ECONOMIC-DEMOGRAPHIC DEVELOPMENT TRENDS:

PROBLEMS AND PROSPECTS

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Summary

The purpose of this paper is to provide perspectives and analyses that will assist the USAID Mission in formulating its assistance goals and strategies for the FY 1987-1991 in the light of the current and prospective economic and demographic development.

More specifically, the objectives of this report are:

(1) To review Philippine demographic trends in relation both to past socioeconomic trends, and to the impact of public intervention programs;

(2) To examine the implications of recent economic and social developments on demographic trends, with special attention to fertility, infant/child mortality, and population growth;

(3) To determine the implications of alternative demographic scenarios on specific development concerns; and

(4) To review major policies and strategies affecting demographic trends so as to identify areas that need strengthening or modification.

Demographic Trends up to 1983

Mortality Trends. Hard data on mortality levels are difficult to come by especially for the more recent period. On the basis of available data, mortality trends up to 1975 show a general pattern of slow mortality decline from the turn of the century to around 1950, a period of accelerated mortality decline between 1950 and 1960, a sharp deceleration of mortality decline in the 1960s, and a period of accelerated mortality decline during the 1970-1975 period but not as rapid as in the 1950s. In more specific terms the patterns can be described as follows. Crude death rates declined by 0.80 deaths per 1,000 population annually between 1948-50 to 1960. In the 1960s, the average annual change was only 0.20. In the 1970-75 period, however, the average annual change accelerated to 0.42 per 1,000. This pattern is duplicated by the pattern of change in life expectancy at birth which is not distorted by age structure effects. The most rapid increase occurred between 1948-50 to 1960, where the average annual increment was 0.93 year. The average annual increment dropped sharply to only 0.30 year, during the 1960's, but this climbed to 0.72 year during 1970-1975.

A study of the broad determinants of these trends suggests that the uneven progress towards mortality reduction from the early postwar period up to 1975 is directly related to the uneven performance of the Philippine economy in terms of such indicators

as employment absorption, real price of food, and real consumption expenditures per capita, and to the uneven capacity of the public health sector to maintain health standards as indicated by the trend in real health expenditures per capita.

Mortality trends after 1975 are difficult to determine in view of the absence of hard data on mortality levels for the most recent period. Available fragmentary evidence lead to conflicting results. Test run projection of infant mortality probability (q_0) from the economic-demographic model constructed by Paqueo and Herrin (1984) shows that the accelerating mortality decline during the 1970-75 period was more than sustained during the latter half of the decade. This is mainly due to the faster growth of per capita real personal consumption expenditures and of per capita real cumulated public health expenditures during the second half of the decade compared to the first half. If the improvement in infant mortality achieved in 1975-80 was indeed larger than in 1970-75, then this improvement should be reflected in a corresponding faster increase in life expectancy in 1975-80 than in 1970-75 unless mortality improvements in childhood and older ages have not kept pace.

While mortality declines accelerated in the 1970's especially in the second half, we expect that such declines would have decelerated in the early 1980's in view of the declining growth in

real per capita consumption expenditures, increasing unemployment and underemployment, increasing real price of food, and declining increments in real per capita public health expenditures observed during this period. The extent of this deceleration, however, can not be accurately determined at present in view of the absence of recent mortality data. If indeed mortality declines decelerated in the 1980's, this would offset the improvements observed in the 1975-80 period, so that for the overall period 1975-83, one would probably expect that the rate of mortality decline is not significantly different from that observed in 1970-75, if it is not in fact lower.

Fertility Trends. Long term trends in the crude birth rates reveal a pattern of slow decline from the turn of the century to 1960, a moderate drop during the period 1960-1970, and a slightly faster decline during the 1970-1975 period. In the recent period, 1975-1982, the decline in crude birth rates appeared to have decelerated sharply. The average annual change per 1,000 in crude birth rates was only 0.15 births during 1975-1982 compared to 0.88 births during 1970-1975, and 0.68 births during 1960-1970.

With respect to the other fertility measures, the total fertility rate, (TFR) and total marital fertility rate (TMFR), remained practically at the same level from 1960 to 1970. Both fertility measures declined in the 1970-75 period. Unfortunately, no hard data on these measures are available for the more recent

period. The 1982 TFR figure from NEDA (1984) was estimated based on assumed trends, while the TMFR was estimated from a 25 percent sub-sample of 1983 NDS and is a single-year estimate not directly comparable to estimates for previous years. The estimates for previous years are based on five-year averages centered on the year of reference. If, however, the 1983 NDS estimate of TMFR is close to the true value, then it would appear that marital fertility decline has not accelerated between 1975 and 1982. In fact, it may have decelerated somewhat, or at best it merely maintained the rate of decline observed during the 1970-1975 period.

