	47 987	19 737	1 852	1 068	101 336	86 501	33 374	74 717	59 107	46 028	69 589

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Annual Percentage Change of Sectoral Employment under MS1, 1985 – 2020 (millions)

	Sector	1985	1990	1995	2000	2005	2010	2015	2020
1	Paddy	–	0.77%	1.01%	0.64%	0.03%	−6.93%	12.44%	0.68%
2	Other food crop	–	2.42%	1.90%	1.88%	1.40%	−6.66%	14.10%	0.80%
3	Estate crops	–	2.38%	5.84%	4.52%	2.03%	−4.98%	17.78%	2.58%
4	Livestock, poultry & products	–	4.92%	4.24%	3.75%	2.30%	1.47%	1.03%	−0.58%
5	Forest products	–	20.58%	13.73%	8.69%	6.37%	7.86%	8.48%	5.17%
6	Fisheries	–	7.63%	4.44%	3.72%	2.83%	2.78%	3.21%	2.72%
7	Coal	–	1.67%	36.92%	16.76%	8.24%	12.08%	9.09%	7.50%
8	Crude oil	–	0.28%	−1.11%	−0.88%	0.00%	1.23%	0.29%	1.43%
9	Natural gas	–	5.00%	4.00%	6.67%	7.50%	7.27%	5.33%	3.16%
10	Other mining	–	−7.53%	9.17%	6.00%	1.36%	7.55%	6.87%	−0.95%
11	Food, beverages and tobacco	–	−17.66%	201.40%	2.29%	1.46%	2.17%	1.19%	1.41%
12	Wood products	–	21.86%	5.26%	1.33%	−0.68%	0.52%	1.03%	−0.97%
13	Pulp, paper & products	–	−0.28%	9.51%	7.68%	4.79%	5.80%	5.78%	3.72%
14	Fertilizer & pesticides	–	0.91%	2.61%	1.54%	0.00%	1.43%	1.33%	0.00%
15	Chemicals	–	−20.00%	ERR	29.04%	3.19%	10.34%	8.15%	3.27%
16	Cements & limestone	–	−3.82%	9.21%	6.00%	3.91%	7.52%	7.12%	0.85%
17	Other manufacturing	–	−17.09%	52.70%	18.32%	−4.10%	14.33%	6.97%	−5.48%
18	Petroleum refining	–	0.00%	4.71%	2.86%	−0.83%	4.35%	3.57%	0.00%
19	Liquified natural gas	–	11.11%	4.29%	5.88%	11.82%	7.43%	5.42%	2.62%
20	Electricity	–	2.62%	10.11%	9.79%	4.88%	11.40%	12.12%	12.43%
21	Gas ulitities	–	2.00%	9.09%	5.00%	5.00%	6.40%	5.45%	4.76%
22	Water ultilities	–	5.71%	6.67%	5.00%	4.00%	4.44%	4.55%	2.22%
23	Construction	–	−2.51%	7.26%	4.35%	4.32%	6.43%	6.46%	0.41%
24	Wholesale & retail trade	–	1.06%	5.81%	4.85%	2.47%	4.53%	3.97%	2.18%
25	Restaurants and hotels	–	4.09%	4.70%	4.44%	3.08%	2.72%	2.68%	1.62%
26	Transport & communication	–	3.38%	6.15%	5.58%	3.52%	4.06%	3.87%	2.19%
27	Real Estate, financial & busines	–	3.44%	5.86%	5.43%	3.82%	3.90%	3.80%	2.41%
28	Public administration & defence	–	4.89%	6.31%	5.52%	3.94%	3.04%	9.09%	−2.43%
29	Social & other service	–	3.70%	5.36%	4.95%	4.61%	4.27%	3.99%	2.75%
30	Unspecified	–	–	–	–	–	–	–	–
		–							
	Total	–	1.12%	5.31%	3.97%	2.31%	1.13%	6.59%	1.29%

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Sectoral Employment by five years intervals under MS1, 1985 – 2020 (millions)

	Sector	1985	1990	1995	2000	2005	2010	2015	2020
1	Paddy	6 859	7 123	7 483	7 721	7 734	5 056	8 200	8 478
2	Other food crop	12 131	13 596	14 886	16 285	17 422	11 623	19 815	20 603
3	Estate crops	2 382	2 666	3 445	4 223	4 651	3 492	6 596	7 448
4	Livestock, poultry & products	939	1 170	1 418	1 684	1 878	2 016	2 120	2 059
5	Forest products	382	775	1 307	1 875	2 472	3 443	4 903	6 171
6	Fisheries	1 028	1 420	1 735	2 058	2 349	2 675	3 105	3 527
7	Coal	12	13	37	68	96	154	224	308
8	Crude oil	71	72	68	65	65	69	70	75
9	Natural gas	4	5	6	8	11	15	19	22
10	Other mining	462	288	420	546	583	803	1 079	1 028
11	Food, beverages and tobacco	1 472	172	1 904	2 122	2 277	2 524	2 674	2 862
12	Wood products	1 323	2 769	3 497	3 730	3 604	3 698	3 889	3 701
13	Pulp, paper & products	145	143	211	292	362	467	602	714
14	Fertilizer & pesticides	22	23	26	28	28	30	32	32
15	Chemical	157	0	115	282	327	496	698	812
16	Cements & limestone	110	89	130	169	202	278	377	393
17	Other manufacturing	2 772	403	1 465	2 807	2 231	3 829	5 163	3 749
18	Petroleum refining	17	17	21	24	23	28	33	33
19	Liquified natural gas	9	14	17	22	35	48	61	69
20	Electricity	84	95	143	213	265	416	668	1 083
21	Gas utilities	10	11	16	20	25	33	42	52
22	Water utilities	7	9	12	15	18	22	27	30
23	Construction	2 391	2 091	2 850	3 470	4 219	5 575	7 377	7 529
24	Wholesale & retail trade	9 323	9 819	12 673	15 748	17 690	21 700	26 007	28 847
25	Restaurants and hotels	357	430	531	649	749	851	965	1 043
26	Transport & communication	2 144	2 506	3 277	4 192	4 930	5 932	7 081	7 856
27	Real Estate, financial & business	163	191	247	314	374	447	532	596
28	Public administration & defence	2 418	3 009	3 958	5 051	6 046	6 966	10 132	8 903
29	Social & other service	7 062	8 369	10 613	13 240	16 291	19 770	23 712	26 972
30	Unspecified	0	0	0	0	0	0	0	0
	Total	54 256	57 288	72 511	86 921	96 957	102 456	136 203	144 995

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Gross Domestic Product by Industrial Origin
(billions of current rupiah)

CODE	Industrial Origin	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
1	Agriculture, Livestock, Forestry, Fishery	1,575	1,655	1,825	1,573	3,497	4,003.4	4,812.0	5,789.0	6,781.4	8,995.7	11,290.3	13,643
2	Mining And Quarrying	173	249	386	831	2,374	2,484.8	2,930.0	3,599.7	3,869.2	6,979.8	11,672.5	12,971
3	Manufacturing Industry	312	356	417	650	890	1,123.7	1,453.3	1,611.7	2,034.2	3,310.6	5,287.9	5,822
4	Electronic, Gas And Air Water Supply	15	18	20	30	52	69.8	98.1	105.6	115.8	148.8	225.1	288
5	Construction	100	128	174	262	406	589.6	812.4	962.0	1,129.7	1,789.7	2,523.8	3,118
6	Trade, Hotel And Restaurant	619	712	912	1,118	1,775	2,103.7	2,551.9	3,162.6	3,746.6	4,775.1	6,390.9	7,966
7	Transport And Communication	96	162	182	257	442	521.2	662.6	829.4	1,022.8	1,421.5	1,965.3	2,353
8	Banking And Other Financial International	33	45	53	83	113	151.4	206.5	195.6	240.0	655.1	752.3	1,404
9	Ownership of Dwelling	65	74	92	143	194	257.8	318.9	418.1	488.8	914.2	1,199.5	1,439
10	Public Administration And Defence	183	214	290	405	585	864.3	1,074.3	1,416.9	1,678.2	2,199.6	3,142.3	3,905
11	Services	169	181	197	264	380	472.8	546.5	615.3	681.7	835.3	995.8	1,119
	Gross Domestic Product	3,340	3,794	4,548	5,616	10,708	12,642.5	15,466.7	18,705.9	21,788.4	32,025.4	45,445.7	54,027

CODE	Industrial Origin	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	AVERAGE
1	Agriculture, Livestock, Forestry, Fishery	15,668	17,969	20,617	22,513	24,870.9	29,116.0	34,277.9	39,547.0	43,062.1	44,218.40	2,105.76
2	Mining And Quarrying	11,708	13,968	15,986	13,571	11,502.8	17,266.8	17,131.8	22,140.4	28,748.2	30,901.40	1,471.57
3	Manufacturing Industry	7,681	8,211	11,330	15,503	17,184.7	21,150.4	26,252.4	30,573.3	36,601.5	48,335.90	2,301.80
4	Electronic, Gas And Air Water Supply	380	524	655	396	647.1	746.9	869.0	1,008.3	1,258.1	1,575.00	75.00
5	Construction	3,507	4,597	4,823	5,302	5,313.8	6,087.4	7,169.2	8,384.2	10,827.8	12,855.80	612.21
6	Trade, Hotel And Restaurant	8,865	12,009	13,974	15,417	17,121.8	21,048.3	24,379.2	28,330.4	32,153.7	37,726.20	1,796.57
7	Transport And Communication	2,795	3,978	4,960	6,100	6,406.9	7,442.6	8,139.7	9,305.5	11,040.9	13,467.30	641.33
8	Banking And Other Financial International	1,604	2,039	2,692	3,496	4,036.7	4,795.1	5,322.4	6,550.8	7,902.3	10,083.90	480.20
9	Ownership of Dwelling	1,703	1,962	2,276	2,775	2,976.0	3,349.1	3,738.0	4,151.1	4,890.8	5,924.70	282.14
10	Public Administration And Defence	4,429	5,712	6,506	7,925	8,307.3	8,911.8	9,446.2	11,174.2	12,801.4	14,621.60	696.30
11	Services	1,293	3,001	3,718	3,999	4,314.6	4,902.5	5,351.1	5,829.5	6,434.1	7,452.60	354.90
	Gross Domestic Product	59,633	73,971	87,536	96,997	102,682.6	124,816.9	142,076.9	167,494.7	197,720.9	227,162.8	10,817.80

Source : Central Bureau of Statistics, National Income of Indonesia, various years

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Sectoral Composition of Gross Domestic Product, 1970 – 1991
(percentage share)

Industrial Origin	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981
Agriculture, Livestock, Forestry, Fishery	47.16	43.62	40.13	28.01	32.66	31.67	31.11	30.95	31.12	28.09	24.84	25.25
Mining And Quarrying	5.15	6.56	8.49	14.80	22.17	19.65	18.94	19.24	17.76	21.79	25.58	24.01
Manufacturing Industry	9.34	9.38	9.17	11.57	8.31	8.89	9.40	8.62	9.34	10.34	11.64	10.78
Electronic, Gas And Air Water Supply	0.45	0.47	0.44	0.54	0.49	0.55	0.63	0.56	0.53	0.46	0.50	0.53
Construction	2.99	3.37	3.83	4.66	3.79	4.66	5.25	5.14	5.18	5.59	5.55	5.77
Trade, Hotel And Restaurant	18.53	18.77	20.05	19.91	16.58	16.64	16.50	16.91	17.20	14.91	14.06	14.74
Transport And Communication	2.87	4.27	4.00	4.58	4.13	4.12	4.28	4.43	4.69	4.44	4.32	4.36
Banking And Other Financial International	0.99	1.19	1.17	1.48	1.06	1.20	1.34	1.05	1.10	2.05	1.66	2.60
Ownership of Dwelling	1.95	1.95	2.02	2.55	1.81	2.04	2.06	2.24	2.24	2.85	2.64	2.66
Public Administration And Defence	5.48	5.64	6.38	7.21	5.46	6.84	6.95	7.57	7.70	6.87	6.91	7.23
Services	5.06	4.77	4.33	4.70	3.55	3.74	3.53	3.29	3.13	2.61	2.19	2.07
Gross Domestic Product	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

Industrial Origin	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	AVERAGE
Agriculture, Livestock, Forestry, Fishery	26.27	24.29	23.55	23.21	24.22	23.33	24.13	23.61	21.78	19.47	19.48
Mining And Quarrying	19.63	18.88	18.26	13.99	11.20	13.83	12.06	13.22	14.54	13.60	13.61
Manufacturing Industry	12.88	11.10	12.94	15.98	16.74	16.95	18.48	18.25	19.52	21.28	21.26
Electronic, Gas And Air Water Supply	0.64	0.71	0.75	0.41	0.63	0.60	0.61	0.60	0.64	0.69	0.69
Construction	5.88	6.21	5.51	5.47	5.17	4.88	5.05	5.30	5.48	5.66	5.66
Trade, Hotel And Restaurant	14.87	16.24	15.96	15.89	16.67	16.86	17.16	16.91	16.26	16.61	16.61
Transport And Communication	4.69	5.38	5.67	6.29	6.24	5.96	5.73	5.56	5.58	5.93	5.93
Banking And Other Financial International	2.69	2.76	3.08	3.60	3.93	3.84	3.75	3.91	4.00	4.44	4.44
Ownership of Dwelling	2.86	2.65	2.60	2.86	2.90	2.68	2.63	2.48	2.47	2.61	2.61
Public Administration And Defence	7.43	7.72	7.45	8.17	8.09	7.14	6.65	6.67	6.47	6.44	6.44
Services	2.17	4.06	4.25	4.12	4.20	3.93	3.77	3.48	3.25	3.28	3.28
Gross Domestic Product	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

: Central Bureau of Statistics, National Income of Indonesia, various years

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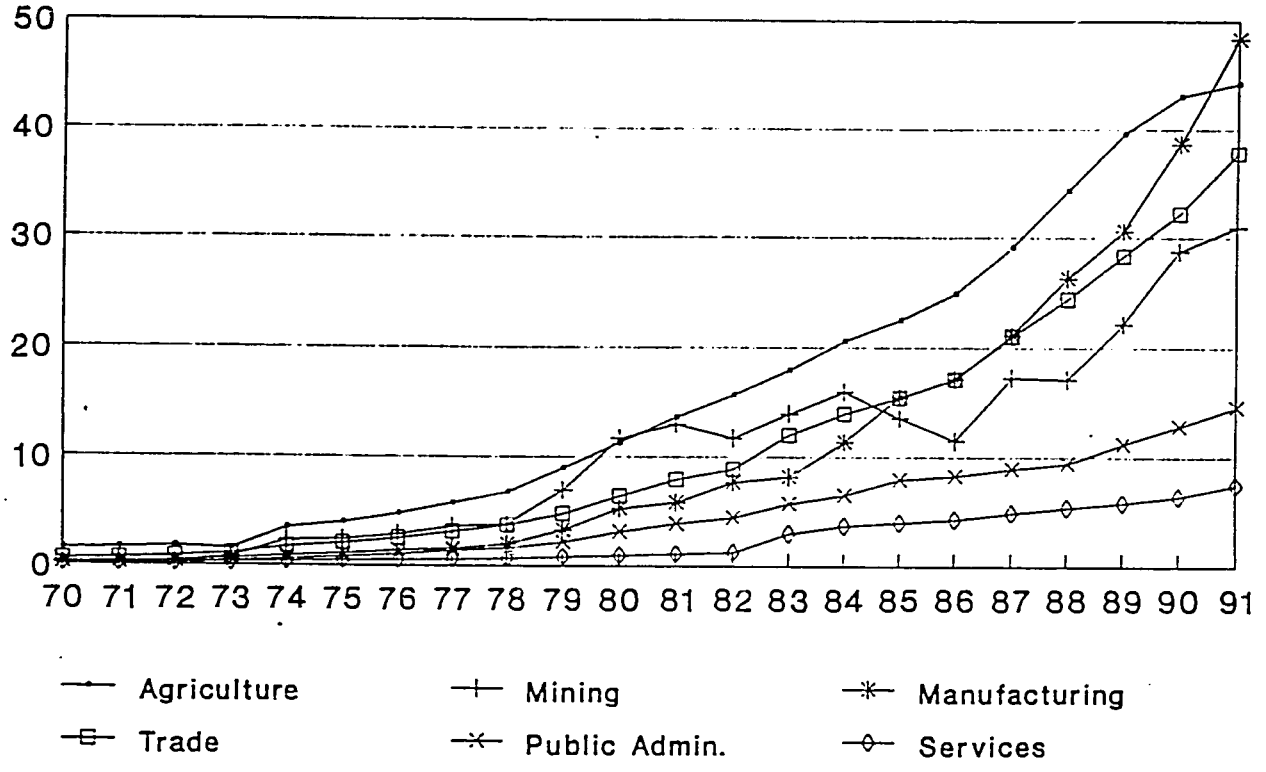
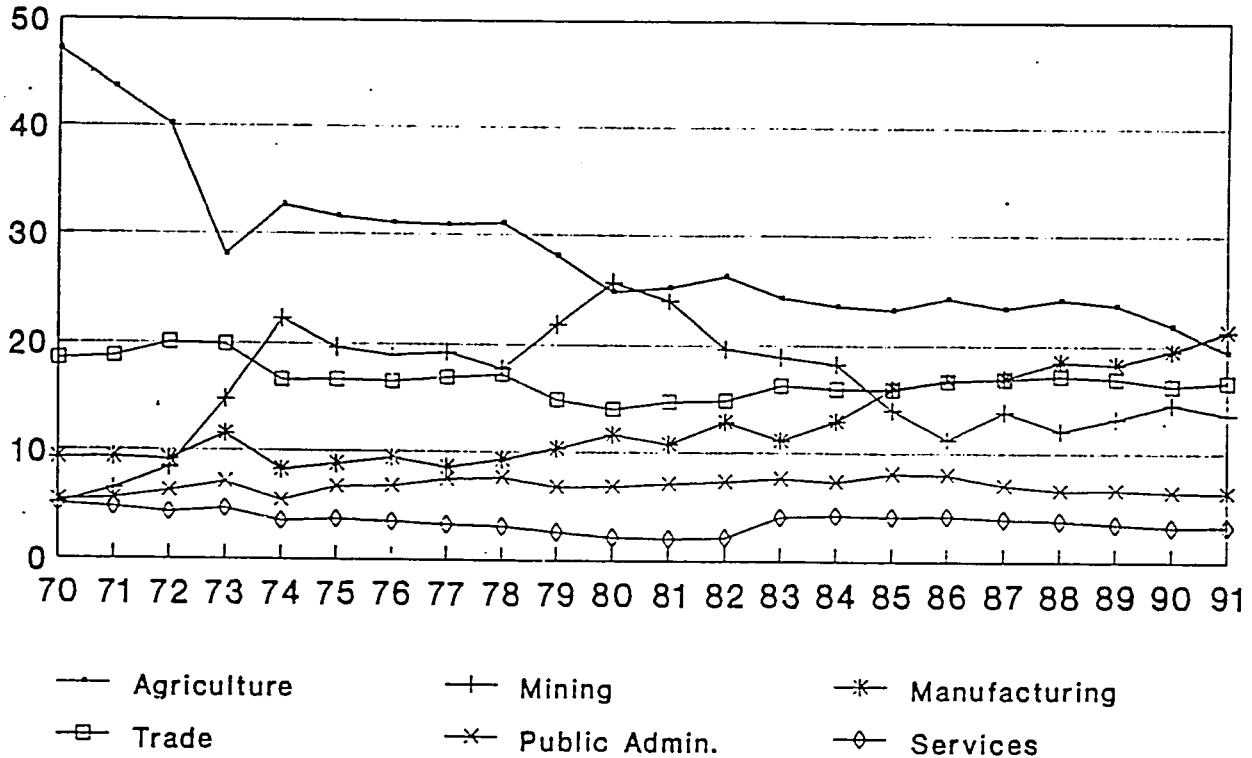
GDP by Industrial Origin
(trillion of current rupiah)



