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**MACROECONOMIC PROJECTIONS FOR THE NRMP-IEA
INPUT-OUTPUT MODEL**

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Preface

NRMP-IEA Technological Scenarios

The Natural Resources Management Project (NRMP) assisted by USAID in association with the Institute for Economic Analysis (IEA) at New York University is carrying out a modelling exercise to project the economic, employment and environmental consequences of different development paths for the Indonesian economy. The purpose is to provide advice to the Indonesian National Planning Agency (BAPPENAS) to assist in the development of the next five-year plan (Repelita VI) and the next Long-Term Development Plan. The first stage of this work has already been completed with the support of the Environmental Programming Support Services Project of CIDA.

The analysis, of which the present paper is a component, will provide advice on the trade-offs and complementarities between the growth of income and employment on the one hand, and the levels of natural resource depletion and degradation of the natural environment on the other. For instance, it is important for policy makers to know how the development of the pulp and cement industries over the next 20 years is likely to affect air and water pollution and how costly or cost-saving it will be to adopt cleaner technologies than are being used now.

The analytical framework includes a dynamic input-output model covering all economic activities. The model is dynamic in two senses. First, it incorporates a representation of investment in which levels of sectoral investment depend on expected growth of output, the technology in use and levels of capacity utilisation. Secondly, the model is dynamic in that it explicitly incorporates projections of changes in technology for a range of sectors in the economy, including agricultural sectors, forestry, energy sectors and key manufacturing sectors.

Technological scenarios are developed for each of these sectors using detailed information about likely technological and institutional changes obtained from technical experts. They include expected changes in intermediate inputs, notably energy and raw materials, capital stocks and human resources of different skill types as well as expected changes in natural resource usage and environmental degradation associated with current and alternative future technologies.

This paper is one of a series of working papers prepared by NRMP and IEA researchers in collaboration with industry experts. The papers will form a vital part of the data base for the numerical computations. In addition, they will be valuable as stand-alone analyses of technological futures for a range of important industries in Indonesia.

This paper provides the macroeconomic forecasts used in the modelling project being undertaken for BAPPENAS by the Natural Resources Management Project and the Institute for Economic Analysis at New York University. The model is a dynamic input-output model with emphasis on natural resource use and environmental degradation. This paper provides forecasts of the final demand components of the model for the period 1991-2020. It is hoped that the estimates in this paper will be improved as better data become available.

The analysis using both the static and dynamic models forecasts the impacts on income, employment, economic structure and the natural environment of changing technologies. Underlying these projected impacts is a set of projections for the final demand vectors which reflect expected developments in macroeconomic aggregates and sectoral demands for the Indonesian economy over the period 1991-2020.

The macro projections set out in this paper describe the expected final demands in each of the 30 sectors (for the dynamic model) at constant 1985 prices at five year intervals for the period 1985-2020. The components of final demand are private consumption, government consumption, exports and imports (investment is determined within the dynamic model). There are two macro scenarios developed in this paper, a Lower Growth Scenario and a Higher Growth Scenario.

The Lower Growth Scenario is shown in Table 1. It projects growth rates of GDP of around 5.9 per cent for the period up to the year 2000 falling to 4.5 per cent for the 15 years to 2020. For the period up to the year 2000, these growth rates correspond to the forecasts of the World Bank (World Bank, *Indonesia: Growth, Infrastructure and Human Resources*, May 1992, Chapter 2). For the period 2001-2020 the aggregate growth rates (of 4.5-5.0 per cent) have been developed by NRMP to reflect a lower growth trajectory. The lower growth trajectory avoids the possibility of any sector expanding or contracting beyond reasonable levels. The most important figure is a postulated real GDP growth rate of 4.5 per cent for the period 2006-2020, with a rate of 5 per cent for the years 2001-2005.

The Higher Growth Scenario is shown in Table 2. It projects growth rates of GDP between 1991 and 2020 in the range 6.5-7.5 per cent. These aggregate growth rates have been developed after discussions with BAPPENAS.

It is impossible to predict macroeconomic outcomes 20 or 30 years into the future with any degree of accuracy. However, since many environmental impacts will begin to make themselves fully felt only after some decades it is important to extend the model horizon to the year 2020.

We have developed only two macro scenarios because of limitations in computational time and because the technological scenarios are the central focus on the modelling exercise. The two macro scenarios have been selected in the expectation that the actual growth path will very likely lie somewhere between the higher and lower scenarios.

Table 1: Lower Growth Scenario: Projected real annual growth rates of macroeconomic aggregates, 1991-2020 (per cent)

	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
GDP	5.8	5.9	5.0	4.5	4.5	4.5
Private consumption	5.3	6.3	5.4	4.5	4.5	4.5
Government consumption	7.3	6.8	5.6	4.5	4.5	4.5
Exports						
. non-oil	11.7 ^a	7.6	6.5	6.0	6.0	6.0
. oil & gas ^b	0.4	1.2	5.2	5.3	4.2	4.1
. Total	6.6	5.4	6.1	5.8	5.5	5.5
Imports						
. non-oil	8.0	7.3	6.5	6.4	5.5	5.5
. oil & gas	1.4	1.2	1.2	0.5	0.5	0.4
. Total	7.6	7.4	6.3	6.2	5.4	5.5

a. But see the discussion of exports below.

b. Oil prices are assumed to rise from US\$18.3 per bbl in 1991 to US\$20.5 in 1995 and US\$30.6 in 2000. The growth of oil and gas exports after the year 2000 is accounted for by exports of natural gas.