What might be the factors affecting the fertility trends since 1970? Among the proximate determinants of fertility, the most important are change in marriage patterns ar changes in marital fertility, the latter mainly due to contraception. Singulate mean age at marriage havs reached 22.8 years in 1970 and 23.2 years in 1975 which are relatively high by Asian standards. Given the relatively high age at marriage already achieved by 1970, it would appear that the relative contribution of nuptiality change to the overall fertility decline in the subsequent periods will become less and less important. In fact decomposition analysis of the crude birth rate done by Concepcion indicates that nuptiality patterns no longer contributed to crude birth rate decline in the 1970-1975 period as it did in the 1960's. In view of this we expect that fertility declines after 1970 would

be mainly due to the changes in marital fertility. The relatively rapid decline in fertility from 1970-75, therefore, must have come almost exclusively from marital fertility change due to increased use of contraception, and perhaps insignificantly from abortion.

A regression analysis relating time series data on marital general fertility rate with per capita GNP, real wage rates, infant mortality, education, real price of food and a time dummy suggest that the deceleration in fertility declines in the more recent period, 1975-82, is consistent with the general macroeconomic trends. In particular the overall declining growth in GNP per capita tends to decelerate fertility declines. While the declining real wage and increasing real price of food have the opposite effects, they do not appear to be strong enough to offset the adverse effect of declining per capita GNP. The net effect of declining overall economic performance in the most recent period is, therefore, implicated in the slowing down of fertility declines in this period.

The slowing down of marital fertility declines in the most recent period is further inferred from data on contraceptive prevalence rates. While substantial increases were noted between 1968 and 1973 and between 1973 and 1978, no significant increase occurred between 1978 and 1983, an obviously disturbing development.

Demographic Prospects in the Light of the Current Economic Crisis: A Short Run Perspective

In analyzing the demographic implications of the current economic crisis, we begin with the following accepted facts: widespread unemployment/underemployment, drastic decline in GNP per capita (and, hence, consumption), substantial reduction in real wage in the face of extremely high inflation rates, soaring prices of food, drugs, and transportation and shortage in medical supplies. Economic recovery is nowhere in sight and the political system is unstable. What are the probable immediate demographic effects of the difficulties and uncertainties that people are confronted with today? We examine the question first with reference to mortality and then to fertility decisions.

Mortality. Our regression analysis based on time series data indicates significant negative correlation between infant mortality and personal consumption per person, employment rate (in full time equivalent units) and public health expenditures per capita. The real price of food, on the other hand, appears to be positively correlated with infant mortality. These results support the Malthusian view that during hard times one would expect mortality to rise. Hence, given the worsening in employment rate, real wage, consumption per person and the food price, the immediate probable effect of the economic crisis is to decelerate mortality declines if not increase mortality levels outright.

Our regression analysis also suggests however, that the mortality effect of the current economic crisis can be attenuated by increased real public health expenditures per capita. Ironically, however, government is not in a position to substantially raise its health expenditures per capita for various reaons---including the need to support distressed government or semi-government corporations and financial institutions as well as the heavy debt service burden. More importantly, real gross national product has drastically fallen. In fact, in the current and next year's budget real health expenditures per capita is way below that of 1982. The next year's budget would even be tighter, if government projection of a 20-25 percent rate of inflation is exceeded, which is likely to be the case in view of the current rate of inflation of 60 percent.

The analysis above suggests the following:

1. there is an urgent need to strengthen the population program to soften the impact of the economic crisis on mortality, particularly among infants.

2. clearly, by the nature of the problem at hand, it should be carried out in conjunction with its maternal/child care program.

3. in order not to dissipate whatever gains are accomplished through (1) and (2) above, untimely pregnancies need to

be prevented (voluntarily, or course) by providing family planning services in connection with the above measures.

The success of (3) above would obviously depend on the couple's inclination to practice family planning. As we shall indicate below there is probably such an inclination as a result of the present crisis.

Fertility. Our regression analysis of marital general fertility highlights the role of specific macroeconomic variables on fertility trends. With the current economic crisis, we would expect that the decline in real per capita GNP growth will tend to arrest the rapid fertility decline observed in the early 1970's. However, the combined effects of the declines in real wage rates and the increase in the real price of food, which work in the opposite direction, would tend to hasten such decline. On balance, however, the net effect of macroeconomic variables will probably tend to slow down fertility declines rather than to accelerate it.

The above analysis, however, does not take into account the role of drastic changes in expectations resulting from the economic crisis which could effectively shift the entire set of relationships towards reduced demand for children. In view of the lack of empirical information regarding the role of economic stress on fertility, our discussion is mainly speculative.

At the micro level, there are several possible reactions to the economic crisis among a large group of couples. First,

one group of couples may view the current crisis as temporary. Their long term expectations of the future remains as before the crisis, and therefore, their long term fertility goals would likewise remain essentially the same. In the short term, however, their likely reaction from economic stress would be to postpone additional births in order to stretch out their limited resources to maintain current consumption standards. The implication of this scenario is that couples would increase their demand for effective contraceptive methods in the short run. The role of the family planning program in the short run would, therefore, be to help meet such prospective demand through the provision of better information and wider access to contraceptive supplies and services. However, because fertility may be expected to increase in the future once the economic crisis is over as couples begin to implement their long term fertility goals, there is a need to consider a long run strategy of motivating these couples to revise their expectations of the future that would lead to a decline in their long term demand for children. Such motivational efforts might involve provision of better information as to the likely long term economic prospects.