Source : Central Bureau of Statistics

Sectoral Composition of GDP, 1970-1991
(percentage share)



Source : Central Bureau of Statistics

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INVESTMENT REALIZATION, 1968 – 1992

CODE	SECTOR	ABSOLUT			PERCENTAGE SHARE		
		DOMESTIC (billion rupiah)	FOREIGN (billion rupiah)	TOTAL	DOMESTIC	FOREIGN	TOTAL
1	Agriculture,Forestry,Hunting And Fishing	8,832.3	1,686.6	10,518.9	17.33%	4.09%	11.41%
2	Mining And Quarrying	999.6	6,144.0	7,143.6	1.96%	14.91%	7.75%
3	Manufacturing Industry	33,040.0	27,885.8	60,925.8	64.84%	67.69%	66.11%
4	Electricity, Gas and Water		0.0	0.0	0.00%	0.00%	0.00%
5	Construction	567.1	939.2	1,506.3	1.11%	2.28%	1.63%
6	Trade, Restaurant And Hotel		0.0	0.0	0.00%	0.00%	0.00%
7	Transportation, Storage And Communication	1,329.6	183.6	1,513.2	2.61%	0.45%	1.64%
8	Financing, Insurance, Real Estate And Business Service	4,715.5	2,903.0	7,618.5	9.25%	7.05%	8.27%
9	Community, Social And Personal Services	1,473.1	1,456.2	2,929.3	2.89%	3.53%	3.18%
10	Activities Not Adequately Defined		0.0	0.0	0.00%	0.00%	0.00%
11	Total	50,957.2	41,198.4	92,155.6	100.00%	100.00%	100.00%

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Percentage change of labour absorption per sector

CODE	SECTOR	1971/1976	1976/1977	1977/1978	1978/1980	1980/1982	1982/1985	1985/1989	1989/1990	1990/1991	1991/1992	Average
1	Agriculture,Forestry,Hunting And Fishing	−4.07%	−0.15%	−0.88%	−8.19%	−2.25%	0.01%	2.86%	−0.63%	−3.50%	−0.43%	−1.72%
2	Mining And Quarrying	15.21%	47.57%	−32.98%	216.95%	−10.03%	−1.56%	−8.10%	13.91%	6.09%	−9.51%	23.75%
3	Manufacturing Industry	29.05%	2.92%	−13.76%	21.92%	14.76%	−10.93%	7.65%	1.53%	2.52%	1.12%	5.68%
4	Electricity, Gas and Water	−36.86%	16.07%	−61.15%	397.31%	−16.78%	4.63%	52.84%	4.11%	11.00%	4.89%	37.60%
5	Construction	4.81%	0.67%	−10.29%	106.53%	15.51%	−9.64%	−25.77%	9.02%	17.42%	0.45%	10.87%
6	Trade, Restaurant And Hotel	39.46%	−2.63%	6.15%	−12.97%	14.23%	1.11%	−0.87%	−1.63%	2.51%	0.02%	4.54%
7	Transportation, Storage And Communication	17.72%	8.33%	−15.36%	14.46%	9.09%	0.91%	−4.78%	2.12%	7.02%	0.47%	4.00%
8	Financing, Insurance, Real Estate And Business Service	−11.87%	−11.92%	−53.11%	611.27%	−66.71%	105.40%	34.66%	16.78%	7.07%	8.36%	64.00%
9	Community, Social And Personal Services	6.85%	−1.17%	17.14%	12.22%	−11.05%	8.03%	−9.29%	−1.00%	4.28%	1.23%	2.72%
10	Activities Not Adequately Defined	−98.80%	21.82%	−91.77%	11694.05%	−99.81%	8647.47%	−31.12%	127.41%	15.49%	−34.11%	2015.06%
11	Total											

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TREND OF TOTAL EMPLOYMENT PER SECTOR

CODE	SECTOR	1971	1976	1977	1978	1980	1982	1985	1989	1990	1991	1992	Average
1	Agriculture,Forestry,Hunting And Fishing	26,473,477	29,117,283	29,694,493	31,[illegible]43,399	28,834,041	31,500,314	34,141,309	41,284,232	42,378,309	41,205,791	42,153,205	34,401,941.18
2	Mining And Quarrying	83,828	113,365	170,864	122,719	387,251	390,661	415,512	448,901	528,220	564,399	574,924	341,167.64
3	Manufacturing Industry	2,691,957	3,968,272	4,171,330	3,85[illegible],560	4,680,051	6,021,929	5,795,919	7,334,874	7,693,283	7,946,350	8,255,496	5,673,181.43
4	Electricity, Gas and Water	37,359	27,045	32,060	12,348	66,089	61,666	69,715	125,261	134,716	150,650	162,367	80,036.00
5	Construction	678,472	815,252	838,185	802,918	1,657,148	2,146,210	2,095,577	1,828,633	2,059,309	2,436,594	2,514,744	1,825,112.91
6	Trade, Restaurant And Hotel	4,251,361	6,813,895	6,776,023	7,7[illegible]3,331	6,678,952	8,553,919	9,345,210	10,890,729	11,067,357	11,430,633	11,746,815	8,661,240.43
7	Transportation, Storage And Communication	[illegible]7,334	1,283,983	1,422,583	1,2[illegible]3,354	1,468,419	1,796,112	1,958,333	2,192,149	2,312,472	2,493,424	2,573,809	1,794,475.18
8	Financing, Insurance, Real Estate And Business Service	93,452	94,433	84,952	42,695	302,345	112,839	230,481	396,535	478,381	516,093	574,585	267,892.36
9	Community, Social And Personal Services	4,119,552	5,048,784	5,093,869	6,394,758	7,144,523	7,125,319	8,317,285	8,869,082	9,070,324	9,530,042	9,911,578	7,329,383.27
10	Activities Not Adequately Defined	1,878,199	25,945	32,280	2,847	334,303	712	67,297	54,498	128,029	148,976	100,851	252,176.09
11	Total	41,281,716	47,308,257	48,314,641	51,780,1[illegible]	51,533,122	57,802,601	62,457,138	73,424,894	75,850,549	76,423,179	78,518,372	60,426,546.55

Source : Central Bureau of Statistic, Labour Force Situation In Indonesia, Many Years

PERCENTAGE SHARE OF TOTAL EMPLOYMENT PER SECTOR

CODE	SECTOR	1971	1976	1977	1978	1980	1982	1985	1989	1990	1991	1992	Average
1	Agriculture,Forestry,Hunting And Fishing	64.16%	61.55%	61.46%	60.92%	55.93%	54.66%	54.66%	56.23%	55.87%	53.92%	53.69%	57.55%
2	Mining And Quarrying	0.21%	0.24%	0.35%	0.24%	0.75%	0.68%	0.67%	0.61%	0.70%	0.74%	0.67%	0.53%
3	Manufacturing Industry	6.50%	8.39%	8.63%	7.45%	9.08%	10.42%	9.28%	9.99%	10.14%	10.40%	10.51%	9.16%
4	Electricity, Gas and Water	0.09%	0.06%	0.07%	0.03%	0.13%	0.11%	0.11%	0.17%	0.18%	0.20%	0.21%	0.12%
5	Construction	1.64%	1.72%	1.73%	1.56%	3.21%	3.71%	3.36%	2.49%	2.72%	3.19%	3.20%	2.59%
6	Trade, Restaurant And Hotel	10.33%	14.40%	14.02%	14.89%	12.96%	14.80%	14.96%	14.83%	14.59%	14.96%	14.96%	14.15%
7	Transportation, Storage And Communication	2.31%	2.71%	2.94%	2.49%	2.85%	3.11%	3.14%	2.99%	3.05%	3.26%	3.28%	2.92%
8	Financing, Insurance, Real Estate And Business Service	0.23%	0.20%	0.18%	0.08%	0.59%	0.20%	0.40%	0.54%	0.63%	0.68%	0.73%	0.40%
9	Community, Social And Personal Services	9.98%	10.67%	10.54%	12.35%	13.86%	12.33%	13.32%	12.08%	11.96%	12.47%	12.62%	12.02%
10	Activities Not Adequately Defined	4.55%	0.05%	0.07%	0.01%	0.65%	0.00%	0.11%	0.07%	0.17%	0.19%	0.13%	0.35%
11	Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

BEST AVAILABLE DOCUMENT

ANNUAL GROWTH OF INDONESIA LABOUR SUPPLY BY EDUCATIONAL LEVEL

Education Level	1971/1976	1976/1977	1977/1978	1978/1980	1980/1986	1986/1987	1987/1989	1989/1990	1990/1991	1991/1992	Average
No schooling	−4.74%	−1.49%	1.36%	−50.00%	0.00%	−5.58%	−1.40%	−3.28%	−6.81%	1.29%	−6.87%
Did not complete / have not yet completed primary school	5.84%	4.00%	6.43%	5.86%	−0.38%	0.37%	0.04%	−0.30%	−4.69%	4.20%	2.14%
Primary school	6.13%	11.45%	−11.70%	3.11%	15.61%	4.24%	4.19%	5.02%	4.42%	1.02%	4.35%
General Junior High School	11.93%	2.51%	−10.19%	17.86%	21.79%	7.40%	7.41%	5.35%	8.39%	0.42%	7.29%
Vocational Junior High School	0.61%	12.87%	32.72%	−13.03%	8.80%	5.53%	5.03%	−4.68%	12.84%	4.45%	6.51%
General Senior High School	10.92%	2.60%	−11.66%	38.49%	24.97%	15.54%	12.06%	5.36%	12.10%	3.17%	11.35%
Vocational Senior High School	16.08%	7.54%	10.92%	22.13%	13.15%	7.61%	8.96%	4.00%	5.33%	9.04%	10.48%
Diploma I / II	0.00%	0.00%	0.00%	0.00%	0.00%	5.36%	15.29%	6.55%	15.17%	1.58%	4.39%
Academi / Diploma III	13.40%	4.95%	−100.00%	0.00%	16.41%	27.20%	0.58%	11.18%	1.08%	9.42%	−1.58%
University	−3.09%	−4.46%	167.69%	−9.16%	12.53%	51.79%	5.53%	10.82%	20.19%	13.06%	26.49%
Not stated	0.00%	0.00%	−98.78%	1623.64%	−18.93%	−100.00%	0.00%	0.00%	0.00%	0.00%	140.59%
Total	1.91%	4.32%	−0.30%	−8.75%	12.41%	2.73%	2.78%	2.11%	1.18%	2.52%	2.09%
											2.09%

Source : Labour Force Situation in Indonesia, Many Years, Central Bureau of Statistics.

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No schooling	11,478,717	21,037,275	32,515,992	8,431,966	16,576,438	24,808,404	8,066,929	16,371,121	24,438,050	6,703,618	18,051,243	24,769,861	0	0	0
Did not complete / have not yet completed primary school	14,740,393	12,031,535	26,771,928	17,787,258	16,802,380	34,589,638	18,452,756	17,541,123	35,973,879	20,038,110	18,249,677	38,287,787	22,513,164	20,259,563	42,772,729
Primary school	9,401,970	6,372,031	15,774,001	11,768,393	8,837,321	20,605,714	13,242,768	9,701,669	22,964,437	11,377,374	8,900,799	20,278,173	12,001,444	9,536,996	21,537,840
General Junior High School	1,614,973	974,354	2,589,327	2,515,288	1,618,107	4,133,395	2,596,404	1,640,598	4,237,002	2,332,330	1,472,967	3,805,297	3,067,078	2,097,376	5,164,454
Vocational Junior High School	626,373	312,903	939,276	602,707	365,195	967,902	653,652	438,821	1,092,473	900,263	549,624	1,449,887	691,601	380,406	1,072,007
General Senior High School	643,658	269,028	912,686	960,766	450,073	1,410,839	969,623	477,937	1,447,560	873,194	405,603	1,278,797	1,504,166	759,058	2,263,224
Vocational Senior High School	489,513	242,965	732,478	849,476	472,030	1,321,506	928,440	492,650	1,421,090	1,011,518	564,742	1,576,260	1,439,497	814,454	2,273,951
Diploma I / II	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Academi / Diploma III	111,868	30,453	142,321	181,974	55,670	237,644	189,324	60,077	249,401	0	0	0	205,843	74,398	280,241
University	99,797	29,270	129,067	92,600	16,507	109,107	89,451	14,791	104,242	213,073	65,977	279,050	175,572	52,360	227,932
Not stated	0	0	0	0	0	0	34,446	34,893	69,339	423	423	846	14,264	14,054	28,318
Total	39,207,262	41,299,814	80,507,076	43,190,428	44,993,721	88,184,149	43,223,793	46,773,680	91,997,473	43,454,903	48,271,055	91,725,958	41,632,629	33,988,067	75,620,696

Education Level	1986			1987			1989			1990			1991			1992		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
No schooling	6,450,621	13,500,154	19,950,775	6,163,849	13,052,244	19,216,093	6,093,406	12,586,263	18,679,669	5,840,245	12,226,813	18,067,058	5,462,533	11,374,734	16,837,267	5,494,889	11,559,667	17,054,556
Did not complete / have not yet completed primary school	20,553,075	21,608,325	41,961,400	20,307,670	21,810,164	42,117,834	20,648,633	21,500,059	42,148,692	20,125,332	21,897,784	42,023,116	19,264,713	20,785,637	40,050,350	20,094,158	21,638,174	41,732,332
Primary school	20,222,626	18,123,207	38,345,833	21,083,919	18,885,885	39,969,804	22,442,710	20,878,638	43,321,348	23,586,115	21,912,110	43,498,225	24,117,836	23,392,326	47,510,162	24,443,617	23,550,637	47,994,254
General Junior High School	6,090,344	4,700,187	10,790,531	6,473,371	5,116,088	11,589,459	7,378,739	5,930,386	13,306,625	7,837,222	6,181,097	14,018,319	8,461,662	6,732,686	15,194,348	8,467,019	6,791,741	15,258,760
Vocational Junior High School	910,471	633,268	1,543,739	933,091	696,009	1,629,100	1,030,830	762,041	1,792,871	981,850	727,190	1,709,040	1,094,566	833,836	1,928,402	1,137,612	876,619	2,014,231
General Senior High School	3,271,883	1,816,430	5,088,313	3,641,646	2,237,279	5,878,925	4,423,419	2,873,694	7,297,113	4,631,492	3,056,570	7,688,062	5,172,949	3,445,629	8,618,578	5,322,200	3,569,295	8,891,495
Vocational Senior High School	2,313,072	1,456,390	3,769,462	2,433,571	1,622,822	4,056,393	2,807,492	1,975,709	4,783,201	2,940,795	2,033,584	4,974,379	3,115,108	2,124,459	5,239,567	3,337,382	2,375,981	5,713,343
Diploma I / II	133,760	80,334	214,094	138,031	87,542	225,573	173,330	121,181	294,531	177,851	135,959	313,810	199,299	162,110	361,409	201,382	165,736	367,118
Academi / Diploma III	352,717	157,429	510,146	450,631	198,297	648,928	431,210	225,242	656,452	473,955	255,862	729,817	471,021	266,680	737,701	520,986	286,214	807,200
University	296,404	74,319	370,723	428,565	134,150	562,715	458,691	166,315	625,006	495,927	196,696	692,623	582,802	249,663	832,465	634,224	306,946	941,170
Not stated	0	1,510	1,510	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	60,394,973	62,151,553	122,546,526	62,054,344	63,840,480	125,894,824	65,885,980	67,019,528	132,905,508	67,090,784	68,623,665	135,714,449	67,942,489	69,367,760	137,310,249	69,633,469	71,120,990	140,774,459

Source : Labour Force Survey in Indonesia, Many Years, Central Bureau of Statistics