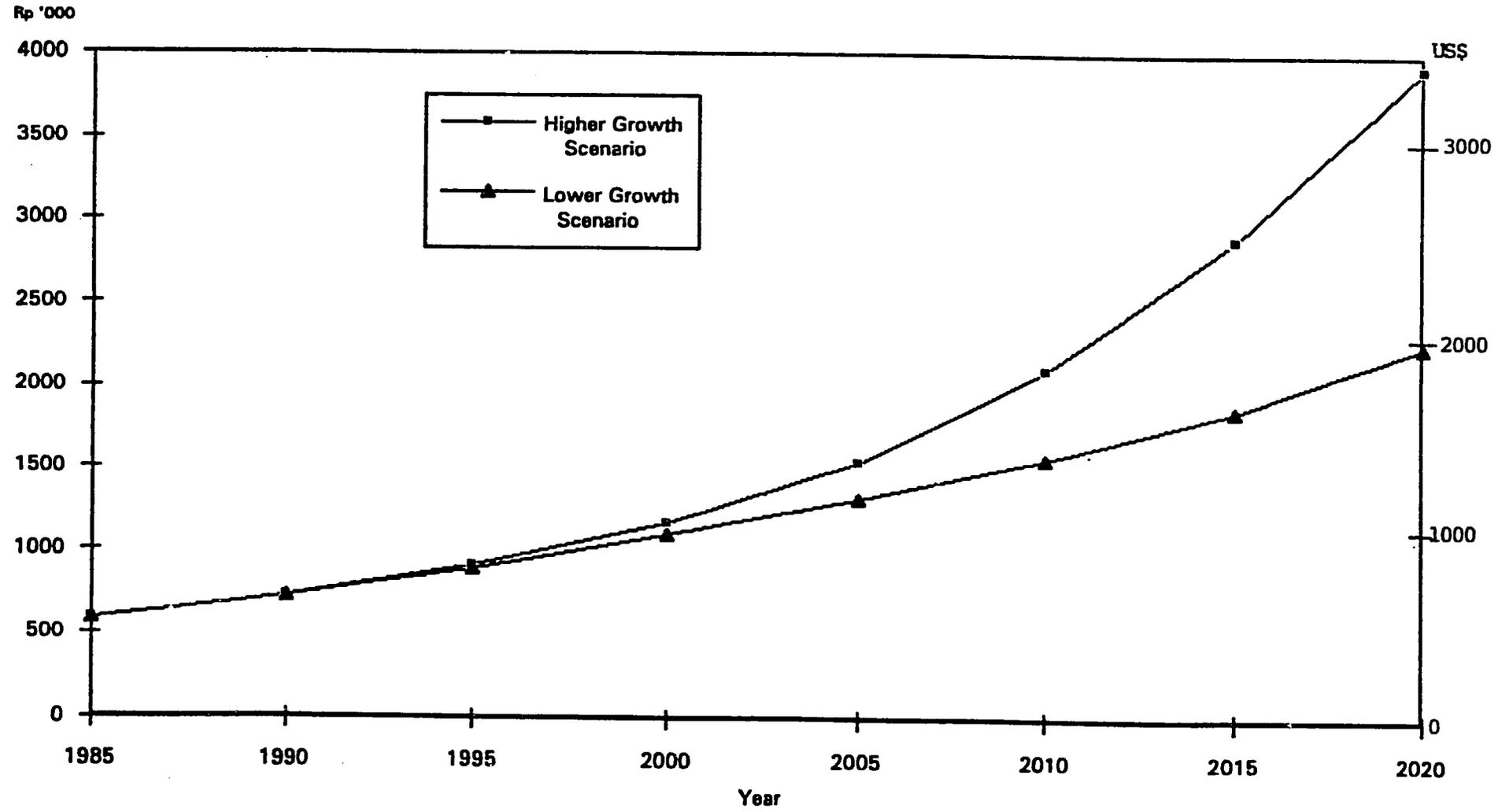
Sources: For 1991-2000 estimates are from World Bank, *Indonesia: Growth, Infrastructure and Human Resources*, May 1992, Chapter 2; for 2001-2020 estimates are the authors'.

Table 2: Higher Growth Scenario: Projected real annual growth rates of macroeconomic aggregates, 1991-2020 (per cent)

	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
GDP	6.5	6.5	7.0	7.5	7.5	7.0
Private consumption	6.0	6.0	6.5	7.0	7.0	6.5
Government consumption	7.5	7.0	7.0	7.5	7.0	6.5
Exports						
. non-oil	16.3	11.8	9.4	9.2	9.0	8.5
. oil & gas ^a	4.5	5.1	8.1	8.5	7.1	6.6
. Total	11.0	9.5	9.0	9.0	8.5	8.0
Imports						
. non-oil	8.4	7.3	6.7	7.6	7.1	7.1
. oil & gas	1.8	1.2	1.3	1.7	1.9	1.9
. Total	8.0	7.0	6.5	7.5	7.0	7.0

a. Reflects high growth rate of natural gas exports. See also note b in Table 1.

Figure 1:
Indonesia: Real GDP per capita - 1985 to 2020.



It is interesting to compare the implications of the assumed GDP growth rates for per capita income. Projections of real GDP per capita for the Higher and Lower Growth Scenarios are shown in Figure 1. The starting level of GDP per capita in 1985 is Rp 593,125 (US\$524) and this has been extrapolated using the GDP growth rates of Tables 1 and 2 after adjusting for expected population growth. ¹Per capita GDP is reported in both constant 1985 rupiah and constant dollars converted at the 1985 exchange rate of US\$1 = Rp 1131. It can be seen from Figure 1 that the Lower Growth Scenario leads to a per capita GDP in 2020 of Rp 2.25 million (US\$ 1,986) while the Higher Growth Scenario brings about a more than 6-fold increase in real income, rising to Rp 3.92 million (US\$ 3,466). The higher growth rates lead to real incomes in 2020 almost double those of the lower growth rates.

Developing the detailed scenarios

After the aggregate growth rates of GDP were developed, the details of growth rates for the components of GDP were developed initially for the Lower Growth Scenario and then adapted for the Higher Growth Scenario.

For the Lower Growth Scenario we have relied on World Bank projections of growth rates (for the period 1990-2000) of GDP, consumption, exports and government consumption. A considerable amount of additional detailed work has been necessary to allocate the growth rates aggregated over all sectors to the 30 input-output sectors and to extend the projections beyond the year 2000.

Private consumption

Estimates of expected levels of private consumption in constant 1985 prices appear in the Appendix -- Table A1 for the Lower Growth Scenario and Table B1 for the Higher Growth Scenario. Private consumption figures by sector in 1985 are taken from the input-output tables. For the period 1986-2020, the general procedure for estimating private consumption by sector has been to allocate the total growth of private consumption using sectoral income elasticities of demand (i.e. the growth in demand for a sector's product in response to growth in income). The income elasticities have been applied to *per capita* income. It has therefore been necessary first to calculate total income per capita using estimates of population through to 2020. After estimating sectoral consumption per capita using the income elasticities of demand, total private consumption in each sector is derived by multiplying per capita consumption by population.

Population growth rates are taken from Aris Ananta and Evi Nurvidya Arifin, *Demographic Transition in Indonesia: a projection into the year 2020* (Demographic Institute, Faculty of Economics, University of Indonesia, Jakarta, October 1990). The income elasticities are taken from an analysis of regional consumption patterns among different income classes. (They have been normalised so that their weighted average each year is 1.) The elasticities appear in Table 3.

Income elasticities are generally crude and unreliable measures. We have therefore checked that the sectoral shares of private consumption in 2020 implied by the elasticities are consistent with other sources of information, including extrapolations of growth rates of consumption for the period 1985 to 1990. In several sectors we have adjusted the elasticity-

1 Forecasts of population growth are taken from Aris Ananta and Evi Nurvidya Arifin, *Demographic Transition in Indonesia: a projection into the year 2020* (Demographic Institute, Faculty of Economics, University of Indonesia, Jakarta, October 1990). This paper shows the growth rate of population falling from 1.64 per cent in 1990-95 to 0.66 per cent in 2015-2020. The population growth rate of Japan between 1982 and 1990 was 0.53 per cent (*Statistical Yearbook of Indonesia, 1987 and 1991*).

based estimates by using other sources of data on likely growth rates of private consumption demand. These sectors are: 11 Food, beverages & tobacco; 18 Petroleum refining; 20 Electricity; and, 21 Gas utilities. The latter three have been compared with forecasts of household energy consumption contained in a working paper prepared for this study (Faye Duchin and Glenn-Marie Lange, Working paper No. 1, 'Case Study: Households and Industry', Institute for Economic Analysis, New York University, September 1992).