Second, some couples may indeed respond to the economic crisis by revising entirely their long term expectation of economic security and correspondingly their long term fertility goals. For these couples' limitation of additional children will be both

a short run and long run strategy. As a result, the need for sustained efforts to provide wider access to family planning information and services is imperative on the part of the population program.

Third, there may be a group of couples whose economic expectations and fertility goals would not be affected by the current economic crisis. This group may be further subdivided into two sub-groups. The first are the very poor who might feel that the current crisis and eventual economic recovery will not substantially affect their current and future economic status, and therefore, they will pursue their usual long term strategy of having a large number of children to cope with their poverty situation. The second are the relatively well-off who can survive the crisis without limiting their family size. This second group, however, are most likely to have small family size norms anyway and, therefore, there is little need to worry about this group. It is the first group that is worrisome, because their strategy of continued high fertility in the context of declining household resources could lead to the unintended consequence of high infant/child mortality. For this group, a different motivational tact might be used to encourage fertility control in the short term to minimize mortality risks, and to encourage fertility control in the long term as part of a new strategy based on revised expectations about the future.

The economic crisis is bound to affect couples in different ways, the majority of them most likely in terms of increased demand for fertility limitation. The implication is that the population program must be ready more than ever to effectively respond to such increased demand in the short term even as it continues to lay the groundwork for its longer term strategy of sustaining fertility reductions in the future.

Population and the Economy: A Long Term View

Traditionally, the role of population in the long term economic development of a country is described by comparing the impact of alternative demographic trends on such economic variables as income, employment, government expenditures, etc. Such comparisons are usually made through the use of economic-demographic models constructed to describe the country in question. An original aim of this paper was to provide such analysis using the Paqueo and Herrin (1984) model. However, the model could not yet perform the necessary simulations in time for the preparation of this paper.

In order to provide a fresh perspective on the role of population in Philippine development, we examined in detail the dynamic interplay between economic and demographic factors related to the problem of providing productive employment to the growing labor force. A critical aspect in the success of the Philippine economy

and society in significantly raising levels of living and improving the quality of life of the growing population is the capacity to achieve full employment at rising real wages.

In examining the historical experience of labor absorption up to 1978, we note that unemployment and underemployment seemed to have gone down through time beginning with the second half of the sixties. This decline, however, was achieved partly through a downward adjustment of the real wage and the absorption of the additional labor supply into relatively lower productivity sectors. Furthermore, it was at the expenses of present and future reductions in economic welfare and activity arising from the massive foreign borrowing which propped up the economy in the 1970's and 1980's. More importantly, the economy is unable to sustain the improvement as shown by the spectacular worsening of the employment situation since 1978.

The inability of the economy to sustain rapid employment expansion and adjust real wage upwards, or at least prevent a decline, inspite of its huge borrowing program is due to a set of interacting factors: rapid population growth, stagnation (worse, deterioration) in total factor productivity, unnecessarily high capital intensity, and external shocks.

The rapid growth of population, which was the primary factor in the growth of labor supply, was due to the high birth rate coupled with a relatively low death rate in previous decades. The contribution of education to factor productivity growth appear substantial (approximately 2.5 percent per year). However, this was swamped by the growing inefficiency of the economic system. Without the contribution of education, total factor productivity growth seems to be deteriorating at roughly 3.0 percent per year. Consequently, overall total productivity growth is about -0.5 percent. This compares with Oshima's (1983) estimates of -1.6 percent. Total factor productivity growth has been particularly dismal in industry.

The failure of total factor productivity to grow can be traced to several factors. The most prominent is the structure of economic incentives brought about by trade, monetary and fiscal policies of government. In the 1950's and the 1960's price distortions were rooted in the import substitution strategy and the failure of the economy to switch to a "neutral" pricing policy, which would have also promoted exports. These distrotions remained basically unchanged in substance throughout the past decades inspite of some tariff reforms in the 1970's. But on top of these is the deterioration in inefficiency due to government economic policies that are distinctively characteristics of the years under the Marcos regime. These policies did not only lower the relative

price of capital as in earlier years; they also reduced the penalty for failure due to misjudgement, incompetence, and greed both in the business and public sectors. During these years too, grants of monopoly power and other mandated economic privileges became common. Finally, as the share of government expenditures in GNP zoomed to unprecedented levels, the composition of capital outlays shifted towards less productive uses. Adoption of these policies in turn was caused or facilitated by a political set-up which lacks checks and balances, accountability, and a free market of ideas. They were also largely the result of the misuse of the government machinery by some group to obtain underserved economic advantages, which encourage waste and inefficiency.