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Education Level	1971			1976			1977			1978			1980		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
No schooling	29.28%	50.94%	40.39%	19.52%	36.40%	28.13%	17.84%	35.00%	26.56%	15.44%	37.42%	27.00%	0.00%	0.00%	0.00%
Did not complete / have not yet completed primary school	37.60%	29.13%	33.25%	41.18%	37.34%	39.22%	40.76%	37.50%	39.10%	46.11%	37.81%	41.74%	54.08%	59.61%	56.56%
Primary school	23.98%	15.43%	19.59%	27.25%	19.64%	23.37%	29.33%	20.74%	24.96%	26.18%	18.44%	22.11%	28.83%	28.06%	28.48%
General Junior High School	4.12%	2.36%	3.22%	5.82%	3.60%	4.69%	5.74%	3.51%	4.61%	5.37%	3.05%	4.15%	7.37%	6.17%	6.83%
Vocational Junior High School	1.60%	0.76%	1.17%	1.40%	0.81%	1.10%	1.45%	0.94%	1.19%	2.07%	1.14%	1.58%	1.66%	1.12%	1.42%
General Senior High School	1.64%	0.63%	1.13%	2.22%	1.00%	1.60%	2.14%	1.02%	1.57%	2.01%	0.84%	1.39%	3.61%	2.23%	2.99%
Vocational Senior High School	1.21%	0.59%	0.91%	1.97%	1.03%	1.50%	2.03%	1.05%	1.54%	2.33%	1.17%	1.72%	3.51%	2.40%	3.01%
Diploma I / II	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Academi / Diploma III	0.29%	0.07%	0.18%	0.42%	0.12%	0.27%	0.42%	0.13%	0.27%	0.00%	0.00%	0.00%	0.49%	0.22%	0.37%
University	0.25%	0.07%	0.16%	0.21%	0.04%	0.12%	0.20%	0.03%	0.11%	0.49%	0.14%	0.30%	0.42%	0.15%	0.30%
Not stated	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	0.07%	0.06%	0.00%	0.00%	0.00%	0.00%	0.04%	0.04%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Education Level	1986			1987			1989			1990			1991			1992	
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
No schooling	10.68%	21.72%	16.25%	9.93%	20.45%	15.26%	9.25%	18.78%	14.05%	8.70%	17.82%	13.31%	8.04%	16.40%	12.26%	7.89%	16.25%
Did not complete / have not yet completed primary school	33.70%	34.77%	34.24%	32.73%	34.16%	33.45%	31.34%	32.08%	31.71%	30.00%	31.91%	30.96%	28.35%	29.96%	29.17%	28.85%	30.42%
Primary school	33.48%	29.16%	31.29%	33.98%	29.38%	31.75%	34.06%	31.13%	32.60%	35.16%	31.93%	33.52%	35.50%	33.72%	34.60%	35.09%	33.11%
General Junior High School	10.06%	7.56%	8.81%	10.43%	8.01%	9.21%	11.20%	8.85%	10.01%	11.68%	9.01%	10.33%	12.45%	9.71%	11.07%	12.16%	9.35%
Vocational Junior High School	1.51%	1.02%	1.26%	1.50%	1.09%	1.29%	1.56%	1.14%	1.35%	1.46%	1.06%	1.26%	1.61%	1.20%	1.40%	1.63%	1.23%
General Senior High School	5.42%	2.92%	4.15%	5.87%	3.50%	4.67%	6.71%	4.29%	5.49%	6.90%	4.43%	5.66%	7.61%	4.97%	6.28%	7.64%	5.02%
Vocational Senior High School	3.83%	2.34%	3.08%	3.92%	2.54%	3.22%	4.26%	2.95%	3.60%	4.38%	2.96%	3.67%	4.58%	3.06%	3.82%	4.79%	3.34%
Diploma I / II	0.22%	0.13%	0.17%	0.22%	0.14%	0.18%	0.26%	0.18%	0.22%	0.27%	0.20%	0.23%	0.29%	0.21%	0.26%	0.29%	0.23%
Academi / Diploma III	0.58%	0.25%	0.42%	0.73%	0.31%	0.52%	0.65%	0.34%	0.49%	0.71%	0.37%	0.54%	0.69%	0.38%	0.54%	0.75%	0.40%
University	0.49%	0.12%	0.30%	0.69%	0.21%	0.45%	0.70%	0.23%	0.47%	0.74%	0.29%	0.51%	0.66%	0.36%	0.61%	0.91%	0.43%
Not stated	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Source : Labour Force Survey in Indonesia, Many Years, Central Bureau of Statistics

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ANNEX VII

LABOR STUDY SEMINAR AT BAPPENAS,

JANUARY, 1994

REPUBLIK INDONESIA
BADAN PERENCANAAN PEMBANGUNAN NASIONAL
JALAN TAMAN SUROPATI 2, JAKARTA 10310
TELEPON : 336207 - 3905650

Nomor : 137 /Asmen V/11/1993
Lampiran: 1 (satu) berkas
Perihal : Undangan lokakarya

Jakarta, 12 Januari 1994

Kepada Yth.
Sdr.
(daftar terlampir)
di
JAKARTA.

Dalam rangka kerjasama Kantor Menteri Negara PPN/Bappenas, Dep. Kehutanan dan USAID (NRMP) akan diselenggarakan suatu diskusi Pengaruh Ketenagakerjaan Pada Kebijakan Pengelolaan Sumber Daya Alam.

Diskusi tersebut diawali dengan presentasi paper utama, berjudul: Pengaruh Ketenagakerjaan Pada Kebijakan Pengelolaan Sumber Daya Alam: Analisa perkiraan penyerapan tenaga kerja hingga tahun 2020 (Employment Effects of Natural Resources Policy: Analysis of Labor Absorption Forecasts to the Year 2020).

Sehubungan dengan itu, kami mengundang saudara atau wakil saudara untuk menghadiri acara tersebut yang akan diadakan pada:

Hari/Tanggal: Senin, 17 Januari 1994
Waktu : 15:00 - 17:00
Tempat : Ruang Rapat 206, Lt. II
Jl. Madiun #4, Jakarta

Mengingat pentingnya acara tersebut kehadiran saudara sangat kami harapkan.

Atas perhatian dan kehadiran Saudara kami ucapkan terima kasih.

Asmeneg. PPN Bidang Peningkatan
Peranserta Masyarakat dan Keterpaduan
Dalam Pembangunan

selaku Ketua PCC-NRM

Herman Haeruman Js

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NATURAL RESOURCES MANAGEMENT PROJECT

BAPPENAS – Ministry of Forestry
assisted by
USAID

Nomor : NRM/ARD:2361/I/94 Jakarta, 24 Januari 1994
Lampiran : Daftar Hadir
Perihal : Undangan Presentasi (Informal) Konsultan NRM Project

Kepada Yth.
Bapak
(Daftar Terlampir)

Dengan Hormat,

Dengan ini kami mengundang Bapak/Ibu pada pertemuan yang akan diadakan pada:

Hari/tanggal	:	Kamis, 27 Januari 1994
Pukul	:	10:30 WIB s/d selesai
Tempat	:	Ruang Rapat NRM Project Jl. Madiun 3 Jakarta Pusat
Acara	:	Presentasi oleh Dr. Joachim Metzner (NRM Consultant): "Policy Towards Protected Areas in Indonesia"

Meskipun pertemuan ini informal sifatnya, namun mengingat cukup pentingnya pertemuan ini, maka kehadiran Bapak/Ibu sangat kami harapkan.

Atas perhatiannya kami mengucapkan terima kasih.

NATURAL RESOURCES MANAGEMENT PROJECT
Chief of Party

Colin MacAndrews

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BAPPENAS

1. Dr. Herman Haeruman, Assisten Menteri Bidang Peningkatan Peran Serta Masyarakat dan Keterpaduan Dalam Pembangunan

2. Dr. M. Ikhwanuddin Mawardi, Pembantu AsMen Bidang Peningkatan Peran Serta Masyarakat dan Keterpaduan Dalam Pembangunan

DEPT. KEHUTANAN

3. Ir. Sriyono, Kabag Perencanaan dan Program, Birocan
4. Ir. Didi Wuryanto, Kasie Perencanaan Kerjasama LN, Birocan
5. Ir. Yaya Mulyana, PHPA
6. Ir. Wahyudi Wardoyo, PHPA
7. Ir. Hendrik, PHPA

USAID

8. Jerry Bisson, NRM Project Officer
9. Agus Widianto, Program Assistant
10. Ketut Djati, USAID/AEE

NRM Project

11. Erik Scarsborough, Macroeconomist
12. Chris Bennett, Forestry Advisor
13. Ken Leathers, Resource Economist
14. Jim Taylor, Foundation Development Advisor
15. Fernando Potess, Nature Conservation Advisor
16. Ismail MAz, Administrative Specialist (MoFr)
17. Setiabudhi Syaadilah, Administrative Specialist (Bappenas)
18. Nike Sudharman, Administrative Specialist

OTHERS

19. Ir. Zulkarnain, WALHI
20. Dr. Russell Betts, WWF
21. Mr. Sukianto, WWF
22. Dr. Jim Davie, Jambi Marine Park, Bogor
23. Dr. Jan Windt, DHV Bogor
24. Ms. Suzanne Siskel, Ford Foundation

Seminar	:	EMPLOYMENT EFFECTS OF NATURAL RESOURCES POLICY : Analysis of Labor Absorption Forecasts to the Year 2020
Date	:	January 17, 1994
Time	:	3.00 - 5.00 PM
Venue	:	BAPPENAS, Seminar Roo
Presenter	:	Dr. Ken Leathers, Resource Economist, Policy Secretariat, NRMP

OUTLINE

I. Background to the issues and the need for the study

II. Study Objectives and scope

III. Methodology and procedure

IV. Summary of findings:
- Labor Demand and Supply projections to the year 2020
- Sensitivity analysis of key assumptions behind the forecasts: (technology, demography, education, exogenous and trade factors, public policy)
- Alternative Development scenarios and comparative analysis

V. Policy implications and discussion

Daftar Undangan:

1. Dr. Herman Haeruman, Asmen Bid. Peningkatan Peran Serta Masyarakat dan Keterpaduan Dalam Pembangunan, Bappenas

2. Dr. Sayuti Hasibuan, Deputi Bidang Ekonomi Bappenas.

3. A.A. Machrani M.A.
   Kepala Biro Tenaga Kerja dan Pengembangan Kesempatan Kerja, Bappenas

4. Dr. Ir. Triono Soendoro
   Kepala Biro Kelautan, Kedirgantaraan, Ilmu Pengetahuan dan Teknologi, Bappenas

5. Dr. Ir. Bambang Bintoro Soedjito
   Kepala Biro Bantuan dan Pembangunan Regional II, Bappenas

6. Drs. T.A. Salim
   Kepala Biro Pembangunan Daerah dan Transmigrasi, Bappenas

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11. Dr. Ismail Mohammad
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12. Dr. Ir. Muhamad Anwar Wardhani
    Kepala Biro Industri dan Peertambangan, Bappenas

13. Dr. Ir. Ali Rahman
    Kepala Biro Pertanian, Pangan dan Kehutanan, Bappenas

14. Dr. Agus Pakpahan
    Staf Biro Pertanian, Pangan dan Kehutanan, Bappenas

15. Dr. Djuhari Wirakartakusumah
    Kepala Lembaga Demografi, U.I.

16. Dr. Ace Suryadi
Kapus Informasi Litbang, Depdikbud.

17. Dr. Abuzar Asra
Kabag Analisa & Pengembangan Statistik Kependudukan, BPS

18. Dr. Ir. Muslim Nasution
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19. Dr. Dipo Alam
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20 Dr. Syarif Hidayat
Karo DikBud, Bappenas

21 Ir. Ratna Djuwita Wahab
Kepala Biro Perdagangan, Koperasi dan Pengembangan Dunia Usaha

22. Dr. I Gde Mamas
Staf Ahli BPS

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39. Dr. Matthew Robertson, Team Leader, PHRD/World Bank

40. Dr. Yudo Swasono, Head, Manpower Planning and Development Agency, Depnaker

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51. Dr. Erik Scarsborough, NRMP/ARD

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Pengaruh Ketenagakerjaan pada Kebijakan Pengelolaan Sumber Daya Alam: Analisa Perkiraan Penyerapan Tenaga Kerja hingga Tahun 2020.

Tujuan Analisa:

Pertumbuhan ekonomi Indonesia untuk masa mendatang masih tetap akan sangat bergantung pada kegiatan ekstraksi dan pemrosesan sumber daya alam. Konsekuensinya, pemerintah Indonesia tetap menaruh perhatian yang besar terhadap dampak yang ditimbulkan oleh kebijakan mengenai penyerapann tenaga kerja di masa lalu dan hal-hal yang dapat membantu terciptanya kesempatan baru bagi penyerapan tengan kerja dalam dasawarsa mendatang. Jumlah tenaga kerja yang tersedia akan meningkat dua kali lipat dalam jangka waktu dua puluh lima tahun mendatang. Namun, apakah pencari kerja tersebut akan memperoleh pekerjaan yang baik? Di manakah sebagian besar dari para tenaga kerja tersebut akan bekerja?

Bagi mereka yang pernah mendapat tugas untuk membuat perencanaan tenaga kerja dalam mempersiapkan REPELITA VI dan PJP II, mungkin akan menganggap studi ini sebagai suatu hal yang sudah "basi". Sebenarnya tidaklah demikian, karena pendekatan yang digunakan di sini berbeda. Sebagai contohnya, saat menyusun suatu perencanaan dan perkiraan, pertanyaan yang muncul biasanya adalah "what will happen?" -- sedangkan studi ini lebih diarahkan untuk "what ought to happen?". Jadi sebetulnya sudah sejalan dengan kebutuhan akan pembuatan rencana jangka panjang dan pencarian kesempatan penyerapan tenaga kerja yang lebih luas.

Yang penting, studi ini berusaha melihat kaitan yang terjadi antara konsekuensi kebijakan-kebijakan antar sektoral maupun tujuan-tujuan kebijakan yang kompetitif mengenai pertumbuhan ekonomi, kesejahteraan sosial, dan pengelolaan lingkungan. Studi ini dirancang untuk dapat menunjukkan hubungan-hubungan penting yang terdapat dalam kebijakan ekonomi Indonesia. Khususnya mengenai dampak beberapa kebijakan sumber daya alam terhadap pertumbuhan, ketenagakerjaan dan lingkungan.

Beberapa masalah pokok mengenai kebijakan

Tinjauan historis yang mengkaitkan pengaruh penyerapan tenaga kerja dengan kebijakan sumber daya alam (dan sebaliknya):

- Menelusuri kembali dampak kebijakan-kebijakan pokok Indonesia sejak tahun 70an.

- Termasuk dalam kebijakan-kebijakan pokok tersebut antara lain adalah:

  a) Larangan terhadap ekspor kayu

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b) Liberalisasi ekonomi
c) Kebijakan di sektor perikanan sehubungan dengan daerah EEZ (Zona Eksklusif Ekonomi)
d) Adanya integrasi vertikal antara akses dan pemrosesan hasil hutan
e) Kemampuan untuk berswasembada pangan
f) Kebijakan mengenai pendidikan dan kualitas sumber daya manusia

2. Ciri-ciri permintaan dan penyediaan tenaga kerja

- Perkiraan penyebaran spasial dan temporal tenaga kerja sampai tahun 2020
- Batas usia dan jenis ketrampilan yang menjadi persyaratan di masa yang akan datang
- Perkiraan kekurangan tenaga kerja dan jumlah pengangguran yang mungkin terjadi
- Implikasi penyerapan tenaga kerja terhadap hasil produksi, intensitas faktor, keseimbangan sektoral, lokasi perindustrian, perpindahan penduduk, pengembangan masyarakat

3. Perbandingan penyerapan tenaga kerja secara sektoral

- Sampai sejauh mana kita dapat mendisaggregasikan data mengenai ekonomi nasional untuk memudahkan perbandingan kebijakan tenaga kerja yang "cross-sectoral"
- Sektor-sektor mana yang memberikan kesempatan terbaik dan terburuk dalam menyerap tenaga kerja selama PJPT II.

4. Seberapa jauh ketepatan perkiraan terhadap asumsi

- Bagaimana ketahanan perkiraan terhadap masa depan yang masih belum jelas

5. Perumusan beberapa skenario rencana penyerapan tenaga kerja

- Kemungkinan-kemungkinan bentuk perpaduan teknologi, sumber daya manusia, sumber daya alam dan kapital yang bagaimana yang dapat memberi jaminan kesuksesan pelaksanannya selama SLTDP?
- Dapatkah kebijakan mengenai tenaga kerja dan sumber daya manusia diformulasikan tanpa melihat hubungannya dengan kebijakan-kebijakan sektoral?

Metode dan Ruang Lingkup Analisa

Kerangka konsep yang menjadi dasar pendekatan ini ditekankan pada tujuan ganda dan tradeoffs pada pelaksanaan kebijakan umum.

Exogenous atau pengaruh yang tidak dapat dikendalikan pada hasil kebijakan diketahui sebagai hal yang sangat penting didalam analisa ini. Lebih dari itu, kebijakan-kebijakan itu sendiri ditinjau dari tiga tahap yang berbeda-beda: perusahaan atau industri (mikro), sektor yang ada, dan keadaan ekonomi secara keseluruhan (macro). Sebagian besar hasil analitik dari hal-hal yang dibahas hari ini difokuskan pada pengaruh kebijakan ditingkat makro.

Studi ini secara keseluruhan tidak berisi informasi baru dan menggunakan model perkiraan yang ada dan dikembangkan untuk tujuan pembangunan di Bappenas dan badan-badan pemerintahan lainnya. Disini juga digunakan model I/O (input/output) yang dinamis yang dikembangkan tahun lalu oleh Sekretariat Kebijakan di NRMP.

Hasil Analisa Pendahuluan

Delapan tabel berikut ini menggambarkan secara umum keadaan perkiraan, asumsi pokok yang dibuat, dan hasil-hasil empiris. Hasil-hasil ini diperbandingkan dalam empat scenario yang berbeda-beda, yang menggambarkan hasil perkiraan tiga tujuan kebijakan umum: pertumbuhan ekonomi, generasi tenaga kerja, dan kualitas lingkungan.