Table 3: Per capita income elasticities of demand

Sector	Income elasticity
1 Paddy	0.546
2 Other food crops	0.546
3 Estate crops	0.777
4 Livestock, poultry & products	1.480
5 Forest products	1.162
6 Fisheries	0.869
7 Coal	0.777
8 Crude oil	0.777
9 Natural gas	0.777
10 Other mining	0.777
11 Food, beverages & tobacco	0.777*
12 Wood products	2.323
13 Pulp, paper & products	1.625
14 Fertilizer & pesticides	1.393
15 Chemicals	1.393
16 Cement & limestone	1.000
17 Other manufacturing	2.190
18 Petroleum refining	1.306*
19 Liquified natural gas	1.306
20 Electricity	1.162*
21 Gas utilities	1.162*
22 Water utilities	1.162
23 Construction	1.000
24 Wholesale & retail trade	1.298
25 Restaurants & hotels	1.298
26 Transport & communications	1.625
27 Real estate, finance & business services	1.671
28 Public administration & defence	1.295
29 Social & other services	1.295
30 Unspecified	1.295

* For these sectors alternative estimates of consumption growth have been used (see text). The elasticities reported here for these sectors are the elasticities implied by the share of the sector in final consumption in 2020 derived from other sources.

Source: NRMP estimates. Elasticities have been normalised.

The food, beverages and tobacco sector is particularly important because of its size and its impact on agricultural employment. The share of this sector in 2020 has been estimated from data contained in a World Bank analysis of agriculture in Indonesia (*Indonesia: Agricultural Transformation: Challenges and Opportunities*, September 1992, especially Annex IV, Table 4.12).

For the Lower Growth Scenario, the growth rate of real aggregate consumption from 1985 to 1990 has been calculated from the statistical relationship between growth of GDP and growth of aggregate private consumption to estimate a 'marginal propensity to consume'. For the period 1991 to 2000 growth rates of real aggregate consumption are taken from the World Bank's macro model estimates (*Indonesia: Growth, Infrastructure and Human Resources*, May 1992, Chapter 2). For the period 2001 to 2020 we have used our own estimates based on a slowed version of the World Bank forecasts for the period to the year 2000.

For the Higher Growth Scenario, we have again used the statistical relationship between growth of GDP and growth of aggregate private consumption to estimate a marginal propensity to consume for 1990, a propensity that was assumed to remain constant through to 2020. Total consumption growth was allocated to the input-output sectors using the same procedure as for the Lower Growth Scenario above, i.e. by applying normalised per capita income elasticities of demand with some adjustment in selected sectors.

Government consumption

For the Lower Growth Scenario, growth rates of total government consumption are taken from the World Bank's forecasts, as reported in Table 1, and extended to the year 2020 as described above for growth of aggregate private consumption. The distribution of government consumption among input-output sectors is assumed to remain as it was in 1985. In 1985, 76 per cent of government consumption was purchased from only two sectors -- health and education (Sector 29) and the public administration sector itself (Sector 28). Projections of government consumption under the Lower Growth Scenario for the period 1991-2020 are contained in Table A2.

For the Higher Growth Scenario, government consumption for the period 1991-2020 has been estimated by calculating a marginal propensity for the government to consume from GDP (estimated from national accounts data for the period 1983-1991). Otherwise, the procedure is the same as in the Lower Growth Scenario. Projections of government consumption under the Higher Growth Scenario for the period 1991-2020 are contained in Table B2.

Exports

The growth rates of exports by major exporting sector are reported in Table 4 for the Lower Growth Scenario and Table 5 for the Higher Growth Scenario.

For both scenarios, the values of exports in 1990 (at 1985 prices) have been derived principally from BPS data on physical quantities of exports (*Statistical Yearbook of Indonesia 1987, 1991*). From these data real growth rates for 1985-1990 have been calculated. The commodity classification has been matched with input-output sectors as closely as possible.

For the Lower Growth Scenario, the projections for export growth for 1991-2020 have been developed as follows. Real growth rates for textiles, plywood and other manufactures and for agriculture and metals and minerals for the period 1991-2000 are taken from the World Bank forecasts and extended at slower rates for the years beyond 2000 (see Table 4). For

other sectors (and for some sectors within the broad category of 'Other manufactures') estimates based on real growth rates for the 1985-1990 period have been used.

Crude oil exports are projected to continue to decline at the rate of the period 1985-90 through to the year 2015 when exports reach zero. This reflects expected declining reserves of crude oil and increasing domestic demand. Exports of refined petroleum reach zero in 2005 (when current contracts for petroleum exports expire). Domestic demand for petroleum will continue to grow, squeezing out exports. Exports of liquefied natural gas are forecast to continue to grow at the 1985-1990 growth rate (calculated from figures in *Petroleum and Natural Gas Industries of Indonesia*, Directorate Jenderal Minyak dan Gas Bumi, April 1991). Reserves of natural gas are large and new contracts for the export of LNG have recently been signed.

The export growth rates employed in the Lower Growth Scenario appear in Table 4 and the estimates of real exports for 1985-2020 appear in Table A3.

Table 4: Lower Growth Scenario: Estimated growth rates of exports, 1991-2020 (per cent)

	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
Wood products	6.3	2.0	-1.6	-0.7	-0.1	0.0
Other manufact	21.0	10.6	10.2	7.3	6.4	6.0
Agriculture	7.8	5.4	3.3	4.3	4.9	5.0
Coal	6.3	6.2	4.5	5.5	6.1	6.2
Other mining	5.1	5.0	3.3	4.3	4.9	5.0
Total non-oil exports	11.7	7.6	6.5	6.0	6.0	6.0
Oil & gas	0.4	1.2	5.2	5.3	4.2	4.1
Total exports	6.6	5.4	6.1	5.8	5.5	5.5

Sources: World Bank (1992) and NRMP estimates.

For the Higher Growth Scenario, the procedure was as follows. The growth rates of total exports were projected by calculating the relationship between the growth rate of GDP and the growth rate of total exports for the period 1983-1991 (i.e. a marginal propensity to export). The sectoral export growth rates were projected by assuming that the composition of exports calculated in the Lower Growth Scenario remained unchanged and were applied to the higher growth of total exports. As a result of this procedure, the growth rate of oil and gas in the period 1991-95 rose from 0.4 per cent in the Lower Growth Scenario to 4.5 per cent in the Higher Growth Scenario. This is explained by the very high initial share of oil and gas exports in 1991 (21.4 per cent). Projected growth rates of sectoral exports under the Higher growth Scenario appear in Table 5.

Table 5: Higher Growth Scenario: Estimated growth rates of exports, 1991-2020 (per cent)

	1991-95	1996-00	2001-05	2006-10	2011-15	2016-20
Wood products	10.7	6.0	1.1	2.3	2.8	2.4
Other manufact	26.0	14.9	13.2	10.5	9.4	8.5
Agriculture	12.3	9.5	6.1	7.1	7.9	7.5
Coal	10.7	10.3	7.3	8.7	9.1	8.7
Other mining	9.5	9.1	6.1	7.5	7.9	7.5
Total non-oil exports	16.3	11.8	9.4	9.2	9.0	8.5
Oil & gas	4.5	5.1	8.1	8.5	7.1	6.6
Total exports	11.0	9.5	9.0	9.0	8.5	8.0

Imports

For the Lower Growth Scenario, estimates of imports in constant 1985 prices appear in Table A4. Imports in 1990 have been estimated by calculating growth rates of import volumes for the main commodities using BPS import data (*Statistical Yearbook of Indonesia*, 1987, 1991). We have assumed that the growth rates of imports of services are equal to the growth rate of aggregate consumption.