With regards to the high capital intensity of the economy, one can also conclude that most of the policies mentioned above have contributed a great deal to high capital intensity as most of them have artificially made the price of capital cheaper relative to labor.

Given these facts, what then can be said about the prospects of labor absorption between now and 2000? It is clear that the supply of labor will continue to grow at a fast pace in the medium run and then decelerate moderately as a result of a fall in the birth rate which started in the first half of the 1970's. The growth rate of labor supply, however, will probably remain the neighborhood of 3.0 percent.

On the demand side, expansion in the medium run will be much slower than the past growth. This is because of the heavy external debt service problem ($1.5 billion annually in interest payment alone) and a decline in the growth of capital formation resulting from increased tax rates, rising price of imports, high interest rate and the uncertainty about economic policies and the political system. In the face of a rapidly growing working age population, the consequence would be rising number of unemployed and under-employed workers coupled with another downward adjustment in the real wage and increase in "hidden" unemployment due to the "discouraged worker effect".

In addition to these adverse conditions, one must consider the external environment. The ongoing economic recovery of the world economy particularly the U.S. is a bright spot in the present economic landscape. Unfortunately, however, this recovery is accompanied by very high U.S. interest rates. This makes it more difficult to make interest payments for the Philippine external debt. Another external factor that the country must contend with is the situation in the Middle East. An escalation of the current conflagration in the area could reduce oil supply and drastically cut down demand for overseas workers. Such a scenario would be damaging to the Philippine economy, which is dependent on the Middle East not only for its oil supply but now also for the employment of its workers and their corresponding foreign earnings.

In the long-run, economic growth and the expansion of labor demand will depend critically on the ability of the country to transform its political economy into a highly efficient system. There is so much growth that can be had from the same amount of resources by simply being more efficient. It will also depend on the rate of improvement in the educational composition of the work force. In this regard, it is unfortunate that due to the misguided economic policies pursued by government in the 1970's and 1980's, a deceleration is possible in the rate at which the educational attainment of the labor force will rise in the future. Symptomatic of the ruinous nature of those policies, the share of education whose contribution to economic growth appears substantial, declined from about 30 percent of national government expenditures before the proclamation of martial law to roughly 12 percent since then.

The prospects for greater efficiency hinges on the future structure of incentives and penalty both in the economic and political spheres. In turn, this critically depends on the outcome of the current political struggles. Unfortunately, it is quite risky to make predictions about this matter. What is certain however, is the prospect of continued growth of the population and of labor supply well into the 21st century. Where then does this leave us?

In the best case scenario, suppose a change in the structure of economic incentives can be effected in the short term to arrest and later reverse the deterioration in total factor productivity

growth. The impact of this change on full employment with rising incomes is most likely to be felt only in the medium or long run in view of the accumulated unemployed and underemployed, and of the continued growth of population and labor supply. This time frame may not be acceptable in view of the society's desire to raise the levels of living and improve the quality of life as quickly as possible. In the light of this, the long term objective of full employment with rising real wages can be greatly facilitated by reducing the growth of its labor supply through fertility reduction. The urgency of such effort can not be overemphasized in view of the time lag in which fertility reduction eventually translates itself into reducing growth of labor supply. Moreover the role of moderating population growth becomes more critical if economic performance can not be significantly improved quickly.

Looking into the future in the most optimistic manner, that is, where economic management is conducted in the best of intentions, honest policy mistakes can still be made and the economy can be subjected to various external shocks. As a result, the economy's capacity to respond and to recover may be greater if population pressure is lighter than if population pressure is heavier. In the former case, the policy maker can have greater flexibility in trying our alternative policies and strategies, a feature not easily obtained under intense population pressure.

Population Policy and Program

The macroeconomic contributions to further acceleration of mortality and fertility declines can be expected to diminish in the short run in the light of the economic crisis. In view of this, sustaining and accelerating mortality and fertility declines in the short run will have to rely more heavily on the population and health program. Given more severe resource constraints in view of the economic crisis, it is important for the program to achieve greater efficiency now more than ever.

Various reviews of Population Program performance, with specific attention to the performance of the Outreach Project suggest that the Outreach has been functioning well in many ways. While important weaknesses were noted, they were thought to be those that could be dealt with by improving management and support services. Data from the COS indicate that the Outreach Project has had an impact on contraceptive prevalence rates at least in the covered areas. Such impact however, appears to be almost soley in terms of facilitating the shift from less effective to more effective methods rather than also significantly raising overall contraceptive prevalence rates.

While the shift from less effective to more effective methods is indeed a welcome development from the standpoint of program performance, the fact still remains that for fertility

decline to accelerate, overall contraceptive prevalence must increase significantly, preferably the increase being due to modern methods. Shifting methods alone at still relatively low levels of overall contraceptive prevalence rates, while this increases the overall use-effectiveness of methods, will not be sufficient to accelerate fertility declines and achieve the program's fertility goals. The question then boils down to how can the program increase contraceptive use? What might be the directions the program might take?