Keempat scenario pembangunan tersebut, hanya sebagian saja yang dapat diperbandingkan disebabkan oleh uniknya bentuk model dan oleh asumsi yang berbeda-beda, disebut sebagai:

1. Kasus Dasar 'Perkiraan Historis'; pada dasarnya adalah sebuah versi yang sudah dimodifikasi dari proyek ILO/Bappenas yaitu model "produktivitas faktor total" (total factor productivity) yang digunakan didalam penyiapan bahan Repelita VI.

2. Scenario yang difokuskan pada kecanggihan teknologi ('high tech'); didasarkan pada model I/O yang dinamis yang dikembangkan oleh Sekretariat Kebijakan NRMP, yang memberi penekanan pada perubahan teknologi, penggunaan bahan bakar, dan tidak kurang pentingnya faktor kesempatan kerja dan tenaga kerja.

3 & 4. Dua scenario 'kesempatan kerja penuh' (full employment); salah satunya disebut "M" memberikan penekanan khusus pada penyerapan tenaga kerja didalam sektor manufacturing dan prosesing, dan yang lain disebut "S" yang menekankan pada sektor jasa.

Hasil perbandingan dari keempat scenario ini dibahas didalam Tabel yang terlampir (halaman 11).

Seperti telah diketahui perkiraan kebijakan secara makro biasanya memiliki keterbatasan tertentu. Analisa asumsi pokok menunjukkan kekuatan bentuk perkiraan tersebut, akan tetapi adakalanya hasil yang diperoleh mengecewakan. Kesimpulan pokok yang dapat ditarik adalah bahwa "tradeoffs" biasanya bersifat sektoral sehingga sulit untuk dapat melihat hasil akhirnya secara makro . Ada kemungkinan para analis juga terlalu konservatif untuk melakukan perubahan yang besar. Padahal perubahan ini mungkin dapat menunjukkan perbedaan yang lebih dramatis di antara keempat skenario di bawah ini.

Perubahan Kebijakan pada Tingkat Sektoral

Studi-studi yang telah dilaksanakan dan bukti-bukti yang ditemukan dapat memberi wawasan yang bermanfaat bagi perubahan kebijakan.

Empat bidang penting dalam studi ini adalah:

1. Analisa I-O Model telah menunjukkan besarnya peran sektor-sektor pertanian, kehutanan, energi dan transportasi dalam menimbulkan dampak lingkungan di masa yang akan datang. Studi kasus yang dilaksanakan sehubungan dengan studi ini juga telah menunjukkan adanya kebutuhan untuk dilaksanakan penelitian lanjut dibidang ketenagakerjaan dari sektoir-sektor yang telah disebut di atas.

2. Perubahan yang terjadi didalam sektor pemrosesan kayu jelas sangat berarti untuk penyediaan kesempatan kerja dan kualitas lingkungan. Studi yang baru-baru ini dilakukan oleh Arief (1992) di Sumatra memberikan bukti yang kuat bahwa tercapainya produktivitas yang besar dalam hal hasil nilai tambah dan penyerapan tenaga kerja tidak akan sulit diperkirakan dengan adanya perbaikan kebijakan sectoral yang dilakukan secara hati-hati.

3. Mekanisasi Pertanian telah mengawali suatu revolusi produktivitas di Indonesia yang akan memberikan pengaruh yang cukup besar pada lingkungan dan kesempatan kerja. Sinaga (1993) dalam laporannya menulis banyak perubahan dimasa lalu dan masa yang akan datang, dan khususnya mengenai tanggapan para petani akan adanya kekuatan pasar yang baru dibidang pertanian. Collier (1993) juga mengamati transformasi pedesaan termasuk peran pasaran tenaga kerja dan kesempatan kerja non-pertanian. Keadaan ini mengakibatkan adanya implikasi yang cukup besar bagi keadaan ekonomi regional yang belum dipahami.

4. Hal yang sama, penyerapan tenaga kerja didalam industri dan perdagangan juga mengalami perubahan yang cepat yang belum dipahami secara penuh.

Khususnya tanggapan akan sektor-sektor ini yang bermunculan pada perubahan kebijakan makro merupakan masalah yang harus mendapat perhatian. Mehmet dan Bengo-Teku (1993), Jim (1992) dan Sekretariat Kebijakan NRMP (1994) telah menyelesaikan studi-studi yang penting yang membantu memberi jalan pada analisa kebijakan yang penting dimasa yang akan datang

EMPLOYMENT EFFECTS OF NATURAL RESOURCES POLICY : ANALYSIS OF LABOR ABSORPTION FORECASTS TO THE YEAR 2020

"Highlights"

Basic Aims of the Study

Economic growth in Indonesia for the foreseeable future will remain dependent on natural resource extraction and processing activities. Consequently, the GOI has a continuing interest in the labor absorption impacts of past policy and the scope for generating new employment opportunities over coming decades. The working age population will almost double in the next 25 years. Will the new job seekers be able to get good jobs? Where will they work?

For those in this audience familiar with the manpower planning exercises that have been underway in preparing Repelita VI and PJP II, this study will appear "old hat". The approach taken however is different. While the typical planning & forecasting exercise asks the question "what will happen?", the present study is directed at "what ought to happen?"; It is perhaps more in keeping with the spirit of genuine long term planning needs and opportunities. Hopefully the frontiers of change.

Of fundamental importance in this study is linking policy consequences across sectors as well as between the often competing policy objectives of economic growth, social welfare and environmental management. The present study was designed to contribute to understanding about the important linkages that exist in Indonesia economic policy, and in particular the multiple impacts of selected natural resource policies on growth, employment and the environment.

Some Key Policy Issues.

The more important issues which focused the analysis are highlighted below:

1. The historical perspective linking employment effects with natural resource management policies (and vise versa).

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- Trace the employment impacts of key policy initiatives by GOI since the 70's.

- Candidates for the above include a) the ban on log exports, b) economic liberalization, c) EEZ fisheries policy, d) vertical integration in forest access and processing. e) food self- sufficiency, f) education and human capital policy.

2. Characterization of labor demand and supply.

   - What are the temporal and spatial distributions of the forecast labor force to the year 2020?

   - The future age and skill composition?

   - Forecast under - and unemployment?

   - Implications for labor absorption of production trends, factor intensities, sectoral balance, industrial location, migration, community development?

3. Comparison of sectoral labor absorption rates.

   - What level of national economy disaggregation best facilitates cross sectoral employment policy comparisons?

   - Which sectors offer the best and worst opportunities for absorbing labor during the SLTDP?

4. Sensitivity of forecast estimates to the assumptions.

   - How robust are the forecasts in an uncertain future?

5. Formulate plausible employment planning scenarios.

   - What possible combinations of technology, human resources, natural resources and capital hold the greatest promise for successful implementation during the SLTDP?

     Can labor and human capital policies be pursued in isolation of sectoral policies? vise versa?

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Methods and Scope of Analysis

The conceptual framework underlying the approach emphasizes multiple objectives and tradeoffs in public policy implementation. Exogenous or non-controllable influences on policy outcomes are recognized to be very important to this analysis. Further, policies themselves are viewed at three different levels : the firm or industry (micro) the sector, and the economy as a whole (macro). Much of the analytical results discussed today focus on macro level policy impacts.

The study draws completely on secondary information and utilizes existing forecasting models developed for planning purposes at BAPPENAS and other agencies. We also make use of the dynamic I/o model developed last year by Policy Secretariat staff at NRMP.

Preliminary Analytical Results

The following eight tables summarize the general character of the forecasting environment. the key assumptions made, and the empirical results. These results, compared for four different scenarios, reflect predicted outcomes for the three public policy objectives : economic growth. employment generation, and environmental quality.

The four development scenarios, which are only partially comparable due to unique model structures and different assumptions, were characterized as:

1. Base Case "Historical Projection"; basically a modified version of the ILO/BAPPENAS "total factor productivity" model used in the preparation of Repelita VI.

2. A technology -focused (or 'high tech') scenario; based on the dynamic I/o model developed at the Policy Secretariat, which emphasized technological change, energy use, and to a lesser extent employment and manpower factors.

3 & 4. Two 'full employment' scenarios; one called "M" gives special emphasis to labor absorption in the manufacturing and processing sectors, and the other called "S" which gives greater weighing to the service sector.

The comparative results of the four scenarios are summarized in the concluding table (page 11).

Macro policy forecasting has limitations which are wellknown to this audience. Our sensitivity analysis of key assumptions showed the robust nature of such model forecasts, and in some ways our results are disappointing because of this. A major conclusion of the exercise is

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that important complementaries (or trade offs) are fundamentally sectoral and therefore difficult to capture in "macro" results. Perhaps also the analysts were too conservative in the changes made in model parameters -- 'frontier - type" changes would have yielded much more dramatic differences between the four scenarios.

Sectoral-Level Policy Change

Previous sectoral studies and much antidotal evidence offer useful insights into important areas of future policy reform. Four such areas are highlighted in this study.

1. The dynamic I/O model analysis highlighted in particular the importance of agriculture, forestry, energy and the transportation sectors as representing the majority of future environmental impacts. The case studies conducted as part of that overall study also suggest that further work on the manpower-side of growth of these sectors is urgently needed.

2. The change now occurring within the wood processing sector has clear significance to future employment creation and environmental quality. The important recent study by Arief (1992) in Sumatra provides strong evidence that most productivity gains in terms of valued added output and labor absorption are potentially feasible with careful sectoral policy reform. The World Banks recent Forestry Sector Review (1993) also supports policy change in this area.

3. Mechanization of agriculture has initiated a productivity revolution in Indonesia which will have significant future impacts on the environment and employment. Sinaga (1993) documents many past and future changes, and in particular the extraordinary farmer response to new-market forces operating in agriculture. Collier (1993) also examines rural transformation issues including the role of labor markets and non-agricultural employment opportunities. These trends have major implications for regional economies which are yet adequately understood.

4. Similarly, labor absorption in industry and trade is experiencing rapid change which is not well understood. In particular the response of these emerging sectors to macro policy reform is an area that deserves urgent attention. Mehmet and Bengo-Teku (1993), Lim (1992) and the Policy Secretariat (1994) have completed significant studies which help lead the way to important future policy analysis.

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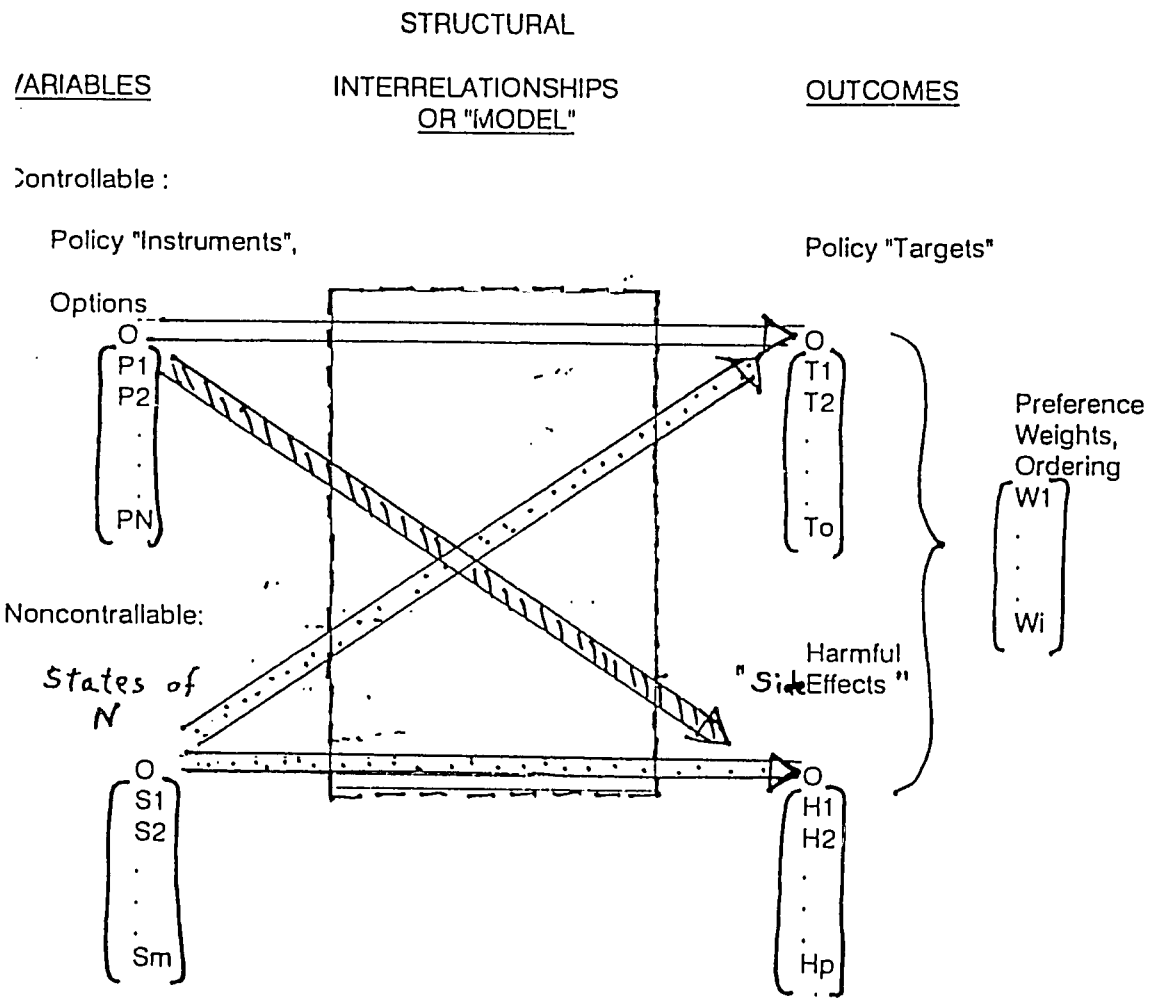
POLICY ANALYSIS FRAMEWORK



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Structural Change in the Economy

	'70	'90	2020
	-----	share of employment (%)	-----
Agriculture	64	40	29
Trade	10	15	22
Services	17	18	15
Manufacturing	9	19	24
Total	100	100	100

Participation Rates

Sample	'80	'90	2020
	----	% of sample participation	
Men	68.4	71.2	
Women	32.7	39.2	
Children≤14yrs	13	12.	

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Education Levels and Formal Employment

	% in Formal Employment (1990)		% of Sector Employment which is Formal
No Schooling	21.9	Trade	15
Some Primary	26.7	Agriculture	17
Primary	33.1	Transportation	51
Jr.HS /SMP	46.6	Manufacturing	71
Sr.HS /SMA.Dip 1&2	78.4	Construction	74
Academy, Dip 3	88.4	Mining	77
University	90.7	Services	79
		Utilities	90
		Finance	97

Population and Employment Trends, Repelitas I-X

Ending Year	Rep.	Working Pop. (m)	Employ-ment (m)	Part. Rate (%)	GDP/EMP Base'89 (m)	Under-empmt.* (%)
1973	I	86	44	51	1.43	67
1978	II	100	50	50	1.56	72
1983	III	114	60	52	2.18	60
1988	IV	130	70	54	2.35	66
1993	V	146	78	55	2.81	67
2008	VIII	190	113	60	5.31	?
2020	X	213	136	62	8.94	?
(Excess demand 44m)			(180)		(6.67)	(-32)

*Percent of the labor force not fulltime wage earners

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1985 BPS I/O MODEL SECTOR DEFINITIONS

9 Sector Forecasting Model

1. Agriculture (incl. Forestry)
2. Mining
3. Manufacturing
4. Utilities
5. Construction
6. Trade
7. Transport & Communications
8. Finance
9. Other Services

Revised Structure Model

Primary Resources
- 1a. Agriculture
- 1b. Forestry
- 2. Mining

Manufacturing & Processing
- 3a. Food & Beverage
- 3b. Other Manufacturing
- 4,5. Primary Processing & Services

Services
- 6,7,8 Pvt. Sector Services
- 9. Public Sector Services

Base Case Forecasting Assumptions, 1993 (1989 Prices)

	GDP (%)	EMP (%)	GDP/EMP (Rp.m)	Δ GDP/yr (%)
Agriculture	17.6	46.6	1.1	2.6
Forestry	1.5	1.4	2.9	4.5
Mining	14.0	1.2	34.1	2.5
Food & Beverage	11.5	.6	50.4	5.0
Other Manufacturing	9.7	12.2	2.2	9.0
Primary Processing	6.7	4.9	3.9	8.6
Private Services	29.8	20.1	4.2	6.8
Public Services	9.2	13.1	1.9	5.0
	100.0	100.0	2.8	5.5

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Comparison of Scenario Growth Rate Assumptions

Scenario:	Base Case	High Tech*	Full Emplmt**	
			M	S
		Policy	Policy	
Source	ILO/BAPPENAS	Secretariat	Secretariat	
Model Structure	TFP	Dynamic I/O	TFP & I/O	
Sectoral Growth Rates:	----------Annual %----------			
Agriculture	3.5	4	4	4
Forestry		4.8	6	5
Mining	7	5.5	4	3
Food & Beverage	10	4	5	5
O. Manufacturing		4	12	10
Primary Processing	8.5	7	11	9
Private Services	8	6.5	7	9
Public Services	6.5	6	5	5

* Scenario "MS1", NRMP Final Report, July 1993

** Scenario "M", a full employment strategy weighted in favor of "other " manufacturing and primary processing. Scenario "S", weighted in favor of the private service sector.