The forecasts for 1991-2000 for total import growth are taken from World Bank estimates and are extended for the period 2001-2020 at slower rates -- see Table 1. Sectoral import growth rates for the period 1991-2020 are assumed to be equal to the growth rates calculated for 1985-1990. However, sectoral import growth rates have been adjusted proportionally so that the growth rate of total imports equals the rate separately estimated and reported in Table 1.

For the Higher Growth Scenario (reported in Table B4), the growth rate of total imports was estimated in the same way as total exports, i.e. by calculating a marginal propensity to import from data for the period 1983-1991. The sectoral import growth rates were projected by assuming that the composition of imports calculated in the Lower Growth Scenario remained unchanged and were applied to the higher growth of total imports.

Total final demand

Estimates of total final demand for the Lower and Higher Growth Scenarios appear in Tables A5 and B5.

Appendix Table A1
Indonesia: Private Consumption by Sector 1985–2010 (Mil. rph), at 1985 constant prices – Lower Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	6,381,115	7,382,289	8,413,507	9,469,586	10,218,481	10,946,042	11,795,945	12,320,043
3 Estate crops	988,538	1,195,807	1,425,068	1,682,572	1,892,079	2,104,677	2,359,996	2,570,059
4 Livestock, poultry & products	2,655,218	3,638,404	4,912,108	6,624,501	8,365,267	10,353,089	12,984,828	15,902,233
5 Forest products	258,775	335,795	429,294	546,342	655,739	774,405	924,707	1,075,719
6 Fisheries	1,566,661	2,051,960	2,584,552	3,242,797	3,880,452	4,604,955	5,635,841	6,782,048
7 Coal	0	0	0	0	0	0	0	0
8 Crude Oil	0	0	0	0	0	0	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	212	256	306	361	406	451	506	551
11 Food, beverages & tobacco	13,882,991	16,793,868	20,013,606	23,629,983	26,572,288	31,422,887	35,442,944	41,655,117
12 Wood products	329,199	514,499	792,307	1,228,042	1,754,346	2,434,753	3,441,646	4,774,815
13 Pulp, paper & products	161,069	226,046	312,562	432,348	558,288	705,378	904,018	1,132,427
14 Fertilizer & pesticides	53,163	71,792	95,517	126,830	157,988	193,081	238,987	288,670
15 Chemicals	759,001	1,024,961	1,363,685	1,810,738	2,255,575	2,756,596	3,411,985	4,121,297
16 Cement & limestone	0	0	0	0	0	0	0	0
17 Other manufacturing	3,300,824	5,058,499	7,636,335	11,596,437	16,263,016	22,185,052	28,502,693	36,381,603
18 Petroleum refining	1,382,513	1,839,477	2,411,331	3,151,722	4,028,722	5,045,103	6,855,723	9,577,181
19 Liquified natural gas	0	0	0	0	0	0	0	0
20 Electricity	402,079	529,779	677,292	1,112,647	1,496,192	2,340,700	3,528,217	4,477,800
21 Gas utilities	54,113	70,219	89,771	114,247	137,123	233,186	346,694	586,125
22 Water utilities	66,047	97,002	147,868	208,162	267,752	360,468	480,330	614,069
23 Construction	0	0	0	0	0	0	0	0
24 Wholesale & retail trade	5,334,211	7,087,584	9,278,191	12,109,302	15,170,586	18,890,943	23,838,688	32,277,125
25 Restaurants and hotels	4,544,430	6,038,199	7,904,466	10,316,404	12,658,047	15,255,449	18,608,522	22,135,856
26 Transport & Communications	5,541,377	7,776,835	10,753,291	14,874,379	19,207,205	24,267,635	31,101,589	38,959,739
27 Real estate, financial & business	4,162,367	5,885,260	8,198,727	11,430,885	14,864,054	18,902,050	24,389,375	30,768,123
28 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	5,395,180	7,164,896	9,374,556	12,228,355	16,535,565	21,795,822	28,924,363	37,311,738
30 Unspecified	(17,673)	(23,478)	(30,719)	(40,070)	(49,142)	(59,199)	(72,177)	(85,817)
Total Private Consumption	57,201,404	74,759,947	96,785,621	125,896,569	156,890,030	195,513,522	243,645,419	303,626,521
Growth (%)		5.5	5.3	5.4	4.5	4.5	4.5	4.5

Appendix Table B1
Indonesia: Private Consumption by Sector 1985–2010 (Mil. rph), at 1985 constant prices – Higher Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	6,381,115	7,382,289	8,523,846	9,700,946	10,911,278	11,521,605	12,220,944	12,170,967
3 Estate crops	988,538	1,195,807	1,453,948	1,746,284	2,088,201	2,359,246	2,682,580	2,855,892
4 Livestock, poultry & products	2,655,218	3,638,404	5,101,894	7,105,383	10,032,590	13,589,985	18,610,279	23,703,318
5 Forest products	258,775	335,795	442,555	577,982	759,575	951,674	1,203,204	1,418,698
6 Fisheries	1,566,661	2,051,960	2,749,814	3,684,283	5,029,178	6,642,986	8,980,472	11,440,077
7 Coal	0	0	0	0	0	0	0	0
8 Crude Oil	0	0	0	0	0	0	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	212	256	312	375	448	506	575	612
11 Food, beverages & tobacco	13,882,991	16,793,868	20,419,189	24,524,744	29,326,618	38,334,076	49,713,326	61,475,145
12 Wood products	329,199	514,499	836,426	1,357,093	2,267,966	3,683,482	6,070,550	9,253,725
13 Pulp, paper & products	161,069	226,046	325,659	466,415	679,361	951,749	1,348,950	1,776,282
14 Fertilizer & pesticides	53,163	71,792	99,013	135,547	187,752	249,116	333,979	416,737
15 Chemicals	759,001	1,024,961	1,413,596	1,935,184	2,680,652	3,556,596	4,768,170	5,949,701
16 Cement & limestone	0	0	0	0	0	0	0	0
17 Other manufacturing	3,300,824	5,058,499	8,045,301	12,761,739	18,996,355	30,525,004	46,369,442	66,160,776
18 Petroleum refining	1,382,513	1,839,477	2,494,528	3,355,800	4,739,642	6,897,767	9,692,874	13,500,909
19 Liquified natural gas	0	0	0	0	0	0	0	0
20 Electricity	402,079	529,779	717,343	970,948	1,338,702	2,261,949	3,399,750	5,170,426
21 Gas utilities	54,113	70,219	92,544	120,863	158,836	285,720	416,950	569,968
22 Water utilities	66,047	97,002	139,483	199,510	289,449	404,770	577,316	773,528
23 Construction	0	0	0	0	0	0	0	0
24 Wholesale & retail trade	5,334,211	7,087,584	9,596,495	12,888,895	18,271,473	29,048,182	42,336,510	57,811,064
25 Restaurants and hotels	4,544,430	6,038,199	8,175,642	10,980,571	15,196,076	20,238,487	28,865,802	38,676,416
26 Transport & Communications	5,541,377	7,776,835	11,203,877	16,046,428	23,372,552	32,743,728	46,408,925	65,179,939
27 Real estate, financial & business	4,162,367	5,885,260	8,550,503	12,353,427	18,168,221	25,719,961	36,844,929	57,163,424
28 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	5,395,180	7,164,896	9,695,476	13,013,906	18,995,096	27,381,483	40,091,392	59,032,424
30 Unspecified	(17,679)	(23,478)	(31,770)	(42,644)	(57,786)	(74,858)	(97,934)	(119,348)
Total Private Consumption	57,201,404	74,759,947	100,045,674	133,883,679	183,432,244	257,273,211	360,838,987	494,380,684
Growth (%)		5.5	6.0	6.0	6.5	7.0	7.0	6.5