Suggested Directions. First, granting that the Outreach Project is still a sound strategy and has in fact performed well in spite of logistical and other organization problems, its coverage is still not truly nationwide. Program statistics estimate that the Outreach Project in 1982 covered only 3.787 million MCRAs out of the total estimated 6.138 million MCRAs outside Metro Manila, for a coverage rate of 62 percent. The same statistics reported a contraceptive prevalence rate for this covered areas of 56 percent, of which 70 percent are due to modern methods. This rate is obviously too high to be reliable, since this would imply that the contraceptive prevalence rate in the non-covered areas is zero or negative, if the true national contraceptive prevalence rate based on the 1983 NDS would be just around 34 percent. If the rate given by service statistics is indeed accurate, then it could only mean that the Outreach Project is not

in fact effectively covering the 3.787 million MCRAs it claims to have covered, but only a subset of such MCRAs.

Two factors may, therefore, account for the slow increase in national contraceptive prevalence rates between 1978 and 1983 on the basis of the above analysis. The first is the incomplete national coverage of the project. It leaves out 38 percent of all MCRAs outside Metro Manila. This is sizeable enough, it would seem. Secondly, even in outreach areas, if our inference above is correct, the effective coverage of the project is still incomplete. What in fact might be effectively covered are MCRAs who are easiest to reach, already motivated to practice contraception, and worse, probably a large proportion, would probably practice contraception anyway without the project. This second consideration implies the need for a careful review of actual coverage of the project and the specification of its target MCRAs. This diagnostic review should lead to a better specification of who among the covered MCRAs family planning interventions should be focused.

The strategy that is suggested then is twofold: (a) increase efficiency of program effort in the covered areas through better specification of the target population; (b) expand coverage of the Outreach Project to the uncovered areas both within the Outreach areas and outside the Outreach areas, financed partly from the resources released due to (a), and supplemented by resources from external donor agencies as they become available.

This strategy addresses two problems that the Program will be facing in the light of the economic crisis. The first, as we have indicated earlier, is the need to effectively cope with the probable increase in the demand for contraception as couples hit by the crisis respond by postponing births in the short run. This need is probably greatest among MCRAs not yet covered by the Outreach, hence the need for expanding coverage. For equity reasons, there is a need to shift efforts towards those in greater need for contraception in the light of the crisis and away from those less in need. Secondly, by expanding coverage now, the Program lays the groundwork for its long term task of sustaining and increasing contraceptive use nationwide.

We now move our discussion of strategy from the operational level to that of communication. The communication strategy can be viewed from two levels. The first is directed at the highest levels of government, the aim of which is to insure continued commitment to the program and to a steady flow of resources. The second is directed at the target couples.

In view of the apparent ambivalence among policy makers in the recent past as to the role of the population planning in the total development efforts, it would appear that now is a good opportunity to renew and strengthen the commitment to population planning. A useful strategy, quiet but firm, would be to deemphasize the old and worn out arguments that rapid population growth either

leads to or aggravates economic problems, but rather to emphasize that with the current crisis, the best efforts to improve the economy's long run capacity to achieve the nation's development objectives will be greatly facilitated by stronger efforts to moderate population growth now. In other words, given the temper of the times it may be wise to deemphasize the view that rapid population growth is part of the problem, and instead to emphasize the view that moderating population growth is part of the answer.

At the household level, we suggest a communication strategy that emphasizes the need for fertility control now to enable households to effectively cope with both current and future adverse income situations. Our analysis based on a counter-factual projection (described earlier) suggests that even in the best of macroeconomic circumstances, the prospect for the next 15 years is one wherein household incomes can not be expected to increase substantially. Under this situation, it would be to the advantage of families to have fewer children in view of the difficulties and uncertainties that may lie ahead over the next 15 years. Having fewer children should give them some elbow room to meet a possible stagnation in family incomes as well as future shocks arising from political unrest and bad economic policies. For such communication to be effective, efforts to motivate couples to reduce fertility will have to be made in conjunction with the broader socioeconomic efforts and self-reliance programs that assist households to

effectively cope with their current adverse income situation. In this broader context, fertility limitation must be seen as part of the short run survival strategy and a long run imperative.

Comments on Current Program Strategies. Among the various strategies that POPCOM proposes to concentrate on for the 1983-1987 period, what attracted our attention most is the strategy of developing community capability to finance contraceptive costs as well as other family planning services. As a long term strategy, it appears sound on many counts. Part of this strategy is a cost-recovery program for contraceptive supplies and services. A question that naturally arises in this regard is the effect of charging user's cost on contraceptives. Recent studies suggest that an increase in the price of contraceptives does not have any significant negative effect on usage (Akin, Guilkey and Paquec, 1984; see also Cabigon, 1984). This finding appears to be supportive of the cost recovery program. It should be pointed out, however, that it is necessary to confirm the above finding inasmuch as various technical problems in the study have yet to be fully addressed before the results can be accepted as conclusive. Hence, further studies are urgently needed to validate such finding. Moreover, in view of the lack of information about the particular type of cost-sharing or cost-recovery scheme that will be effective and viable, it is best to test alternative schemes on a pilot basis. The test could perhaps be conducted in COS areas in conjunction

with current efforts to set up the Primary Health Care Program. The results of such test should provide a firmer basis for decisions to implement cost-sharing schemes nationwide.