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Scenario Comparisons: Growth, Employment and Environmental Impacts in the year 2020

Scenario:	Base Case	High Tech.	Full Employment	
			M	S
GDP Growth Rate (%)	7.5	5	7.1	7.3
EMP Growth Rate (%)	3.5	2.5	3.2	3.3
GDP/EMP (Rp m)	6.28	6.02	5.54	6.07
% Full Employment	143	107	126	128
Labor Force Composition:				
Primary Resources (%)	23	26	27	25
Processing/Manuf. (%)	57	23	45	39
Services (%)	20	51	28	36
Environmental Impacts:				
CO2 (M.T)	212	171	185	176
BOD (M.T)	.245	.137	.198	.181
Water Demand (M.Cum)*	2.122	1.281	1.925	1.780

* Excludes paddy irrigation and household consumption.

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SCENARIOS FOR DEVELOPMENT OF WOOD-BASED INDUSTRIES
(ALL FIGURES ON AN ANNUAL BASIS)

Product	Log Use (mil.m3)	Value Added (US$ mill.)	of Which Wages (US$ mill)	Employment (Nos.)
Base Case (business as usual)				
Sawnwood	18.3	419.5	102.8	107,691
Plywood	17.1	997.5	181.5	160,244
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,578.3	313.7	281,655
Woodworking	9.9	1,202.0	480.8	250,795
Furniture	4.3	848.0	279.9	76,130
(Total secondary processing /2)	14.2	2,050.1	760.7	326,926
TOTAL /3		3,628.4	1,074.3	608,581
Scenario A (with 20% of logs shifted from plywood to woodworking/furniture)				
Sawnwood	21.7	498.1	122.0	127,851
Plywood	13.7	798.0	145.2	128,195
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,457.3	296.6	269,767
Woodworking	12.3	1,491.6	596.6	311,204
Furniture	5.3	1,052.3	347.3	94,468
(Total secondary processing /2)	17.6	2,543.9	943.9	405,672
TOTAL /3		4,001.2	1,240.5	675,439
(percentage change from base case)		10.3%	15.5%	11.0%
Scenario B (with 40% of logs shifted from plywood to woodworking/furniture)				
Sawnwood	25.2	576.6	141.3	148,012
Plywood	10.3	593.5	108.9	96,146
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,336.4	279.5	257,879
Woodworking	14.7	1,781.1	712.4	371,613
Furniture	6.4	1,256.6	414.7	112,805
(Total secondary processing /2)	21.1	3,037.7	1,127.1	484,418
TOTAL /3		4,374.1	1,406.7	742,297
(percentage change from base case)		20.6%	30.9%	22.0%
Scenario C (with higher recovery Rates: 60% for plywood and 55% for sawnwood)				
Sawnwood	18.3	461.5	113.1	107,691
Plywood	17.1	1,108.3	201.7	178,049
Fancy plywood	1.3	161.3	29.4	13,720
(total primary processing /1)	36.8	1,731.0	344.1	299,460
Woodworking	9.9	1,322.2	528.9	250,795
Furniture	4.3	932.9	307.8	76,130
(Total secondary processing /2)	14.2	2,255.1	836.7	326,926
TOTAL /3		3,986.1	1,180.9	626,386
(percentage change from base case)		9.9%	9.9%	2.9%

Footnotes:

/1 Based on the assumption that, regardless of the scenario, total log volume extracted would stay the same.

/2 Log use for secondary processing is actually the sawnwood used.

/3 Grand total does not include total log use, to avoid double-counting for sawnwood used for secondary processing

World Bank 'Forestry Sector Review' '93.

BEST AVAILABLE DOCUMENT

Assumptions made for each industry (based on available data, mission findings, etc.)			
	Value added per cu.m of logs used	Employment per cu.m of logs used	
Sawnwood	22.9	0.00588	
Plywood	58.2	0.00935	
Fancy plywood	121.0	0.01029	
Woodworking	197.9	0.01776	
Furniture	313.9	0.02524	
Prices (per cu.m) of:		Recovery Rate:	
Logs	90.0		
Sawnwood	140.0	Sawmilling	50% of round logs
Plywood	330.0	Plywood	54% of round logs
Fancy plywood	525.0	Fancy ply	48% of round logs
Woodworking	1165.3	Woodworking	56% of sawn timber
Furniture	1805.6	Furniture	50% of sawn timber

Keysectors of the Indonesian Economy
Input-Output Tables: 1971, 1975, 1980 and 1985

Year		Direct Coefficient	Open Inverse	Closed Inverse
1971	output	11	2,10,11	2,8,11,14,18
	income	-	2	-
	employment	-	-	-
1975	output	9,11	9,11	8,11,14
	income	11	11	11
	employment	-	-	14
1980	output	11,15	10,11,15	8,11,14,15,18
	income	11,13	-	-
	employment	-	-	14
1985	output	-	11	8,11,14,15
	income	11	-	-
	employment	-	-	14

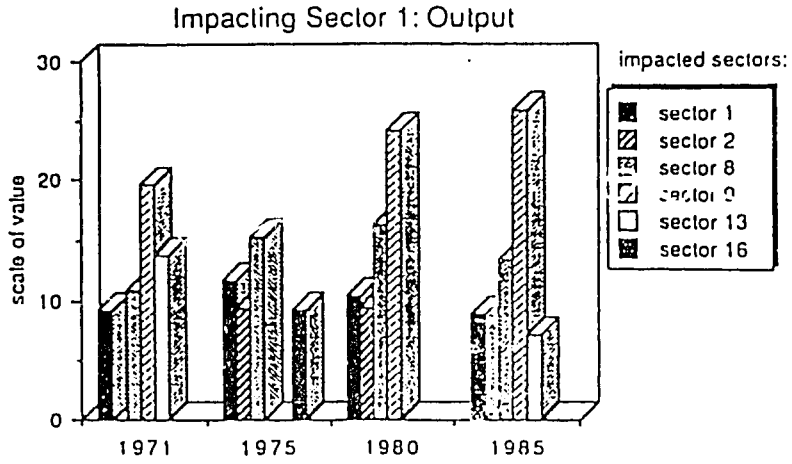
Key sectors described in chapter 7 (Figure 7.9 and section 7.4.2) are derived from the closed inverse matrix linkages of the above table, namely,

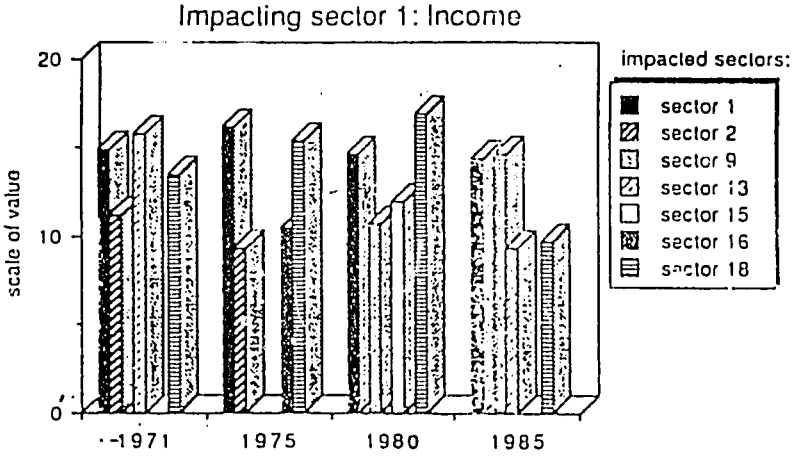
- sectors: 2 (other farm food crops), 8 (manufacture of food, beverage & tobacco), 11 (electricity, gas & water), 14 (restaurant & hotel), 18 (other services) for output of the year 1971;

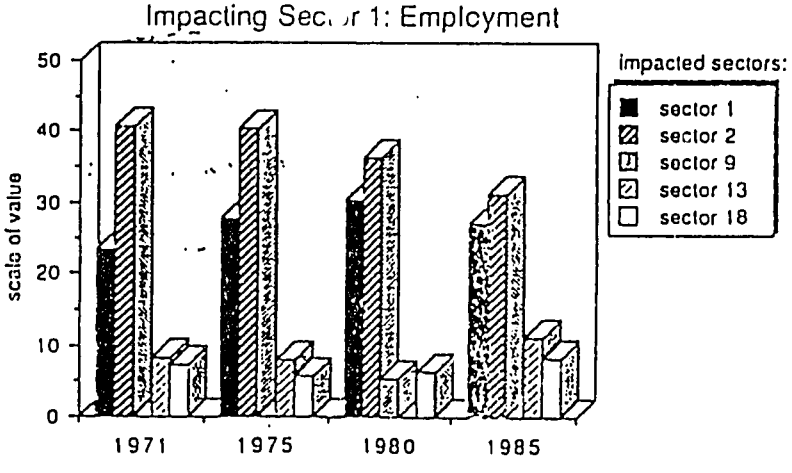
- sectors: 8 (manufacture of food, beverage & tobacco), 11 (electricity, gas & water), 14 (restaurant & hotel) for output of the year 1975, 11 and 14 for income and employment of 1975, respectively;

- sectors: 8 (manufacture of food, beverage & tobacco), 11 (electricity, gas & water), 14 (restaurant & hotel), 15 (transport & communication), 18 (general services) for output, and 14 for employment of the year 1980.

- sectors: 8 (manufacture of food, beverage & tobacco), 11 (electricity, gas & water), 14 (restaurant & hotel), 15 (transport & communication), for output, and 14 for employment of the year 1985.


Impacting Sector 1: Output
scale of value
30
20
10
0
1971
1975
1980
1985
impacted sectors:
sector 1
sector 2
sector 8
sector 9
sector 13
sector 16


Impacting sector 1: Income
scale of value
20
10
0
1971
1975
1980
1985
impacted sectors:
sector 1
sector 2
sector 9
sector 13
sector 15
sector 16
sector 18


Impacting Sector 1: Employment
scale of value
50
40
30
20
10
0
1971
1975
1980
1985
impacted sectors:
sector 1
sector 2
sector 9
sector 13
sector 18

ANNEX VIII

MAIN TARGETS AND POLICIES DURING THE SECOND LONG - TERM DEVELOPMENT PLAN

(English translation, March 1994)

MAIN TARGETS AND POLICIES DURING THE SECOND LONG-TERM DEVELOPMENT PLAN

I FOREWORD

In this chapter a picture of the future of the Indonesian people will be drawn, as well as the steps that will be taken to reach this goal in the coming 25 years based on the results of the previous development period, its challenges and constraints, as well its opportunities.

This chapter is a summary of the main policies and targets in all fields of development, including welfare, education and culture, religion, science and technology, law, politics, state apparatus, communication and mass media, and defence and security.

II DEVELOPMENT CHALLENGES, CONSTRAINTS AND OPPORTUNITIES

1 Challenges

The development process during the first long-term development plan (PJP I) has resulted in an increased welfare for the people as has been illustrated in the second chapter. However what has been reached is still far from what is seen as the principle of national development, i.e. welfare and justice for all. Therefore the main challenge to development is how to speed-up development while at the same time assure that the welfare will be distributed better.

During PJP I the income per capita has risen from US$ 70 in 1969 to US$ 700 in 1993. Although this is a respectable increase the income per capita in Indonesia is still low compared to that of the countries in the region. Because income per capita is one of the indicators of people's welfare a further increase of income per capita is considered to be necessary.

Income per capita is directly related to the population growth. Although Indonesia's population growth has been reduced, the total population of Indonesia is still large and unequally distributed. A further decrease of the population growth and a better distribution of the population throughout the country is a major challenge that will need a serious effort in line with the effort to increase people's welfare. Despite the reduction of the population growth during PJP I, a rapid growth of the total number of people entering the labor market will occur during PJP II. This while at present the number of unemployed, under-employed and those unproductively employed is already high. Therefore it is necessary to create a greater labor market which is capable of absorbing the increasing number of people looking for a job.

Income per capita is also directly related to economic growth. Therefore the economic growth will have to be accelerated throughout PJP II for which an increased production is needed.Therefore the competence to compete in marketing Indonesian products as well as the capability to compete both in quality and in price have to be increased. To do so the human resources should be further developed for which a better education and skill development as well as a better health status are essential. However, economic growth itself is not effective if it is not equally distributed. Although much has been achieved during PJP I, some imbalances have remained, e.g between different parts of the country like between Western and Eastern Indonesia, between rural and urban areas, between different economic or income groups. A major effort is needed to prevent this unbalanced economic and social development to result in social jealousy and arrogance. Therefore a more equal distribution or a reduction of imbalance will be a major challenge throughout PJP II That the results of development haven't been equally distributed can also been seen form the number of people living below the poverty line. Although this number

has been reduced dramatically, it remains a challenge to increase the welfare of these people in order to allow them to play a role in the development process.

During the 25 years of PJP II the urbanization process will continue and it is predicted that by the end of PJP II the majority of Indonesians will live in cities. To prevent negative effects of this process for the rural areas economic development of the countryside the economic development of rural areas should be stimulated.

The development process can not take place without a strong support form developments in the field of science and technology. The role of science and technology in the development process during PJP II is that of supporting the development of the capabilities and abilities of the people, increase the speed of development, increase productivity and efficiency, expand the labor market and increase the standard of living of the people.

Rapid growth will lead to increased waste production and increased demand for raw materials. Therefore there is a strong link between sustainable development and an understanding of the environment. At the same time rapid growth will lead to a further globalization of the society, which will expose the society to influences and doctrines that are alien to the Indonesian culture. This could lead to national instability. Therefore preservation of the Indonesian culture and Indonesia's social values is important to prevent the emergence of social problems and possible harm to the national unity which might lead to national instability.

2 Constraints

There are several factors that could become constraints to the national development. the most important factors are:

1. Decline of natural resources
2. Low education level of Indonesia's labor force
3. Underdeveloped infrastructure, limited human resources and local markets with only a small potential in certain areas of Indonesia e.g. Eastern Indonesia.
4. Limited availability of foreign exchange due to economic recession in many of Indonesia's trading partners.

3 Opportunities

In implementing its second long-term development plan Indonesia is not only facing challenges and constraints. There are also some opportunities that will support Indonesia in reaching the goals during the period covered by PJP II. The results of Indonesia's effort during the past 25 years can be seen as a asset for future development; e.g. the economic policies during PJP I have increase the confidence of the (international) business community and this confidence will be translated into continuous investment in the country during the period covered by PJP II.

Indonesia's large population will supply the country with a powerful domestic market. Even more so when during the period covered by PJP II the purchase capabilities of the people will increase.

Indonesia's potential in the form of its enormous labor force will be an asset to increase the national production. Especially now that most people who enter the labor market have at least obtained the primary school certificate. The positive results of the programme for 6 years

compulsory education will support he implementation of the programme to increase the number of years of compulsory education to 9.

III DEVELOPMENT TARGETS AND MAIN POLICIES

I PJP II

Both Replita VI and PJP II are based on the 1993 Guidelines of State Policy. The general target during the period covered by PJP II is to strengthen the people's progress and self reliance, both in spiritual as well as in material sense, towards a society which is prosperous and just within a Unitary Indonesian Republic based on Pancasila ideology and the 1945 Constitution. To reach the above target the main development effort should be focused on the economy as this is the activating agent for development together with the development of Indonesia's human resources.

The development of the nation can be measured by different criteria:

- Economic indicators, e.g. the average per capita income.
- Social indicators, e.g. number of years of compulsory education.
- Other indicators, e.g. a functioning democracy in line with the culture and tradition of the community.[1]

To enable Indonesia to reach the level of progress and self-reliance it wishes, the speed of the economic development should be further increased. This growth should be supported b y a further decrease of the population growth which should be reduced from 1.7% at the end of PJP I to 0.9% at the end of PJP II. A serious effort will also have to be made to stabilize the labor market and increase the productivity of the work force. It is the GOI's aim to achieve this economic growth through an increased efficiency and productivity. This will only be possible if the quality of Indonesia's human resources will be increased. Such increase can only be attained by improving the education system. The main strategy will be a gradual implementation of a compulsory education of 9 years to replace the present 6 years compulsory education. This objective should be reached within 10-15 years. At the same time the enrollment in secondary high schools should increase from the present 35% to 80%, while the enrollment into tertiary education should increase from 10% to 25%. Simultaneously the quality of the education should be improved, both in the field of cultural/mental education as well as tin the field of science and technology. (See also page 13)

In the health sector the GOI hopes to accomplish an increase of the life expectancy with 7 years (from 63 to 70) a reduction of infant mortality from 58 to 26 per 1000 life births and a decrease of the maternal mortality rate of 425 to 82 per 100,000 births. (See also page 14)

To reach the above economic growth, the Indonesian society will have to change from a mainly agrarian society to an industrialized society.. The industrial sector will have to develop from one based on cheap labor and abundant supply of raw materials to one based on value added processing and ample supply of skilled labor. The agricultural sector will keep its strategic role throughout PJP II as it will remain the main source of income for the majority of people and because of the importance of maintaining Indonesia's self-sufficiency in rice. However the productivity per capita should be increased.

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1) Probably what is meant is Pancasila Democracy

The development of the industrial sector is not possible without a simultaneous development of the service sector e.g transportation, trade and reliable and effective financial services. In the tourist industry the quality of the services provided should be improved, the number of tourist locations and attractions should be extended and the appropriate infrastructure developed. In this way the tourist industry which has a great potential can become a reliable source of foreign exchange. The opportunities of sending migrant workers to work overseas should be further exploited. An underdeveloped infrastructure or service sector could become a constraint for further economic development. Therefore an accelerated development of economic infrastructure e.g. roads, (air)ports, electrical power supply, telecommunication networks during PJP II is necessary. However due to limited government resources, increased participation of the private sector will be needed.

The eradication of poverty is the major goal during PJP II. Therefore a special programme has been established, which hopefully will eradicate poverty in its present form within a period of 10 years (2 Replita cycles). Finally, in line with the GOI's policy to increase economic growth and guarantee a better distribution of wealth the government will support the development of intermediate and small-scale enterprises.

2 Replita VI

The main targets and objectives of Replita VI are based upon the results of PJP I and the objectives during the period covered by PJP II. This book on Replita VI will describe these targets and objectives as well as the constraints and challenges likely to be encountered.