Appendix Table A2

Indonesia: Government Consumption by Sector 1985–2010 (Mil. rph), at 1985 constant prices – Lower Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	0	0	0	0	0	0	0	0
3 Estate crops	3,756	5,026	7,149	9,934	13,045	16,256	20,258	25,245
4 Livestock, poultry & products	31	41	59	82	108	134	167	208
5 Forest products	0	0	0	0	0	0	0	0
6 Fisheries	0	0	0	0	0	0	0	0
7 Coal	0	0	0	0	0	0	0	0
8 Crude Oil	0	0	0	0	0	0	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	0	0	0	0	0	0	0	0
11 Food, beverages & tobacco	0	0	0	0	0	0	0	0
12 Wood products	6,592	8,822	12,547	17,434	22,894	28,530	35,554	44,306
13 Pulp, paper & products	114,633	153,405	218,191	303,175	398,119	496,129	618,267	770,474
14 Fertilizer & pesticides	11,166	14,943	21,253	29,531	38,779	48,326	60,223	75,049
15 Chemicals	74,635	99,878	142,060	197,391	259,207	323,019	402,540	501,638
15 Cement & limestone	0	0	0	0	0	0	0	0
16 Other manufacturing	356,912	477,629	679,343	943,942	1,239,553	1,544,708	1,924,987	2,398,884
17 Petroleum refining	152,836	204,529	290,907	404,213	530,798	661,471	824,313	1,027,244
18 Liquified natural gas	0	0	0	0	0	0	0	0
19 Electricity	102,432	137,077	194,968	270,907	355,746	443,324	552,462	688,468
20 Gas utilities	13,786	18,449	26,240	36,460	47,879	59,666	74,354	92,659
21 Water utilities	916	1,226	1,744	2,423	3,181	3,964	4,940	6,157
22 Construction	374,209	500,776	712,266	989,688	1,299,625	1,619,569	2,018,278	2,515,141
23 Wholesale & retail trade	140,634	188,200	267,681	371,941	488,421	608,661	758,503	945,232
24 Restaurants and hotels	651,757	872,198	1,240,543	1,723,733	2,263,547	2,820,791	3,515,219	4,380,603
25 Transport & Communications	372,974	499,123	709,915	986,422	1,295,336	1,614,224	2,011,617	2,506,841
26 Real estate, financial & business	377,020	504,538	717,616	997,123	1,309,387	1,631,735	2,033,439	2,534,035
27 Public administration & defence	6,374,999	8,531,187	12,134,114	16,860,262	22,140,321	27,590,868	34,383,241	42,847,774
28 Social & other services	2,296,707	3,073,512	4,371,531	6,074,210	7,976,445	9,940,102	12,387,175	15,436,674
29 Unspecified	(25,897)	(34,656)	(49,292)	(68,491)	(89,940)	(112,082)	(139,674)	(174,059)
Total Government Consumption	11,400,098	15,255,903	21,698,840	30,150,380	39,592,450	49,339,396	61,485,864	76,622,573
Growth (%)		6.0	7.3	6.8	5.6	4.5	4.5	4.5

Appendix Table B2

Indonesia: Government Consumption by Sector 1985–2010 (Mil. rph), at 1985 constant prices – Higher Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	0	0	0	0	0	0	0	0
3 Estate crops	3,756	5,026	7,216	10,121	14,195	20,379	28,582	39,160
4 Livestock, poultry & products	31	41	60	84	117	168	236	323
5 Forest products	0	0	0	0	0	0	0	0
6 Fisheries	0	0	0	0	0	0	0	0
7 Coal	0	0	0	0	0	0	0	0
8 Crude Oil	0	0	0	0	0	0	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	0	0	0	0	0	0	0	0
11 Food, beverages & tobacco	0	0	0	0	0	0	0	0
12 Wood products	6,592	8,822	12,665	17,763	24,913	35,766	50,164	68,728
13 Pulp, paper & products	114,633	153,405	220,232	308,887	433,231	621,958	872,329	1,195,166
14 Fertilizer & pesticides	11,166	14,943	21,452	30,088	42,199	60,583	84,971	116,417
15 Chemicals	74,635	99,878	143,388	201,110	282,067	404,943	567,954	778,146
15 Cement & limestone	0	0	0	0	0	0	0	0
16 Other manufacturing	356,912	477,629	685,698	961,727	1,348,871	1,936,479	2,716,013	3,721,173
17 Petroleum refining	152,836	204,529	293,628	411,828	577,611	829,235	1,163,044	1,593,472
18 Liquified natural gas	0	0	0	0	0	0	0	0
19 Electricity	102,432	137,077	196,792	276,011	387,120	555,760	779,482	1,067,958
20 Gas utilities	13,786	18,449	26,486	37,147	52,101	74,798	104,908	143,793
21 Water utilities	916	1,226	1,760	2,468	3,462	4,970	6,971	9,550
22 Construction	374,209	500,776	718,929	1,008,335	1,414,242	2,030,327	2,847,639	3,901,512
23 Wholesale & retail trade	140,634	188,200	270,185	378,949	531,496	763,031	1,070,190	1,466,253
24 Restaurants and hotels	651,757	872,198	1,252,153	1,756,209	2,463,174	3,536,205	4,959,711	6,795,233
25 Transport & Communications	372,974	499,123	716,556	1,005,007	1,409,574	2,023,626	2,838,240	3,888,635
26 Real estate, financial & busines	377,020	504,538	724,329	1,015,909	1,424,865	2,045,578	2,869,030	3,930,819
27 Public administration & defenc	6,374,999	8,531,187	12,247,622	17,177,923	24,092,926	34,588,511	48,512,176	66,465,885
28 Social & other services	2,296,707	3,073,512	4,412,424	6,188,653	8,679,906	12,461,128	17,477,376	23,945,520
29 Unspecified	(25,897)	(34,656)	(49,753)	(69,781)	-(97,872)	(140,508)	(197,070)	(270,003)
Total Government Consumption	11,400,098	15,255,903	21,901,821	30,718,437	43,084,198	61,852,938	86,751,945	118,857,682
Growth (%)		6.0	7.5	7.0	7.0	7.5	7.0	6.5