In addition to the above reservation, we feel that implementation of this proposed cost-sharing scheme nationwide has serious welfare implications, especially for the poor majority who would be most in need of contraception in this time of economic crisis. Raising prices of contraceptives, which will be the effect of the cost-sharing scheme, while it may not reduce contraceptive use (assuming this is correct), will nevertheless mean that the household in question will have to use some its resources to finance contraception which otherwise could be allocated to maintain current consumption standards in the face of declining income prospects. In view of the welfare loss involved, which could be relatively large among poorer households, the scheme if implemented at present will tend to be regressive and inequitable. For this additional reason, we suggest that the implementation of this proposed cost-sharing scheme be postponed during this time of crisis.

We also made comments on POPCOM's proposed activities related to improving coordination among partner agencies, building capability of local government to plan and manage the population program, continuing the promotion of effected program methods,

and developing a population data bank and information network to provide information for planning and decision-making.

The new directions that emerge from our review of Population Program strategies and objectives point to the need for additional resources, both to cope with an expected short run increased demand for contraceptive methods by households in this time of crisis, and with the long run need to lay a more solid groundwork for the more difficult task of sustaining and accelerating fertility declines in the future. With the current crisis, however, domestic resources are less likely to expand in the short term. In view of this, external resources will play a most critical role in the success of the Program.

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Alejandro N. Herrin and Vicente B. Paqueo

I. INTRODUCTION

In this time of economic crisis and political uncertainty, it is very difficult for people to think beyond the next year. Furthermore, social concerns tend to be quite focused on immediate solutions to the nation's economic and political problems. This environment is very conducive to the neglect of problems that are remotely related to political economy issues. Under such a situation it is tempting to downgrade the value of programs that do not directly deal with those issues, especially if the perceived social benefits from them are likely to be mostly long-term in character. Such might be the case for the population program.

The program is especially vulnerable to the contention that what needs to be done now is not population control but a re-structuring of the political economy that would raise economic efficiency, improve income distribution and promote stability. The population problem, it may be urged, can be attended to later on or, will somehow be solved, once the re-structuring successfully puts the economy on a path of sustained growth and development.

The purpose of this paper is to provide perspectives and analyses that will assist the USAID Mission in formulating its assistance goals and strategies for the FY 1987-1991 in the light of the current and prospective economic and demographic development.

More specifically, the objectives of this report are:

(1) To review Philippine demographic trends in relation both to past socioeconomic trends, and to the impact of public intervention programs;

(2) To examine the implications of recent economic and social developments on demographic trends, with special attention to fertility, infant/child mortality, and population growth;

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(4) To review major policies and strategies affecting demographic trends so as to identify areas that need strengthening or modification.

II. DEMOGRAPHIC TRENDS UP TO 1983

Population Size and Growth

The Philippine population grew from 7.6 million in 1903 to 48.1 million in 1980, a sixfold increase in close to eight decades. Between 1903 and 1948, the population grew at an average annual rate of 2.0 percent; the population in 1948 stood at 19.2 million. During the 1948-1970 period, the average annual growth rate rose to an unprecedented 3.0 percent, so that by 1970 the total population reached 36.7 million, nearly double that of the 1948 population. Population growth decelerated moderately to 2.7 percent annually during the 1970-1980 period; still 11.4 million persons were added to the population, so that total population stood at 48.1 million in 1980. (See Table 1.)

Projections by the National Census and Statistics Office would place the population by year 2000 at between 71 million to 78 million under different fertility assumptions, given moderate mortality decline. By 2030, given the same set of assumptions, the population will be between 97 and 120 million. A World Bank exercise based on data up to 1977 suggests that if replacement fertility is reached by year 2015, the population will reach zero growth rate at around 2075 with a population of 128 million (World Bank, 1979).

Table 1

ENUMERATED POPULATION, ANNUAL INTERCENSAL GROWTH RATE AND PERCENTAGE DISTRIBUTION IN BROAD AGE GROUPS, PHILIPPINES, 1903-1980

Year	Population	Intercensal Annual Growth Rate (Percent)	Percent			Median Age (Years)
			Under 15 Years	15-64 Years	65+ Years	
1903	7,635,426	-	39.5	57.2	3.3	20.2
1918	10,314,310	1.92	44.2	53.4	2.4	18.5
1939	16,000,303	2.22	43.1	53.5	3.4	18.3
1948	19,234,182	1.91	44.2	52.7	3.1	17.7
1960	27,087,685	3.06	45.7	51.6	2.7	17.1
1970	36,684,486	3.01	45.7	51.5	2.8	16.9
1975	42,070,660	2.78	43.9	53.3	2.8	17.6
1980	48,098,460	2.68	42.0	54.6	3.4	18.6

Source: Concepcion, M. B. (1984), from Bureau of the Census and Statistics and National Census and Statistics Office Census Reports, various years.