The economy is expected to grow with an average of 6.7% per year throughout Replita VI. This economic growth is based on increased investments, expanded production and raised efficiency. Looking at the different sectors in the economy; the growth in the agricultural sector will be around 3.4% per year, in the manufacturing industrial sector around 9.4%, the manufacturing industry / non-oil/gas products 10.3%, while other sectors are expected to grow with an average of 6% per year. Contributions of each sector to the economy will be as follows: Industry 24%, Agriculture 17.6% other sectors 58.3% of which 5.6% from the government sector. With the above economic growth and the decreased population growth (see page 3) the income per capita by the end of Replita VI will be US$ 1,000.- or a yearly actual increase of 4.7%.

The effort to attain an more equal distribution of wealth and to eradicate poverty will have to be continued and improved. The sectoral and regional projects will continue to pay attention to the eradication of poverty, while at the same time a special programme will be implemented. Special fund will be made available to people living below the poverty line to allow them to start enterprises. Infrastructure development in the areas where poverty is common will be accelerated. Implementation of these works will be funded under a special programme; Program Inpres Desa Tertinggal or IDT, which shall start in the first year of Replita VI. The objective of these measures is that at the end of Replita VI the actual number of people living below the poverty line will have been reduced to 12 million, or 6% of the total population. At the end of Replita VII this problem will have been eradicated completely.

To support the development effort the GOI will continue its careful handling of macro-economic policies. The rate of the inflation is expected to be 5% per year. The overall budget deficit is foreseen to remain below 2%, while the foreign exchange reserve will remain equivalent to the value of 5 months import. To reach this target the export of non-oil/gas products is projected to grow with 16.8% per year of which the export of the manufacturing industry will be around 17.8% / year.

During replita VI the role of foreign aid will continue to taper off, while the role of government savings will increase from 62% to 68%. The percentage of dept repayments as part of the total budget is expected too decrease from 46% to 33%. The contribution of oil and gas exports to the budget will decrease from 29% to 16%. Income from tax payments is expected to increase with 17.3% per year and the role of tax contributions as part of the government's earnings will increase to 78%. To have the necessary economic growth to attain the above targets a total investment of Rp. 660 trillion, or 175% of the planned investment of Replita V, will be necessary.

The labor force is expected to grow with 12 million people of which 1.9 million will be absorbed by the agricultural sector and 7 million by other sectors. Open unemployment which at present stands at 3.2% will drop to 0.8% at the end of Replita VI.

IV TARGETS FOR CROSS-SECTORAL DEVELOPMENT

Some of the development activities during Replita VI will not be limited to one (economic) sector, but occur in more than one sector. Below follow some of the major policies, objectives and targets and some of the related problems that are cross-sectoral in nature.

1 Human resource development

In line with the objectives set in the 1993 Guidelines on State Policy and the goals set in PJP II the objectives for Replita VI concerning the improvement of human resources are as follows:

1. Spiritual/mental improvement of the people as well as increased living standards.
2. Improved capabilities of the people to accept, master and use new science and technology which have environmental insight.
3. Development and institutionalization of regulations and organizations that are involved in human resource development.

2 Equal distribution of wealth and development and the eradication of poverty

A special objective during the period covered by PJP II is the equal distribution of wealth and development and the eradication of absolute poverty both in the rural as well as in the areas. Rural areas should be developed in such a way that throughout the nation no pockets of poverty and/or underdevelopment are left.

The objective of equal spreading of development can be reached through:

1. The development of (economic) role and potential of people's business initiatives e.g. cooperatives, small scale enterprises (both in the traditional as well as in the informal sector) and medium sized enterprises that have developed from small-scale enterprises.
2. The increase of the capabilities of the government authorities at provincial and lower levels as well as the business communities and NGOs at these levels.
3. The provision of provincial and lower authorities with appropriate autonomy.

4. The decrease of the imbalance between rural and urban development, as well as between development level of different parts of the country.

3 Spatial and land-use planning

Objectives in the field of spatial and land-use planning are; to make available a complete set of data which will support spatial and land-use planning; to increase awareness among the business community and the people in general regarding spatial and land-use plans; to develop a qualified body for spatial and land-use planning and to develop spatial and land-use plans that integrate social, economic and security factors.

V OBJECTIVES FOR THE DEVELOPMENT OF THE ECONOMIC SECTOR

1 Industry

The objective for the development of the industrial sector during the period of PJP II are to make the sector stronger, more advanced and therefore capable of supporting the development of a reliable and self-supporting economy.

At the end of PJP II this sector is expected to contribute 32.4% to the GDP and will have absorbed 19 million new job seekers or 27% of the total number of people who have entered the labor market. It is therefore estimated that at the end of PJP II 28.9 million people will be working in the industrial sector. To reach these targets the industrial sector is expected to grow with an average 9.2% per year and the number of job opportunities with an average 4.4% per year. That part of the sector which is involved in non-oil/gas is planned to grow with an average 9.8% per year.

The objective for the development of the industrial sector during Replita VI is to regulate and stabilize the national industry so it can extend throughout the nation. The forecasted average growth of this sector during Replita VI is 9.4% per year, while the industry which is involved in manufacturing and other non-oil/gas activities is expected to grow with 10.3%. The contribution of the total sector at the end of Replita VI will be 24.1% while the non oil/gas sector is expected to contribute 21.3%. Industrial exports are planned to grow with 17.8% per year. The number of job seekers absorbed by this sector during Replita VI is expected to be nearly 13 million.

2 Agriculture

The objectives in PJP II for the agricultural sector are to increase the role of this sector in supporting the rapid economic growth, to fulfil the people's need in food and to increase the supply of raw materials needed for industrial development.

The targeted growth in the agricultural sector during the period covered by PJP II is around 3.5%. It is estimated that around 2.8 million job seekers will find employment in this sector. The total of people working in the sector would be nearly 41 million at the end of PJP II.

The main objectives of Replita VI concerning this sector are:

1. To increase diversification
2. To increase production through both expansion and intensification
3. To maintain Indonesia's self-sufficiency in rice

During Replita VI the agricultural sector is supposed to grow with 3.4% annually. To reach this target the production in the food crops and horticulture sector is expected to grow with

2.5%, the animal husbandry sector with 6.4%, the estate crops sector with 4.2% and the fisheries sector with 5.2% per year. The number of people who have entered the labor market an will have found employment in this sector is expected to be around 1.9 million. The total contribution of this sector to the GDP per invested unit of manpower will increase form 1.2 million in 1993 to 1.35 million in 1998. The total contribution to GDP of this sector will decrease form 20.2% at the end of Replita V to 17.6% at the end of Replita VI, or a yearly decrease of 2.6%. To support the planned economic growth in this sector the GOI will improve the business climate in this sector which will increase investment in this sector, stimulate an increase of productivity and efficiency.

3 Water supply management

According to the 1993 Guidelines on State Policy the water supply management is of decisive importance and should therefore be regulated as an integrated part of spatial and land use planning. It is exactly because of this importance that water supply management is no longer a part of the agricultural paragraph of Replita VI, but a separate paragraph.

The objective as stated in PJP II concerning water supply management is to guarantee a sufficient water supply for all needs throughout the nation. The objectives for Replita VI are top supply sufficient water to satisfy the needs of residential areas, agriculture, industry, tourism, electrical power generation and others. The targets set in Replita VI are 210 m^3/sec. for residential areas, covering 72% of all household in these areas; 3.700 m^3/sec for irrigation purposes of 6.2 million ha of rice fields; 380 m^3/sec for the water supply of 370.000 ha of fish ponds; 20 m^3/sec. for 50.000 ha of cattle fodder producing land and 110 m^3/sec. for industrial and tourism purposes. The target for physical development to reach the above targets is to build the necessary infra structure, irrigation channels and hydropower plants, optimize the use of water resources and consolidate institutions concerned with water supply and management.

4 Food and the improvement of the nutritional status

The objective described in PJP II concerning food and the improvement of the nutritional status is to guarantee the supply of food within the (financial) reach of the common people. Other objectives are to guarantee the quality and/or safety of the food available and to protect the people from hazardous/harmful food or from food which isn't in line with the people's belief.

The objective with regards to food and the improvement of the nutritional status in Replita VI are to guarantee Indonesia's self-sufficiency in rice. However *if* deficiency in rice would occur it would be possible for the authorities to import rice and reversibly if stocks would allow it, the government could export surplus production. An other objective is to guarantee the necessary calories from carbohydrates as ell as an increase in animal protein consumption. to reach these objectives production should be increased, purchase power of people should be kept in mind, prices should be coordinated, distribution should be improved, while awareness concerning the need for people to eat diverse should be increased.

Targets concerning the nutritional status of the population are as follows: People's calory intake should rise to 2.500 kcal while protein intake should rise to 55 gram protein per day, of which 15 grams should come from animal resources, including 9 grams from fish and 6 grams from (domesticated) animals. Other targets are to reduce prevalence of common deficiency diseases like iodine deficiency, iron deficiency, malnutrition with 25-75% especially among (pre-marriage, pregnant and breast-feeding) women , babies, toddlers and primary school children.

5 Manpower

The main objective for the development of the manpower sector during PJP II is the creation of new job opportunities to absorb the new employment seekers and to reduce unemployment. Between now and the end of PJP II 69.2 million new job will have to be created.

It is expected by the GOI that during Replita VI 12.6 million people will be entering the labor market. Planned economic growth in all major sectors of the economy will create 11.9 million jobs during Replita VI, of which are 1.9 million in agriculture, 3.0 million in the manufacturing industry, 2.2 million in trade and tourism, 2.3 million in the services sector and 2.5 million in other sectors. Therefore the official unemployment figure will drop from 3.2% in 1993 to 0.8% in 1998.

To reach the above targets it will the government policy to create a positive climate for expansion of the labor market; to improve the quality of the labor force; to make more effective use of the available work force through special programmes; and to increase the welfare of the labor force through the further development of industrial relations based on the Pancasila ideology.

6 Trade

The objective concerning the development of the trade sector during the period of PJP II is to develop a dynamic trade system which is well established. This is in line with the 1993 Guidelines on State Policy.

The targets for Replita VI are to develop a strong domestic market with a well developed distribution system and simultaneously to expand the export market. The export of non-oil/gas products should grow with 16.8% per year and should reach US$ 62.8 milliard by 1998. The export of agriculture products should grow 6.8% per year and reach US$ 3.5 milliard at the end of Replita VI. Trade in industrial products should grow 17.8% per year and reach US$ 56.2 milliard. Mining exports should grow 14.4% per year and attain US$ 3.2 milliard in 1998.

With an average growth of 6.6% the number of jobs created in this sector will grow with 3.5% per year. In other words during Replita VI 14 million people (or 15.3% of the total) that will enter the labor market will be able to find employment within this sector.

During Replita VI it will be the government's policy to expand and strengthen the market, strengthen the protection of consumer; create an environment in which a healthy competition is possible while at the same time protect small and medium scale enterprises; and will increase the role of cooperatives. In the export market the role of oil/gas products will become smaller compared to that of non-oil/gas products. The infrastructure and facilities necessary for the export market will be improved and Indonesia will actively participate in forums and organizations which play a role in the domain of trade.

7 Transportation

The objective of the development of the transportation sector as described in PJP II is to support the development of an self-reliant economy. The objectives concerning this sector in Replita VI are to increase the role of the national transportation system, to increase the role of the private sector, to expand the transportation network to include isolated and under-developed areas (e.g Eastern Indonesia) and to supply reliable transportation facilities that will support the development of other sectors of the economy.

The growth in this sector during Replita VI will be an average 7% per year. With this growth the sector will be able to absorb 0.75 million people who are entering the labor market in that period. Other targets for this sector in Replita VI are; 267,370 km roads to be build; 660

km of toll road to be constructed; 5,401 km off railway lines to be build; the domestic sea transportation capacity is to reach 167 million to and the sea transportation for import-export purposes is expected to reach 210 million ton. The air fleet is to reach a transportation capacity of 12.2 million passengers on domestic flights and 9.6 million passengers on international flights.

In order to reach the above goals it is the policy of the GOI, among others, to develop national and regional transportation facilities especially in eastern Indonesia, to improve city transportation systems and to increase the role of the private sector in this sector.

8 Mining

The objective during the period of PJP II with regard to the mining sector is to support the development of the national economy through maximum and environmentally sound use of natural mining and energy resources. Therefore it is expected that at the end of PJP II all necessary geological information like geological maps as well as information concerning possible natural disasters of geological origin[2] will be available. Besides this, it is expected that the country will be self-reliant in the field of exploration and exploitation technologies. In this respect it is expected that the off-shore industry will be capable of utilizing natural resources in deep-sea and that the tertiary basin will be exploited.

During Replita VI the objectives in the field of mining are; to increase the productivity and diversification of the industry to fulfill the industrial needs for raw materials and energy as well as to increase the export of these materials; to develop mining activities wherever mining of natural resources is feasible, especially in eastern Indonesia; to improve the availability of reliable information concerning the availability of mineral resources as well as the possibility of natural disasters of geological origin[3]

In the field of geology the following targets are set for Replita VI; 104 geological maps including areas of volcanic activity; cartography and research for 25 maps and 30 locations in the field of sea-geology; research inventory and mapping of 55 maps and 105 locations with regard to exploitation of natural mining resources; 25 hydro-geological maps. In the field of coal mining and mining of other minerals the targets are as follows; coal 71 million tons; tin 40.3 million tons; nickel 2,700 million ton; bauxite 1 million ton; copper 1,761 thousand ton, gold 70,600 kg and silver 143,000 kg. In the field of oil, gas and geo-thermal energy the targets are; 547,5 million barrel and gas 2,960 milliard cubic feet.

Growth in the mining industry during Replita VI will be 2.6% per year. The number of jobs in this sector will increase from 842 thousand to 989 thousand in 1998.

9 Forestry

The objective of the development of the forestry sector during the period of PJP II is to maintain the balance between the function of the forest as an natural resource to be exploited for development purposes and its function as supporter of sustainable/long-lasting life. The objective of Replita VI is the safeguarding of 92.4 million ha natural (untouched) forest. Production targets during Replita VI are; 188.3 million m³ round wood or 37.67 million m³ per year, ow which

2) E.g. volcano eruptions.

3) See footnote 2 above.

22.53 million m³ will come from natural production forest, 3.72 million m³ from convertible natural forest, 2.71 million m³ from planted forest and 8.71 million m³ from peoples forest plantations

10 National Enterprises

The objective for the development of national enterprises during the period of PJP II is to develop a business environment in which national businesses like cooperatives, private sector and public sector enterprises can grow as well as support to development of medium size businesses. During Replita VI it is the objective of the government to improve the quality and capability of small-scale enterprises in the traditional and informal sector and to institutionalize such businesses primarily in the form of cooperatives.

11 Tourism

The objective for the development of the tourism industry during the period of PJP II is to develop this sector so it will be able to provide jobs and business opportunities. The number of foreign visitors is projected to be 13.5 million by the end of PJP II. At the end of replita VI the number of foreign visitors is expected to be 6.5 million or an average increase of 12.9% per year. Foreign exchange earnings through this sector will be around US$ 9 million. The number of domestic tourists will reach 84.2 million and earnings will be as high as Rp. 9 trillion. With this rate of economic growth in this sector the number of employment opportunities is expected to grow with 900,000.

To reach the above targets it is the policy of the government to increase the competitiveness of the tourism sector and to further develop domestic tourism.

12 Post and Telecommunication

The general objective concerning the above sector during the period of PJP II are to strengthen this sector in order to be able to support the economic development of the other sectors.

The target of the development of the post and giro sector during Replita VI are to increase the quality of the service; and to expand the service to all sub-district capitals and to at least 40% of all villages. The targets for the development of the telecommunication sector during Replita VI are to build 5 million new connections to reach a density of 3.91 connections per 100 inhabitants. Other important targets are to increase the service to the public and to expand the reach of the telecommunication service to include all regency and sub-district capitals and increase the number of public telephones and telephone offices (both owned by the private as well as the public sector).

13 Cooperatives

In line with the 1993 guidelines for the State Policy the objective of the development of the cooperative sector during the period of PJP II is to develop this sector into a strong self-reliant sector able to support both the small-scale economy as well as to become the central pillar of the national economy.

Targets for the development of this sector during Replita VI are; 2,700 KUD Mandiri[4] have to be established, i.e. at least one such cooperative in each sub-district capital; stabilizing

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[4] KUD Mandiri are self-reliant village cooperatives (KUD = village unit cooperative)

the position of the present 5,000 KUD Mandiri to become a centre for the development of village economy. In the urban environment 8,000 new employee cooperatives should be established; 3,000 existing cooperatives should become cooperative Mandiri and 4,000 civil servant and ABRI cooperatives. 1,500 multi-purpose cooperatives, 24,000 financial service cooperatives and 1,500 industrial cooperatives and 1,000 electricity cooperatives should be consolidated.

14 Regional development

In line with the 1993 Guidelines on State Policy it is the objective to increase the autonomy of the regions/provinces during PJP II. During Replita VI this will also be the objective, focussing mainly on the authorities at the regency (kabupaten) level especially concerning economic development and increasing the living standard of the people. Also a spatial plan for each regency should be finalized and made known to the public. The quality of the environment should be maintained and development of the region should sustainable.

15 Maritime

Objectives of maritime development during the period of PJP II are to establish sovereignty in the territorial waters of Indonesia and to establish national jurisdiction throughout the seas surrounding the archipelago[5]. Concerning the maritime resources, the objectives of PJP II are; to develop the fisheries and simultaneously increase the living standard of the fishermen and their families; to develop the shipbuilding industry so it will be capable to fulfill the domestic demands as well as be able to export its products; and develop the sea transportation sector in order to be capable of fulfilling the increasing need for transportation to support economic growth.

Targets during Replita VI are fishery products 3.4 million tons per year (increase of 5.2%); shipbuilding industry to become capable of building and maintaining ships up to the size of 100,000 DWT; off-shore industries to be able to build off-shore platforms on the seabed up to 300 m deep; establish Indonesia's Exclusive Economic Zone.