Appendix Table A3
Indonesia: Exports by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Lower Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	77,583	126,361	184,083	239,179	281,588	347,580	441,620	564,518
2 Other food crops	51,864	84,472	123,059	159,890	188,241	232,356	295,222	377,378
3 Estate crops	1,126,809	1,996,462	2,908,447	3,778,948	4,449,004	5,491,651	6,977,452	8,919,200
4 Livestock, poultry & products	30,161	179,108	260,925	339,020	399,133	492,671	625,967	800,166
5 Forest products	87,610	0	0	0	0	0	0	0
6 Fisheries	176,769	551,137	802,896	1,043,204	1,228,178	1,516,007	1,926,173	2,462,205
7 Coal	30,615	50,302	68,272	92,062	114,640	149,688	201,172	272,010
8 Crude Oil	9,562,215	10,199,287	8,316,220	6,434,933	5,516,907	3,442,727	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	189,181	293,860	377,059	480,687	565,919	698,545	887,540	1,134,533
11 Food, beverages & tobacco	160,210	286,500	744,009	1,122,624	1,452,441	1,970,203	2,750,916	3,864,371
12 Wood products	1,000,111	4,085,190	5,548,256	6,118,768	5,644,291	5,458,874	5,434,386	5,442,934
13 Pulp, paper & products	20,945	37,456	75,740	111,161	150,666	214,106	313,181	460,889
14 Fertilizer & pesticides	85,019	153,451	271,882	402,739	521,061	706,807	986,886	1,386,336
15 Chemicals	160,545	426,566	936,225	2,041,548	3,032,973	4,724,171	7,574,194	12,217,502
15 Cement & limestone	14,669	32,748	60,392	88,635	99,475	117,051	141,772	172,759
16 Other manufacturing	2,093,815	4,471,011	11,610,710	19,192,921	31,201,583	44,339,320	60,476,199	81,058,093
17 Petroleum refining	895,856	1,157,331	1,341,664	1,540,315	0	0	0	0
18 Liquefied natural gas	3,917,190	6,113,715	8,143,010	10,897,184	18,779,699	27,978,918	38,513,851	47,083,701
19 Electricity	0	0	0	0	0	0	0	0
20 Gas utilities	0	0	0	0	0	0	0	0
21 Water utilities	0	0	0	0	0	0	0	0
22 Construction	0	0	0	0	0	0	0	0
23 Wholesale & retail trade	1,147,776	1,782,874	2,398,675	3,206,325	3,958,059	5,122,774	6,824,675	9,147,319
24 Restaurants and hotels	212,737	330,451	424,008	566,775	699,657	905,541	1,206,382	1,616,951
25 Transport & Communications	920,651	1,430,074	1,924,019	2,571,848	3,174,828	4,109,066	5,474,190	7,337,223
26 Real estate, financial & business	522,705	811,933	1,092,373	1,460,182	1,802,527	2,332,946	3,108,003	4,165,751
27 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	2,038	2,903	3,726	4,314	4,394	4,692	5,157	5,702
29 Unspecified	35,467	50,529	64,835	75,076	76,462	81,647	89,741	99,237
TOTAL EXPORTS	22,522,541	34,653,721	47,680,486	61,968,337	83,341,732	110,437,343	144,254,678	188,588,780
Total Oil and Gas Exports	14,375,261	17,470,333	17,800,895	18,872,432	24,296,606	31,421,645	38,513,851	47,083,701
Total Non–Oil Exports	8,147,280	17,183,388	29,879,591	43,095,906	59,045,126	79,015,697	105,740,827	141,505,079
Growth of exports (%)		9.0	6.6	5.4	6.1	5.8	5.5	5.5
Growth of Oil and Gas exports (%)		4.0	0.4	1.2	5.2	5.3	4.2	4.1
Growth of non–oil exports (%)		16.1	11.7	7.6	6.5	6.0	6.0	6.0

Appendix Table B3
Indonesia: Exports by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Higher Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	77,583	126,361	225,443	354,804	477,881	684,919	1,001,769	1,439,228
2 Other food crops	51,864	84,472	150,708	237,185	319,462	457,866	669,680	962,120
3 Estate crops	1,126,809	1,996,462	3,561,929	5,605,785	7,550,368	10,821,497	15,827,633	22,739,341
4 Livestock, poultry & products	30,161	179,108	319,551	502,911	677,365	970,827	1,419,941	2,040,009
5 Forest products	87,610	0	0	0	0	0	0	0
6 Fisheries	176,769	551,137	983,294	1,547,515	2,084,330	2,987,347	4,369,325	6,277,348
7 Coal	30,615	50,302	83,611	136,567	194,565	294,966	456,339	693,485
8 Crude Oil	9,562,215	10,199,287	10,184,743	9,545,739	9,362,697	6,784,018	0	0
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	189,181	293,840	461,778	713,063	960,416	1,376,508	2,013,294	2,892,472
11 Food, beverages & tobacco	160,210	286,500	911,177	1,665,328	2,464,926	3,882,357	6,240,171	9,852,145
12 Wood products	1,000,111	4,085,190	6,794,861	9,075,732	9,578,881	10,756,908	12,327,346	13,876,662
13 Pulp, paper & products	20,945	37,456	92,758	164,899	255,695	421,904	710,419	1,175,029
14 Fertilizer & pesticides	85,019	153,451	332,970	597,433	884,288	1,392,788	2,238,650	3,521,439
15 Chemicals	160,545	426,566	1,146,580	3,028,483	5,147,233	9,309,145	17,181,281	31,148,201
15 Cement & limestone	14,669	32,748	73,961	131,483	168,819	230,654	321,595	440,445
16 Other manufacturing	2,093,815	4,471,011	14,219,452	28,471,254	52,951,950	87,372,232	137,184,050	206,656,155
17 Petroleum refining	895,856	1,157,331	1,643,115	2,284,941	0	0	0	0
18 Liquefied natural gas	3,917,190	6,113,715	9,972,615	16,165,153	31,870,874	55,133,469	87,364,717	120,039,051
19 Electricity	0	0	0	0	0	0	0	0
20 Gas utilities	0	0	0	0	0	0	0	0
21 Water utilities	0	0	0	0	0	0	0	0
22 Construction	0	0	0	0	0	0	0	0
23 Wholesale & retail trade	1,147,776	1,782,874	2,937,620	4,756,341	6,717,189	10,094,611	15,481,074	23,320,927
24 Restaurants and hotels	212,737	330,451	519,276	840,768	1,187,382	1,784,402	2,736,555	4,122,388
25 Transport & Communications	920,651	1,430,074	2,356,316	3,815,144	5,387,974	8,097,062	12,417,637	18,706,119
26 Real estate, financial & business	522,705	811,933	1,337,812	2,166,070	3,059,054	4,597,155	7,050,186	10,620,509
27 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	2,038	2,303	4,563	6,399	7,456	9,245	11,697	14,538
29 Unspecified	35,467	50,529	79,402	111,370	129,763	160,889	203,568	253,003
TOTAL EXPORTS	22,522,541	34,653,721	58,393,535	91,925,366	141,438,570	217,620,771	327,226,929	480,803,714
Total Oil and Gas Exports	14,375,261	17,470,333	21,800,474	27,995,832	41,233,571	61,917,487	87,364,717	120,039,051
Total Non-Oil Exports	8,147,280	17,183,388	36,593,062	63,929,533	100,204,998	155,703,284	239,862,211	360,764,662
Growth of exports (%)		9.0	11.0	9.5	9.0	9.0	8.5	8.0
Growth of Oil and Gas exports (%)		4.0	4.5	5.1	8.1	8.5	7.1	6.6
Growth of non-oil exports (%)		16.1	16.3	11.8	9.4	9.2	9.0	8.5