The prospects of continued population growth well into the 21st century irrespective of fertility trends that can realistically be expected obviously have important implications for the capacity of the Philippine economy and society not merely in accommodating the additions to the population but in significantly raising levels of living and improving the quality of life of the total population. This capacity will be determined to a large extent by the nation's will and efforts in restructuring its population toward moderate growth, and in restructuring its economy towards greater efficiency as early as possible, given the momentum of population growth. Strengthening the nation's will and efforts at restructuring both population and the economy are all the more critical now in the light of the current economic crisis on the one hand, and in the light of some ambivalence regarding the role of demographic factors in development, on the other.

The proximate factors underlying the historical patterns of population growth are the trends in mortality and fertility. We examine below each of these demographic trends.

Mortality Trends

Hard data on mortality levels are difficult to come by especially for the more recent period. This is also true for fertility as we shall see later. This seriously limits the scope of analysis we had earlier planned. Table 2 presents selected estimates of mortality as measured by crude death rate, infant mortality

Table 2

SELECTED MORTALITY ESTIMATES: PHILIPPINES

Source	Year	Crude Death Rate (CDR)	Infant Mortality Probability (q_0)	Life Expectancy at Birth (e_0^o)
Aromin (1961)[a/]	1904-1905	26.8	-	-
	1904-1930	-	-	37.5
	1936-1941	23.3	-	-
	1931-1941	-	-	40.0
Madigan (1965)[a/]	1948-1950	21.6	-	42.5
Lorimer (1966)[a/]	1948-1952	20.0	-	42.5
Lorimer (1966)[a/]	1953-1958	16.7	-	47.5
Lorimer (1966)[a/]	1959-1960	13.4	-	52.5
Flieger, et al. (1981)[a/]	1960	12.8	113.0	52.8
Zablan (1975)[a/]	1960	13.7	105.5	52.8
Flieger, et al. (1981)[a/]	1970	10.8	93.0	55.8
Engracia (1974)[a/]	1970	10.4	80.0	58.0
Flieger, et al. (1981)[a/]	1975	8.7	76.0	59.4
Gonzaga (1979)[b/]	1977	-	64.6	61.2
NEDA (1984)[c/]	1983	8.2	-	62.5

Source:

[a/] Flieger, W. et al. (1981; Table 10, p. 24).

[b/] Gonzaga (1979) based on the Trussell technique.

[c/] NEDA (1984).

probability (q_0) and life expectancy at birth. Hard data are available only up to 1975. The figures for 1983 are based on projections used in the Updated Philippine Development Plan 1984-1987. The projections in turn are based on past trends with the aid of demographic models. The estimates, while useful for planning purposes are less useful for our own analytical purposes, i.e. for the determination of recent trends.

Mortality trends up to 1975 show a general pattern of slow mortality decline from the turn of the century to around 1950, a period of accelerated mortality decline between 1950 and 1960, a sharp deceleration of mortality decline in the 1960s, and a period of accelerated mortality decline during the 1970-1975 period but not as rapid as in the 1950s. This pattern is depicted by the following rates for various years selected from Table 2 which appear to be the most reasonable estimates.

				Average Annual Change			Real per Capita Growth Rate		Average Annual Increments in Real Health Expenditures per Capita
Year	CDR	q_0	e_0^o	CDR	q_0	e_0^o	PCE[a]	GNP[a]	
1948-50	21.5	-	42.5	-	-	-	-	-	-
1960	12.8	113	52.8	0.80	-	0.93	3.9[b]	3.4[b]	6.86[c]
1970	10.8	93	55.8	0.20	2.0	0.30	1.5	2.1	4.84
1975	8.7	76	59.4	0.42	3.4	0.72	1.6	3.6	6.65

[a] PCE = Personal Consumption Expenditures.
GNP = Gross National Product.

[b] 1948-1960.

[c] 1956-1960.

In more specific terms the patterns can be described as follows. Crude death rates declined by 0.30 deaths per 1,000 population annually between 1948-50 to 1960. In the 1960s, the average annual change was only 0.20. In the 1970-75 period, however, the average annual change accelerated to 0.42 per 1,000. This pattern is duplicated by the pattern of change in life expectancy at birth which is not distorted by age structure effects. The most rapid increase occurred between 1948-50 to 1960, where the average annual increment was 0.93 year. The average annual increment dropped sharply to only 0.30 year, during the 1960's, but this climbed to 0.72 year during 1970-75 period. This mortality pattern is broadly consistent with economic trends. For example, real per capita consumption expenditures (PCE) grew at an annual rate of 3.9 percent during 1948-60, dropped sharply to only 1.5 percent in the 1960s, but rose, albeit slightly, to 1.6 percent from 1970 to 1975. The corresponding annual growth of per capita GNP for the corresponding periods are 3.4, 2.1 and 3.6, respectively.