16 Airspace

Within PJP II the objective for the development of Indonesia's airspace and more particular the development of its aircraft industry, is to attain the capability of developing and producing an aircraft with a capacity of 130 seats and a helicopter with a capacity of 30 seats. In other fields the objectives are; to support the expansion of the telecommunication network, if necessary by using satellites; to develop alternative sources of energy like solar and wind energy, to be used by households in isolated areas.

In Replita VI the objectives in this sector are; to improve the institutions for national airspace; to formulate the concept of national airspace and related laws and regulations and to defend Indonesia's position concerning geo-stationary orbit. Targets are, among others; to develop Indonesia's airspace technology and to become capable of building a airplane with a capacity of 30-80 passengers; to improve the national navigation system, to improve the nations capability in weather forecasting; and to develop the necessary hardware and software for the development of solar and wind energy.

17 Finance

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5) This is in line with the Indonesian Archipelago concept i.e the maritime territory of Indonesia includes all the waters between the islands (Wawasan Nusantara)

The major objectives concerning the development of the financial sector as stated in PJP II are to increase the government's saving as well as to increase savings by the public. The objectives for Replita VI are similar. The following targets are set; government savings will reach Rp. 169.4 trillion, up from Rp. 95.1 trillion in 1993. Public savings will increase from Rp. 246.4 trillion to Rp. 453.4 trillion by the end of Replita VI. Foreign financial aid will decrease from 8% at present to 5.6% or Rp. 37.3 trillion in 1998.

To reach the above targets, the government will increase the role of tax collection, will increase the effectiveness of expenses made for development, will consolidate price stabilization, increase the efficiency of banks and other financial institutions and will strive to keep the foreign exchange reserve equivalent to the value of 5 months import.

18 Transmigration

The objective, as stated in PJP II, are to develop the spontaneous transmigrant programme by increasing the incentives e.g. establishing agro-business, or strong cooperatives outside Java. Other objectives are to increase the economic living standard of the people in and around the transmigration sites and to provide them with the necessary means to rase the standard of prosperity (health centres, clean water, schools, better access to markets etc.)

The same objectives can be found in Replita VI. Targets for Replita VI are as follows; 600,000 families will join the transmigration programme of which 350,000 will join the ordinary programme while 250,000 will be so-called spontaneous transmigrants; 2000 new transmigration sites will be established with in total 500,000 ha of land; 350,000 transmigrant houses will be build complete with clean water and other facilities. It will be the government policy to direct this stream of transmigrants to Eastern Indonesia.

19 Energy

It is the objective of the government to guarantee energy self-sufficiency by the end of PJP II. It is the target that 25 years from now the national energy requirement will be covered for 50% by coal using new 'clean' technology. 25% of all potential geo-thermal energy will be used and the use of natural gas by households will have increased. It is the government's objective to extend the electricity network to all villages by the end of Replita VII. If necessary the government will start building a nuclear power plant during Replita VII.

Targets for Replita VI are; to reduce the role of oil as a source of energy and to increase the role of non-oil sources of energy. Oil consumption will reach 360 million barrel by the end of Replita VI, while gas consumption will reach a level equivalent of 162.6 million barrel; 1,730 km of gas pipes will be build; LNG production will rise to 28 million ton; coal production will reach 71 million ton, use of coal briquettes for domestic use will be 4.8 million ton reducing the use of kerosine with 30%; hydropower will produce energy equivalent to 336 million barrels and geo-thermal energy will be equivalent to 12 million barrels. The electrification rate will reach 60%, and 79% of all villages will be connected to the electricity net or have other sources of electricity. Energy consumption as a whole will be reduced with 15%

20 Environment

The objectives concerning the development of the environment are in line with the 1993 Guidelines on State Policy and focus on conservation of the function of the environment and to support the importance of the environment vis-avis the development of the national economy.

The objectives for Replita VI are many and range from increasing the knowledge concerning the quality and quantity of natural resources and the extend of environmental damage to rehabilitation of river catchment areas.

VI OBJECTIVES FOR THE DEVELOPMENT IN THE FIELD OF WELFARE, EDUCATION AND CULTURE

1 Social welfare

It is expected that at the end of PJP II most social needs will be taken care of by the people themselves, who hill have become capable and self-reliant in solving such issues. For Replita VI however there are the following targets; to assist 225 thousand elderly people; rehabilitate 230 thousand disabled people; guidance given to 450 thousand neglected people, 23 thousand neighborhood youth associations, 4,100 social organizations, 62 thousand social welfare workers, 48.3 thousand family heads of indigenous people and 202.3 thousand family heads belonging to the poor and needy. Besides these, 15 thousand juvenile delinquents and drug addicts as well as 31 thousand unsocial people have received help and guidance. An other target is to increase the number and quality of day-care centers for working women and programmes to increase the awareness and preparedness of the people in case of natural disasters will be implemented. Maps will be prepared indicating areas prone to natural disasters. Such maps could be used for spatial planning

During Replita VI it will be a government policy to increase among others the social extension and counseling work, further develop the programmes for neglected children, increase attention for programmes in the field of welfare for the elder as well as for those addicted to narcotics.

2 Education

Targets for the development of the education system during PJP II are as follows; all teachers at all types of primary schools will be qualified to teach (D-2); all teachers at primary and secondary high school will be at least graduates from universities or academies; and the number of lecturers at universities and other institutions of higher education that have a secondary (MA or MSc) or higher degree (MPhil and PhD) will have increased to 80%.

In line with these targets the targets for Replita Vi are as follows; a better coordination between the education programmes and the labour market; the gross enrollment rate at all types of primary education will reach 115%, at the junior high schools 66% and at senior high schools 41% and 13% for institutions of higher education; the number of qualified primary teachers and the number of lecturers who graduated from a university will increase; and the number of illiterates older than 10 years old will be reduced.

3 Culture

In line with the targets set in PJP II concerning the development of the national culture the targets for Replita VI are as follows; further development of language, literature and libraries; improve the correct use of Bahasa Indonesia as well as increase the use of Bahasa Indonesia in science and technology; develop the arts, especially the local art forms that are disappearing; strengthen the development of modern/contemporary art based on the traditional Indonesian art; strengthen the Indonesian traditions and historical concept as part of the development of nationalistic doctrine; increase the role of museums as centres of knowledge and learning.

4 Health

The objective of the development of the health sector during PJP II are to increase the quality and the distribution of the health service for all Indonesians. Targets to be reached during PJP II are; life expectancy should increase to 70.6 years; infant mortality should be reduced to 26 per 1000 births; maternal mortality should be reduced to 80 per 100,000 live births; malnutrition among babies and toddlers should be reduced to 5 %; the number of babies with low birth-weight should be reduced to 6%; illnesses due to iodine deficiency should be reduced to 9% and the vitamin A deficiency among babies should be eradicated.

The targets set for Replita VI are; life expectancy should increase to 64.6 years; infant mortality should be reduced to 50 per 1000 births; maternal mortality should be reduced to 225 per 100,000 live births; anaemia among babies and toddlers should be reduced to 40% and among breast-feeding mothers 40% and working women 20%; malnutrition 30%; iodine deficiency 18% and vitamin A deficiency among babies should be reduced to 0.1%.

To reach the above targets the government will increase the quality and distribution of the health services, increase the health service among the poor and in under-developed villages and will increase the health extension services to the people.

5 Population + 6 Family welfare

During PJP II the government will strive for a broad acceptance of the Small, Happy and Prosperous family concept. While life- expectancy rate is foreseen to rise, the population increase is expected to decrease. It is therefore expected that the population at the end of PJP II will be around 258.2 million.

For Replita VI the population growth is expected to decrease from 1,66% to 1,51% and the total fertility rate to become 2.6 by the end of 1998. The population will increase to 204.4 million. To reach these targets the government will continue its effort to reduce the population growth through the national family planning programme, increase the quality of the data concerning the population available and increase the role of the family within the society.

7 Children + 8 Adolescents

The objective of the development of Indonesia's children and adolescents is to educated them so they will have all the qualities that can be required from children who will continue the development of their country[6]. At the end of PJP II compulsory education for all children of at least 9 years will be achieved.

The objectives of the guidance/counselling programme for children and adolescents during Replita VI are to increase their health status; to increase the number of children that will attend 9 years of primary education, reduce the juvenile crime rate; protect children and adolescent from narcotics and other addictions; increase their knowledge and learning in the field of science and technology; and strengthen the role of the parents in educating their children especially in religion and faith.

To reach these objectives the government will increase the possibilities for children and adolescents for schooling and training, increase their adaptability to the society and will strengthen the law that protects children and adolescents.

9 Role of women

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6) In the original text follows a list of more than 20 qualities children should have like respecting their parents, nationalistic, religious, hard working and serious students etc.

The objectives of the government in developing the role of women during PJP II are to increase the quality of women[7] and to create an environment where women can develop themselves and have a more important role in society. The objectives concerning the position of women during Replita VI are; to increase the level of education of women; to increase the quality and productivity of female workers; to increase the legal protection of female workers, including their rights and social security; to create an environment in which the living standard of women will have guaranteed possibilities to improve.

10 Housing and settlement

Objectives of the government concerning housing and settlement for Replita VI are to direct and distribute the requirements for the development of the necessary means, procedures and infrastructure in the field of housing especially for housing for the low income groups. Targets are to build 500,000 houses of the 3 basic types; to improve the situation in 21,250 ha of slums in 125 cities and to reconstruct 750 ha of slum areas in 40 cities and to restore housing facilities in 20,000 backward villages; build the necessary infrastructure for clean water and increase the production of clean water.[8]

VII OBJECTIVES FOR THE DEVELOPMENT OF RELIGION

The targets in the field of religious education in Replita are as follows; an increase of the enrollment in islamic primary schools, secondary schools and religious academies.

VIII OBJECTIVES FOR THE DEVELOPMENT OF SCIENCE AND TECHNOLOGY

The objectives of the government in developing science and technology during PJP II are to increase the countries competence in using, developing and mastering science and technology for the benefit of the people and the development of the nation. An increase in the contribution of the private sector in research and development is expected. At the end of PJP II it is anticipated that the government's contribution to R&D will have come down form 80% to 20-30%. This would be in line with the increasing importance of science and technology for the private sector.

Objectives for the development of science and technology during Replita VI are to increase the expertise of the scientists in order to boost the competence of the nation to use, develop and master science and technology as well as the development of an institution which is capable of supporting the partnership in research, strengthen the role of science and technology in agriculture, industry and business and the role of science and technology in education.

IX OBJECTIVES FOR THE DEVELOPMENTS IN THE FIELD OF LAW

X OBJECTIVES FOR THE DEVELOPMENTS IN THE FIELD OF POLITICS, STATE APPARATUS, INFORMATION, COMMUNICATION AND MASS MEDIA

1 Home affairs

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7) No further specification in the original text

8) The paragraph on sports was omitted as it only contained information concerning the government's expected results during international sport events like SEA Games and the Olympic Games.

2 Foreign affairs

The main objective of Indonesia's foreign policy is to strengthen relations that are mutual beneficent and support national interests. Within this context Indonesia will strive for a restructuring and democratization of the United Nations and to bring it more in line with the present global situation, to increase bilateral and multilateral relations especially between countries which are member of the Non-Aligned Movement (NAM) and to strengthen economic cooperation between member states of the NAM and to increase the role of NAM as well as to strengthen the North-South dialogue.

3 State Apparatus

In line with the 1993 Guidelines on State Policy the objectives of Replita VI concerning the development of the state apparatus are, among others; to increase the capability of the state apparatus both at the national as well as lower levels, including district and village level; to support actively the role of the people in the development process; and to develop possible autonomy for regencies.

4 Information, communication and mass media

5 Information and statistics

Objectives for the development of the information and statistic sector are, in line with PJP II, as follows; to develop an information and statistics network capable of supporting an increase in the efficiency and productivity of all sectors of the economy and to develop the information industry that will become able in producing software and hardware in line with the national needs.

XI SECURITY AND NATIONAL DEFENSE OBJECTIVES

XII THE DEVELOPMENT IMPLEMENTATION AND CONTROL SYSTEM

The objectives for the efficient use of the development implementation and control system for Replita VI are as follows; to deregulate some development implementation procedures, strengthen the coordination of development implementation between sectors and between regions as well as the monitoring, controlling and reporting system; to develop a communication system along the lines of the present information network; increase the compatibility and integration of the implementation of policies, programs, and sectoral, cross-sectoral, regional projects, cross institutional projects. Other objectives are; to increase the efficiency of the national financial implementation and control system; to increase the managerial qualities of the state apparatus and to improve the control of financial resources.

ANNEX IX

STUDY TERMS OF REFERENCE :

- Overall Study
- International Export
- National Export
- Policy Secretariat Staff

DRAFT

Draft 17/6 19

TERMS
OF
REFERENCE

SPECIAL STUDY:

FUTURE LABOR ABSORPTION
IN THE INDONESIAN ECONOMY EMPHAZING
THE NATURAL RESOURCE - INTENSIVE SECTORS

1. Background

The Policy Secretariat, with approval of Natural Resource Management Project (NRMP) Coordinating Committee, is conducting a series of related studies that analyze the natural resource management implications of various aspects of current and future economic development policy. Thus far the topics include trade and exchange rate policy, interindustry analysis of sectoral growth and environmental impacts, foreign direct investment policy, policies directed at the marine and forestry sectors, and protected area policy studies. The present study will address the employment effects of public policies, particularly those directed toward the natural resource-intensive sectors of the Indonesian economy.

While the Government of Indonesia (GOI) has successfully reduced the population growth rate over the past decade, the absolute increase in the size of the labor force projected to occur over the Second Long-Term Development Plan (SLTDP) period remains substantial. Reliable estimates suggest an increase in the labor force from 79.5 million in 1990 to 100 million in the year 2000, with a further increase to 128 million in 2020. Clearly, increases on this scale suggest that labor absorption will remain a major challenge to policymakers.

Growth in the foreseeable future is likely to remain dependent on natural resource extraction and processing activities. Consequently, the GOI has an interest in the labor absorption impacts of past policy directed at the natural resource- intensive sectors, and the scope for generating new employment opportunities in these sectors over coming decades.

Several important questions and/or policy issues will focus the study. How is the forecast size of the labor force distributed over the 25 years covered by the SLTDP? How are age composition and skill levels of the population expected to change during the SLTDP period? What implications do these projections have for labor absorption requirements of the economy? ... of the natural resource-intensive sectors? What are the likely rates of labor absorption by major economic sector, given present production trends and factor intensities? ... given the adoption of new technologies available in the future? .... or available in other important economic sectors such as manufacturing, transportation, construction and services?

Of fundamental importance in this study is linking policy the consequences across sectors as well as between the often competing policy objectives of economic growth, social welfare and environmental management. The present study will establish the more important linkages that exist in Indonesian economic policy that have multiple impacts on growth, employment and the environment.

II. Objectives

The study has been formulated to achieve five specific objectives. The study team will:

(a) Conduct a review of recent historical rates of labor absorption in the Indonesian economy (since the early 1970's), documentating the key changes that have occurred, and coupling these changes with the GOI's main policy initiatives and responses directed toward the natural resource-intensive sectors;

(b) Using available demographic and manpower statistics and forecasts, characterize the nature of Indonesian labor supply and employment requirements over the SLTDP period;

(c) Based on available data sources and economic development forecasts covering the next two decades or more, estimate and compare possible labor absorption rates for the resource-intensive and other important sectors of the economy;

(d) Perform a sensitivity analysis of the labor absorption forecast estimates (objective 3) for selected key factors such as technological influences, demand shifts, environmental policy, and other plausible sources of exogenous change; and

(e) On the basis of these results (objective 4), formulate a set of plausible employment planning scenarios and evaluate them in terms of the complementarity or competitiveness of selected policy objectives such as employment creation, economic and sectoral growth, environmental protection, resource conservation and efficiency, industrial restructuring, decentralization of manufacturing, etc.

III. The Study Team and Resources

Ideally the team would be comprised of four members:

	Availability (days FTE)
Senior Policy Consultant	35
Labor Policy Analyst	90
Research Assistant(s), 2 ea.	180

Office space, a project library, secretarial services, and ample computer resources are availability at NRM project head office, Jakarta.

IV. Outputs

The expected results of the study are twofold : a) the completion report, and b) the institution - building benefits for junior professionals and staff working under the consultants guidance and supervision.

V. Timeframe

The study will commence NLT 1 August 1993 and conclude on 30 November, 1993. The duration of work, approximately four months, is scheduled as follows:

Activity & Timing	'Lead' Responsibility (X) & Workload		
	Consultant	Analyst	Assistant(s)
	.....	(days FTE)	.....
August 1 - 15 :	5	15	30
• Collection, review, selection of data sources	X		
• Outline work assignments, assign tasks		X	
August 16 - Sept 15 :	5	25	50
• Data analyses		X	
• Summary of preliminary results		X	
Sept 16 - 30 :	5	15	30
• Report drafting, first (inhouse) one day workshop		X	
Oct 1 - 31 :	10	25	50
• Second phase analyses, summary of results		X	
• Second one day (inter-agency) workshop	X		
Nov 1 - 30 :	10	10	20
• Complete analyses	X		
• Draft completion report	X		
• Distribute for internal review		X	
• Revise and deliver final report	X		
	(35)	(90)	(180)

VI. Reporting

The consultant will report to the NRM/ARD Chief of Party (COP) working closely with the NRM/ARD Natural Resources Economist. An interim (progress) report will be submitted to the Natural Resource Economist at approximately the halfway point in the study. The final report will be submitted at the end of November to the COP for forewording to the GOI and USAID.

VII. Qualifications

Refer to individual TOR's for each study team member.