Indonesia: Imports by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Lower Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	-428888	-618881	-757878	-906807	-1050628	-1229692	-1397315	-1585191
3 Estate crops	-377792	-545150	-667588	-798773	-925460	-1083192	-1230845	-1396338
4 Livestock, poultry & products	-15264	-22026	-26973	-32273	-37392	-43764	-49730	-56417
5 Forest products	-3605	-5202	-6370	-7622	-8831	-10336	-11745	-13324
6 Fisheries	-1339	-1932	-2366	-2831	-3280	-3839	-4362	-4949
7 Coal	-5859	-10958	-15549	-21208	-27689	-35957	-44890	-55885
8 Crude Oil	-959495	-1224566	-1164569	-1058060	-917998	-680920	-518616	-323633
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	-201674	-377195	-535225	-730007	-953089	-1237672	-1545164	-1925527
11 Food, beverages & tobacco	-229428	-342603	-427713	-520592	-612633	-726823	-836081	-960042
12 Wood products	-4105	-5923	-7254	-8679	-10056	-11770	-13374	-15172
13 Pulp, paper & products	-301926	-435676	-533527	-638368	-739614	-865671	-983573	-1115934
14 Fertilizer & pesticides	-112895	-173464	-220069	-271712	-323942	-388696	-451729	-523978
15 Chemicals	-2193551	-3229019	-3998805	-4832430	-5649834	-6665034	-7627711	-8714379
15 Cement & limestone	-5282	-12275	-12275	-12275	-12080	-12275	-12275	-12275
16 Other manufacturing	-7957314	-18212122	-29047914	-43972609	-63149139	-89111738	-119964913	-160896909
17 Petroleum refining	-484068	-647792	-846638	-1080549	-1346561	-1638297	-1853583	-2097159
18 Liquified natural gas	0	0	0	0	0	0	0	0
19 Electricity	0	0	0	0	0	0	0	0
20 Gas utilities	0	0	0	0	0	0	0	0
21 Water utilities	0	0	0	0	0	0	0	0
22 Construction	0	0	0	0	0	0	0	0
23 Wholesale & retail trade	0	0	0	0	0	0	0	0
24 Restaurants and hotels	-431243	-622279	-762040	-911786	-1056396	-1236444	-1404988	-1593896
25 Transport & Communications	-648433	-935682	-1145831	-1370995	-1588437	-1859164	-2112592	-2396641
26 Real estate, financial & business	-904935	-1305812	-1599090	-1913323	-2216778	-2594597	-2948274	-3344685
27 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	-908754	-1311322	-1605839	-1921397	-2226134	-2605547	-2960716	-3358800
29 Unspecified	(58,247)	-84050	-102927	-123153	-142685	-167004	-189768	-215284
Total Imports	-16234097	-30123949	-43486441	-61135449	-82998655	-112208433	-146162344	-190604516
Total Oil & Gas imports	-1443563	-1872378	-2011207	-2138609	-2264558	-2319217	-2372199	-2420792
Total Non-Oil & Gas imports	-14790534	-28251571	-41475233	-58996840	-80734097	-109889216	-143790145	-188183724
Total Imports Growth (%)		13.2	7.6	7.1	6.3	6.2	5.4	5.5
Growth of Total Oil & Gas imports (%)		5.3	1.4	1.2	1.2	0.5	0.5	0.4
Growth of Total Non-Oil & Gas imports (%)		13.8	8.0	7.3	6.5	6.4	5.5	5.5

Appendix Table B4
Indonesia: Imports by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Higher Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	0	0	0	0	0	0	0	0
2 Other food crops	-428888	-618881	-771394	-920812	-1076652	-1338169	-1537260	-1997681
3 Estate crops	-377792	-545150	-679493	-811110	-948384	-1178745	-1442203	-1759686
4 Livestock, poultry & products	-15264	-22026	-27454	-32771	-38318	-47625	-58270	-71097
5 Forest products	-3605	-5202	-6484	-7740	-9050	-11248	-13762	-16791
6 Fisheries	-1339	-1932	-2408	-2875	-3361	-4178	-5112	-6237
7 Coal	-5859	-10958	-15827	-21536	-28375	-39129	-52598	-70427
8 Crude Oil	(959,495)	(1,224,586)	-1185337	-1074402	-940737	-740987	-607672	-407847
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	-201674	-377195	-544770	-741282	-976698	-1346852	-1810497	-2424183
11 Food, beverages & tobacco	-229428	-342603	-435341	-528632	-627808	-790939	-979652	-1209859
12 Wood products	-4105	-5923	-7383	-8813	-10305	-12808	-15671	-19120
13 Pulp, paper & products	-301926	-435676	-543041	-648228	-757935	-942036	-1152589	-1406316
14 Fertilizer & pesticides	-112895	-173464	-223993	-275908	-331966	-422984	-529299	-660324
15 Chemicals	-2193551	-3229019	-4070118	-4907068	-5789782	-7252986	-8937531	-10981988
15 Cement & limestone	-5282	-12275	-12493	-12464	-12379	-13357	-14382	-15469
16 Other manufacturing	-7957314	-18212122	-29565945	-44651772	-64713365	-96972668	-140565117	-202764639
17 Petroleum refining	(484,068)	(647,792)	-861737	-1097238	-1379916	-1782818	-2171877	-2642870
18 Liquefied natural gas	0	0	0	0	0	0	0	0
19 Electricity	0	0	0	0	0	0	0	0
20 Gas utilities	0	0	0	0	0	0	0	0
21 Water utilities	0	0	0	0	0	0	0	0
22 Construction	0	0	0	0	0	0	0	0
23 Wholesale & retail trade	0	0	0	0	0	0	0	0
24 Restaurants and hotels	-431243	-622279	-775630	-925869	-1082564	-1345517	-1646250	-2008651
25 Transport & Communications	-648433	-935682	-1166266	-1392170	-1627783	-2023169	-2475363	-3020282
26 Real estate, financial & business	-904935	-1305812	-1627608	-1942874	-2271689	-2623478	-3454547	-4215021
27 Public administration & defence	0	0	0	0	0	0	0	0
28 Social & other services	-908754	-1311322	-1634477	-1951073	-2281276	-2835393	-3469126	-4232809
29 Unspecified	(58,247)	-84050	-104763	-125055	-146219	-181736	-222355	-271304
Total Imports	-16234097	-30123949	-44261964	-62079694	-85054561	-122106822	-171261134	-240202600
Total Oil & Gas imports	-1443563	-1872378	-2047075	-2171640	-2320652	-2523805	-2779549	-3050717
Total Non-Oil & Gas imports	-14790534	-28251571	-42214889	-59908054	-82733908	-119583016	-168481585	-237151883
Total Imports Growth (%)		13.2	8.0	7.0	6.5	7.5	7.0	7.0
Growth of Total Oil & Gas Imports (%)		5.3	1.8	1.2	1.3	1.7	1.9	1.9
Growth of Total Non-Oil & Gas Imports (%)		13.8	8.4	7.3	6.7	7.6	7.1	7.1

Appendix Table A5

Indonesia: Final Demand Excluding Demand for Investment by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Lower Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	77583	126361	184083	239179	281588	347580	441620	564518
2 Other food crops	6004091	6847880	7778687	8722670	9356095	9948706	10693851	11112230
3 Estate crops	1741311	2652145	3673077	4672680	5428668	6529392	8126661	10118166
4 Livestock, poultry & products	2670146	3795527	5146119	6931330	8727116	10802130	13561232	16646191
5 Forest products	342780	330593	422924	538720	646908	764068	912961	1062395
6 Fisheries	1742091	2601165	3385083	4283170	5105349	6117123	7557651	9239304
7 Coal	24756	39344	52722	70854	86957	113731	156283	216125
8 Crude Oil	8602720	8974701	7151651	5376873	4598909	2761807	-518616	-323633
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	-12281	-83078	-157861	-248960	-386765	-538676	-657117	-788543
11 Food, beverages & tobacco	13813773	16737765	20329902	24232015	27412096	32666268	37357779	44559446
12 Wood products	1331797	4602588	6345856	7355565	7411476	7910387	8898211	10246883
13 Pulp, paper & products	-5279	-18770	72967	208316	367460	549942	851792	1247857
14 Fertilizer & pesticides	36453	66721	168584	287389	393887	559519	834367	1226077
15 Chemicals	-1199370	-1677614	-1556835	-782754	-102079	1138751	3761008	8126058
15 Cement & limestone	9387	20474	48117	76360	87395	104777	129497	160484
16 Other manufacturing	-2205763	-8204984	-9119527	-12239309	-14444988	-21042658	-29061033	-41058329
17 Petroleum refining	1947137	2553545	3197263	4015700	3212959	4068277	5826454	8507267
18 Liquefied natural gas	3917190	6113715	8143010	10897184	18779699	27978918	38513851	47083701
19 Electricity	504511	666856	872260	1383554	1851938	2784024	4080679	5166268
20 Gas utilities	67899	88668	116011	150707	185002	292851	421048	678784
21 Water utilities	66963	98228	149611	210584	270934	364432	485271	620225
22 Construction	374209	500776	712266	989688	1299625	1619569	2018278	2515141
23 Wholesale & retail trade	6622621	9058658	11944548	15687568	19617066	24622378	31421865	42369676
24 Restaurants and hotels	4977681	6618569	8806983	11695126	14564854	17745337	21925136	26539514
25 Transport & Communications	6186569	8770350	12241394	17061654	22088931	28131760	36474804	46407162
26 Real estate, financial & business	4157157	5895919	8409627	11974867	15759190	20272134	26582543	34123225
27 Public administration & defence	6374999	8531187	12134114	16860262	22140321	27590868	34363241	42847774
28 Social & other services	6785171	8929989	12143974	16385482	22290270	29135068	38355979	49395315
29 Unspecified	-66356	-91655	-118103	-156638	-205304	-256637	-311879	-375923
Total Final Demand	74889946	94545622	122678506	156879837	196825557	243081828	303223618	378233359
Growth (%)		4.8	5.3	5.0	4.6	4.3	4.5	4.5

Appendix Table B5

Indonesia: Final Demand Excluding Demand for Investment by Sector 1985–2020 (Mil. rph), at 1985 constant prices – Higher Growth Scenario

Sector	1985	1990	1995	2000	2005	2010	2015	2020
1 Paddy	77583	126361	225443	354804	477881	684919	1001769	1439228
2 Other food crops	6004091	6847880	7903160	9017319	10154088	10641302	11253364	11135406
3 Estate crops	1741311	2652145	4343599	6551079	8704381	12022376	17096593	23874708
4 Livestock, poultry & products	2670146	3795527	5394050	7575606	10671754	14513355	19972186	25672554
5 Forest products	342780	330593	436071	570242	750525	940426	1189443	1401907
6 Fisheries	1742091	2601165	3730700	5228923	7110146	9626155	13344685	17711188
7 Coal	24756	39344	67785	115032	166190	255837	403741	623058
8 Crude Oil	8602720	8974701	8999406	8471337	8421960	6043031	-607672	-407847
9 Natural Gas	0	0	0	0	0	0	0	0
10 Other mining	-12281	-83078	-82681	-27845	-15834	30161	203373	468902
11 Food, beverages & tobacco	13813773	16737765	20895025	25661440	31163735	41425494	54973846	70117431
12 Wood products	1331797	4602588	7636568	10442775	11861454	14463348	18432389	23179995
13 Pulp, paper & products	-5279	-18770	95608	291973	610351	1053575	1779109	2740161
14 Fertilizer & pesticides	36453	66721	229442	487160	782283	1279503	2128300	3407269
15 Chemicals	-1199370	-1677614	-1366553	257710	2320170	6017702	13579874	26894161
15 Cement & limestone	9387	20474	61467	119019	156440	217297	307213	424976
16 Other manufacturing	-2205763	-8204984	-6615494	-2457052	8583811	22861047	45704388	73773465
17 Petroleum refining	1947137	2553545	3569534	4955330	3937337	5944183	8684041	12451511
18 Liquefied natural gas	3917190	6113715	9972615	16165153	31870874	55133469	87364717	120039051
19 Electricity	504511	666856	914135	1246959	1725822	2817709	4179232	6238385
20 Gas utilities	67899	88668	119029	158010	210938	360518	521859	713701
21 Water utilities	66963	98228	141243	201978	292911	409740	584287	783079
22 Construction	374209	500776	718929	1008335	1414242	2030327	2847639	3901512
23 Wholesale & retail trade	6622621	9058658	12804300	18024186	25520158	39905824	58887774	82598244
24 Restaurants and hotels	4977681	6618569	9171442	12651679	17764069	24213578	34915818	47585387
25 Transport & Communications	6186569	8770350	13110483	19474408	28542317	40841248	59189440	84754412
26 Real estate, financial & business	4157157	5895919	8985037	13592532	20380452	29539216	43309597	67499731
27 Public administration & defence	6374999	8531187	12247622	17177923	24092926	34588511	48512176	66465885
28 Social & other services	6785171	8929989	12477986	17257885	25401182	37016462	54111339	78759673
29 Unspecified	-66356	-91655	-106884	-126111	-172114	-236213	-313791	-407651
Total Final Demand	74889946	94545622	136079067	194447788	282900451	414640098	603556726	853839480
Growth (%)		4.8	7.6	7.4	7.8	7.9	7.8	7.2