Draft 19/6

TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHAZING THE NATURAL RESOURCE - INTENSIVE SECTORS

SENIOR POLICY CONSULTANT

I. Background (See Special Study TOR 19/6/93).

II. Objectives

III. Tasks and Responsibilities

The Senior Policy Consultant is the Team Leader for the study. Accordingly, (s)he will :

(a) Guide the direction of the study, particularly with regard to identification of relevant data and reference work, choice of methods and procedures for the analysis, and in interpreting and reporting study results ;

(b) Provide leadership and effective supervision of the Labor Policy Analyst and research assistant(s) to ensure that all work is undertaken in a timely, professional manner and that the policy analysis activity itself is a genuine learning experience for the professional and support staff involved with the study;

(c) Coordinate the study's work program with the NRM project's ongoing policy analysis studies, to ensure efficient implementation and to maximize opportunities for positive feedback;

(d) Act as the principal policy expert and spokesperson for the study, particularly in the formulation and articulation of policy options and recommendations based on the analyses undertaken; and

(e) Oversee the completion of the final report, taking full responsibility for its timely production and internal review.

IV. Outputs

V. Timeframe

VI. Reporting

VII. Qualifications

(a) a PhD degree in economics or an economic development related field.

(b) at least 15 years experience working in an economic development-related field, substantial work experience in providing policy recommendations to developing country governments concerning both employment policy and economic management, and at least 5 years work experience specific to southeast Asia, preferably Indonesia.

Draft 19/6

TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHASING THE NATURAL RESOURCE - INTENSIVE SECTORS

LABOR POLICY ANALYST

I. Background (See Special Study TOR, 19/6/93).

II. Objectives

III. Tasks and Responsibilities

The Labor Policy Analyst will work under the direction of the Senior Policy Consultant, assisting with:

(a) Acquisition, collation, aggregation/disaggregation, manipulation and transformation of the data and information required for successful completion of the quantitative analyses undertaken as part of the study;

(b) Definition and analysis of problems and policy issues;

(c) Interpretation of results and in formulating sound, implementable policy options contributing to the immediate study objectives as well as to the overall policy analysis effort; and

(d) Writing the interim and final reports.

In the absence of the Senior Policy Consultant the Policy Analyst will supervise the research assistants and be responsible for their work on a day to day basis. He will report to the Natural Resource Economist (or the COP in his absence).

IV. Outputs

V. Timeframe

VI. Reporting

VII. Qualifications

The Labor Policy Analyst will have a university degree in economics or a closely related field of study, and at least three years of professional experience working in Indonesia.

Specific skills should include:

(a) a working knowledge of IBM PC Computers and standard software, particularly Lotus 123 and WordPerfect 5.1;

(b) a basic understanding of interindustry (input-output) analysis techniques, including some familiarity with procedures for aggregating and disaggregating sectors and multiplier analyses;

(c) the ability to exercise judgement and discretion regarding confidentiality of information obtained from other sources and agencies of government;

(d) the ability to work closely and effectively with other staff and professionals associated with the ARD/NRM Project and other agencies assisting with this work; and

(e) the ability to write and speak clearly in both Bahasa Indonesia and English.

Draft 19/6

TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHAZING THE NATURAL RESOURCE - INTENSIVE SECTORS

RESEARCH ASSISTANT(S)

I. Background (See Special Study TOR, 19/6/93).

II. Objectives

III. Tasks and Responsibilities

The quality of the study results depends in part on the quality of research assistant resources made available. Recruitment of two assistants is urgently required to assist the Senior Policy Consultant and the Labor Policy Analyst in getting the quantitative work underway on schedule.

The research assistant(s) will perform the following tasks:

(a) Locate, extract, collate, aggregate, etc. all the data, files and reports required for the study; and
(b) Manipulate and transform this information as required for the successful completion of the empirical analysis.

The research assistant(s) will be under the direct day to day supervision of the Policy Analyst.

IV. Outputs

V. Timeframe

VI. Reporting

VII. Qualifications

Successful completion of the above tasks will require that the research assistant(s) recruited possess the following attributes:

(a) Understanding of the pertinence of specific types of data and information to the successful performance of the study, and where within the GOI administrative network or multilateral donor community this data and information might be obtained;

(b) Ability to exercise appropriate discretionary judgement regarding the confidentially of data and information obtained for purposes of the study, particularly when handling or processing data or information deemed to be of a sensitive nature;

(c) Ability to maintain good working relations with key staff at the agencies where this data and information currently reside; and

(d) Ability to extract, collate, aggregate, summarize, manipulate and to otherwise transform the data obtained into a form required by the study using manual or computer-based statistical techniques as appropriate.

25 August 1993
(With Annex)

TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHASIZING THE NATURAL RESOURCE - INTENSIVE SECTORS

SECTORAL POLICY STUDY NO. 7

I. Background

As approved by the NRM Project Coordinating Committee, the Policy Secretariat is conducting a series of related studies that analyze the natural resource management implications of various aspects of current and future economic development policy. The focus of the present study is the employment effects of public policies directed towards the natural resource-intensive sectors of the Indonesian economy.

II. Objectives

The study has been formulated to achieve five specific objectives. The study team will:

(a) Conduct a review of recent historical rates of labor absorption in the Indonesian economy (since the early 1970's), documentating the key changes that have occurred, and coupling these changes with the GOI's main policy initiatives (and responses) directed toward the natural resource - intensive sectors;

(b) Using available demographic and manpower statistics and forecasts, characterize the nature of Indonesian labor supply and employment requirements over the SLTDP period;

(c) Based on available data sources and economic development forecast covering the period, estimate and compare possible labor absorption rates for the natural resource - intensive sectors of the economy;

(d) Perform a sensitivity analysis of the labor absorption forecast estimates (objective 3) for selected key factors such as technological influences, sectoral demand shifts, environmental policies, and other plausible sources of exogenous change; and

(e) On the basis of these results (objective 4), formulate a set of plausible employment planning scenarios and evaluate them in terms of the complementarity or competitiveness of selected policy objectives such as employment creation, economic and sectoral growth, environmental protection, resource conservation and efficiency, industrial restructuring, decentralization of manufacturing, etc.

III. The Study Team and Resources

The team will be comprised of four members or components:

	Planned Input (days FTE)
Senior Policy Consultant	35
National Policy Analyst	45
Policy Secretariat Staff	200*
Study Supervisor	10*

(* NRM's input from existing program staff)

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Office space, a project library, secretarial services, and ample computer resources are availability at NRM project head office, Jakarta.

IV. Outputs

The expected results of the study are threefold : a) a high quality research report; b) important practical experience and skills development for junior professionals and staff of the Policy Secretariat; and c) a strengthening of institutional ties, via the workshops, between the Policy Secretariat and participating GOI client institutions (BAPPENAS, Forestry, Agriculture, Marine, Finance).

V. Timeframe

The study will commence immediately upon identification of the Senior Policy Consultant and e concluded by the end of December, 1993. The program of work is scheduled as follows:-

PROPOSED WORK SCHEDULE*

Activity & Timing	Responsibility & Workload		
	Consultant	Analyst	NRM Staff**
Weeks 1 & 2:	.....(days FTE).....		
Startwork: setup office, initiate data collection, workplan, and individual assignments	5	8	30
Weeks 3 & 4:			
Initiate analysis work, continue data collection		8	30
Weeks 5 - 10:			
Summary of preliminary results, report drafting, First Workshop (Internal)	10	20	90

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Weeks 11 - 14 :			
Complete analyses, revisions, Second Workshop (External participants)	10	6	30
Weeks 15 - 16 :			
Complete final report, distribute for internal review, revise and deliver Final Report	10	3	30
Total Effort	35	45	210**

Subject to negotiation with the Senior Policy Consultant

NRM's input from the present program budget: Policy Secretariat Staff (200 days) and Natural Resource Economist/Study Supervisor (10 days)

VI. Reporting (See Individual TOR's, revised 25 Aug. '93)

VII. Qualifications

Refer to individual TOR's for the Senior Policy Consultant and the National Policy Analyst.

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TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHASIZING THE NATURAL RESOURCE - INTENSIVE SECTORS

SENIOR POLICY CONSULTANT

I. Background (see Sectoral Study No. 7 TOR, revised 25 August 1993)

II. Objectives

III. Tasks and Responsibilities

The Senior Policy Consultant plays a key advisory role in this study. The consultant will have a depth of knowledge and direct experience with Indonesian employment planning and policy analysis that no other members of the study team will have. (S)He will have access to knowledgeable people, information and other resources that are essential to the successful implementation of this study.

Specifically, (s)he will :

(a) Design the analytical framework for the study, particularly the identification of relevant data and reference work, choice of methods and procedures for the analysis, and the interpretation and reporting of results ;

(b) Perform the necessary data manipulations and sectoral aggregation work required for the derivation of employment projections by sector to the year 2020;

(c) Circulate the preliminary results of the employment projections, along with a discussion draft, for comment and further development by the participants at the two scheduled workshops;

(d) Assist the study supervisor by providing research task guidelines and procedures for the Policy Analyst to ensure that all work is undertaken in a timely, professional manner and that the policy analysis activity itself is a genuine learning experience for members of the Policy Secretariat involved with the study;

(e) Stay in close communication with the supervisor to ensure coordination of the study's work program with the NRM project's ongoing policy analysis studies, efficient implementation of the study tasks, and to take advantage of opportunities for intra-team communication and interaction; and

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(f) Draft the interim (progress) and final reports incorporating reviewer comments and suggestions, and ensuring their timely delivery for distribution and use by project staff.

IV. Outputs

V. Timeframe

VI. Reporting

The consultant will report to the NRM/ARD Chief of Party (COP) working closely with the NRM/ARD Natural Resources Economist (Study Supervisor). An interim (progress) report will be submitted to the Natural Resource Economist at approximately the halfwaypoint in the study. The final report will be submitted NLT December 20 to the COP for forewording to the GOI and USAID.

VII. Qualifications

(a) a PhD degree in economics or an economic development-related field;

(b) at least 10 years experience working on employment problems of the LDC's, relevant experience in providing policy recommendations to developing country governments concerning both employment policy and economic management, at least 5 years advisory experience specific to employment creation policy issues in Asia, preferably Southeast Asia; and at least 2 years experience in a senior labor policy advisory role with the Government of Indonesia;

(c) familiarity with labor policy analysis methods and computer software in common usage in Indonesia; and

(d) good reading and speaking skills in Bahasa Indonesia

(Note: One or more of the above may be waived depending upon the strength of the applicant's overall qualifications and experience).

VIII. Travel

The consultant need not reside in Jakarta during the course of this study. However a short term visit of up to 10 days during the later stages may be required, and the consultant should make arrangements for such a contingency.

TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHASIZING THE NATURAL RESOURCE - INTENSIVE SECTORS

NATIONAL POLICY ANALYST

I. Background (See Sectoral Study No. 7 TOR, revised 25/8/93)

II. Objectives

III. Tasks and Responsibilities

The National Policy Analyst will have direct supervisory responsibility for the members of the NRM's Policy Secretariat selected to work on this study. As national expert for the study, the Policy Analyst will direct the day to day work of the team of research assistants (three persons FTE during the first 12 weeks). The Policy Analyst and his team, guided by the Senior Policy Consultant and the Supervisor, will assist with:

(a) Acquisition, collation, aggregation/disaggregation, manipulation, transformation, and transmission of the data and information as required for successful completion of the quantitative analyses undertaken by the Senior Policy Consultant;

(b) Definition and analysis of problems and policy issues;

(c) Interpretation of results and formulation of sound, implementable policy options, contributing to the immediate study objectives as well as to the Policy Secretariat's overall policy analysis effort;

(d) Design, organization and conduct of the two scheduled workshops; and

(e) Drafting the interim and final reports.

In the absence of the Study Supervisor the Policy Analyst will take direction from the NRMP's Macroeconomist.

IV. Outputs

V. Timeframe

VI. Reporting

VII. Qualifications

The National Policy Analyst will have a good M.S. degree in Economics or a related economic policy or development field, and five years of professional experience in development planning or research with reference to LDC's.

Specific skills should include:

(a) a working knowledge of IBM PC Computers and standard software, particularly LOTUS 123 and WordPerfect 5.1;

(b) a basic understanding of interindustry (input-output) analysis techniques, including some familiarity with procedures for aggregating and disaggregating sectors, projecting final demand, and multiplier analysis;

(c) the ability to exercise judgement and discretion regarding confidentiality of information obtained from other sources and agencies of government;

(d) the ability to work closely and effectively with the junior professionals and staff associated with the NRM/ARD Project and other agencies assisting with this work; and

(e) the ability to write and speak clearly in both Bahasa Indonesia and English.

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TERMS OF REFERENCE

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHAZING THE NATURAL RESOURCE - INTENSIVE SECTORS

SENIOR POLICY CONSULTANT

I. Background (See Special Study TOR 19/6/93).

II. Objectives

III. Tasks and Responsibilities

The Senior Policy Consultant is the Team Leader for the study. Accordingly, (s)he will :

(a) Guide the direction of the study, particularly with regard to identification of relevant data and reference work, choice of methods and procedures for the analysis, and in interpreting and reporting study results ;

(b) Provide leadership and effective supervision of the Labor Policy Analyst and research assistant(s) to ensure that all work is undertaken in a timely, professional manner and that the policy analysis activity itself is a genuine learning experience for the professional and support staff involved with the study;

(c) Coordinate the study's work program with the NRM project's ongoing policy analysis studies, to ensure efficient implementation and to maximize opportunities for positive feedback;

(d) Act as the principal policy expert and spokesperson for the study, particularly in the formulation and articulation of policy options and recommendations based on the analyses undertaken; and

(e) Oversee the completion of the final report, taking full responsibility for its timely production and internal review.

IV. Outputs

V. Timeframe

VI. Reporting

VII. Qualifications

(a) a PhD degree in economics or an economic development related field.

(b) at least 15 years experience working in an economic development-related field, substantial work experience in providing policy recommendations to developing country governments concerning both employment policy and economic management, and at least 5 years work experience specific to southeast Asia, preferably Indonesia.

TERMS OF REFERENCE

SPECIAL STUDY:

FUTURE LABOR ABSORPTION IN THE INDONESIAN ECONOMY EMPHAZING THE NATURAL RESOURCE - INTENSIVE SECTORS

1. Background

The Policy Secretariat, with approval of Natural Resource Management Project (NRMP) Coordinating Committee, is conducting a series of related studies that analyze the natural resource management implications of various aspects of current and future economic development policy. Thus far the topics include trade and exchange rate policy, interindustry analysis of sectoral growth and environmental impacts, foreign direct investment policy, policies directed at the marine and forestry sectors, and protected area policy studies. The present study will address the employment effects of public policies, particularly those directed toward the natural resource-intensive sectors of the Indonesian economy.

While the Government of Indonesia (GOI) has successfully reduced the population growth rate over the past decade, the absolute increase in the size of the labor force projected to occur over the Second Long-Term Development Plan (SLTDP) period remains substantial. Reliable estimates suggest an increase in the labor force from 79.5 million in 1990 to 100 million in the year 2000, with a further increase to 128 million in 2020. Clearly, increases on this scale suggest that labor absorption will remain a major challenge to policymakers.

Growth in the foreseeable future is likely to remain dependent on natural resource extraction and processing activities. Consequently, the GOI has an interest in the labor absorption impacts of past policy directed at the natural resource- intensive sectors, and the scope for generating new employment opportunities in these sectors over coming decades.

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Several important questions and/or policy issues will focus the study. How is the forecast size of the labor force distributed over the 25 years covered by the SLTDP? How are age composition and skill levels of the population expected to change during the SLTDP period? What implications do these projections have for labor absorption requirements of the economy? ... of the natural resource-intensive sectors? What are the likely rates of labor absorption by major economic sector, given present production trends and factor intensities? ... given the adoption of new technologies available in the future? .... or available in other important economic sectors such as manufacturing, transportation, construction and services?

Of fundamental importance in this study is linking policy the consequences across sectors as well as between the often competing policy objectives of economic growth, social welfare and environmental management. The present study will establish the more important linkages that exist in Indonesian economic policy that have multiple impacts on growth, employment and the environment.

II. Objectives

The study has been formulated to achieve five specific objectives. The study team will:

(a) Conduct a review of recent historical rates of labor absorption in the Indonesian economy (since the early 1970's), documentating the key changes that have occurred, and coupling these changes with the GOI's main policy initiatives and responses directed toward the natural resource-intensive sectors;

(b) Using available demographic and manpower statistics and forecasts, characterize the nature of Indonesian labor supply and employment requirements over the SLTDP period;

(c) Based on available data sources and economic development forecasts covering the next two decades or more, estimate and compare possible labor absorption rates for the resource-intensive and other important sectors of the economy;

(d) Perform a sensitivity analysis of the labor absorption forecast estimates (objective 3) for selected key factors such as technological influences, demand shifts, environmental policy, and other plausible sources of exogenous change; and

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(e) On the basis of these results (objective 4), formulate a set of plausible employment planning scenarios and evaluate them in terms of the complementarity or competitiveness of selected policy objectives such as employment creation, economic and sectoral growth, environmental protection, resource conservation and efficiency, industrial restructuring, decentralization of manufacturing, etc.

III. The Study Team and Resources

Ideally the team would be comprised of four members:

	Availability (days FTE)
Senior Policy Consultant	35
Labor Policy Analyst	90
Research Assistant(s), 2 ea.	180

Office space, a project library, secretarial services, and ample computer resources are availability at NRM project head office, Jakarta.

IV. Outputs

The expected results of the study are twofold : a) the completion report, and b) the institution - building benefits for junior professionals and staff working under the consultants guidance and supervision.

V. Timeframe

The study will commence NLT 1 August 1993 and conclude on 30 November, 1993. The duration of work, approximately four months, is scheduled as follows:

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VI. Reporting

The consultant will report to the NRM/ARD Chief of Party (COP) working closely with the NRM/ARD Natural Resources Economist. An interim (progress) report will be submitted to the Natural Resource Economist at approximately the halfway point in the study. The final report will be submitted at the end of November to the COP for forewording to the GOI and USAID.

VII. Qualifications

Refer to individual TOR's for each study team member.

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ANNEX X

SELECTED BIBLIOGRAPHY

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