The less than perfect fit between broad trends in mortality and per capita GNP or per capita PCE can be attributed to the role played by "structural" factors in mortality decline. These factors include the effects of public health programs. Earlier, on the basis of fragmentary evidence, Herrin (1983) suggested an explanation of the postwar pattern of mortality decline up to 1970. The rapid mortality declines in the immediate postwar period was suggested

to be associated, on the one hand, with the development of the rural health program in the mid-1950s, notably the establishment of the Rural Health Units as the vehicle for the introduction of modern health technology, and the construction of potable water supply systems in the rural areas; and on the other hand, with the generally rapid economic growth during the 1950s. The impact of these two broad sources of mortality decline, however, appears to have lost their force by the 1960s. Several factors were hypothesized. First, in the health field, problems of staffing the health units, lack of medicine and supplies, and inadequate travel funds for rural health personnel increasingly imposed severe limits to rural outreach efforts (Jacinto, 1969). Public health expenditures tended instead to increasingly concentrate in urban areas emphasizing curative rather than preventive medicine. As a result, further mortality reduction in the rural areas, especially among infants tended to slow down, leading to a slower improvement in life expectancy.

Secondly, the rapid economic growth in the 1950s generated by the narrowly-based import substitution industrialization began to lose steam in the 1960s. The concomitant relative neglect of domestic agriculture and the consequent lag in food production contributed to the slowing down of overall growth. Real per capita consumption expenditures which grew by 3.9 percent during the 1948-60 period, rose only by 1.5 percent in the 1960-70 period. In addition to this slowing down of per capita growth

of personal consumption expenditures, income distribution has either worsened or at least has not significantly improved. Under these circumstances, the momentum of rapid mortality declines in the 1950s could simply not be sustained in the 1960s.

The additional information on trends in cumulated real government health expenditures recently compiled by Paqueo and Herrin (1984) provide another dimension to the explanation of post-war mortality patterns. The average annual increments in real government health expenditures declined in the 1960s relative to that of the 1950s, and this decline coincided with the deceleration in mortality improvements in the 1960s.

Recently, it has been possible to examine more rigorously the macro determinants of mortality using time series data on infant mortality measured in terms of the life table mortality probability (q_0) and selected macro variables (See Paqueo and Herrin, 1984 for data and methods). The estimated equation is as follows:

$$\ln INFANTM_t = \underset{}{2.4035} - \underset{(-2.02)}{1.0475} \ln \frac{LABI_t}{LABS_t} + \underset{(4.51)}{0.0169} PRFOOD_t$$

$$- 1.1028 \ln \frac{CEXP_{t-1}}{POP_{t-1}} - \underset{(-3.41)}{0.1941} \ln \frac{HCAP_t}{POP_t}$$

$$\bar{R}^2 = 0.92 \qquad D.W. = 1.51 \qquad N = 21 \ (1957\text{-}77)$$

where INFANTM = infant mortality rate for both sexes defined as the probability of dying from birth to age one (q_0) multiplied by 1,000

LABI = total number of employed persons in full-time equivalent (in thousands - standard is 40 hours a week)

LABS = total labor force (in thousand persons)

CEXP = private consumption expenditures (in millions at 1972 prices)

POP = total population (in thousands)

HCAP = cumulated government health expenditures (in million pesos at 1972 prices)

The equation suggests that INFANTM is positively associated with real food price, PRFOOD. On the other hand, it is negatively associated with the employment rate, LABI/LABS, the lagged consumption per capita, $CEXP_{t-1}/POP_{t-1}$, and the cumulated government health expenditures per person, HCAP/POP. The reason for cumulating the government health over time is that a substantial portion of such expenditures is usually accounted for by capital expenditures which tend to have long term effects on the health of the population. Such expenditures include expenditures for immunization and control of communicable diseases, the latter through environmental sanitation and health education programs. On the basis of the above regression results, one may conclude that the uneven progress towards mortality reduction from the early postwar period up to 1975 is directly

related to the uneven performance of the Philippine economy as well as of the uneven capacity of the public health sector in maintaining health standards.

But what can we say about mortality trends after 1975, the critical period based on our interest in analyzing the implications of current economic performance on demographic trends? The NEDA (1984) estimates for 1983 are not useful because they are based on assumed trends, the very trends we wish to determine with reasonable accuracy in the first place. The NEDA estimate of life expectancy for 1983 appears to be based on the NCSO moderate projection which simply assumed that the trend observed in 1970-75 will continue up to 2010, and will moderate thereafter up to 2030 (NCSO, 1983). The NCSO, however, used a slightly lower estimate of life expectancy for females in 1975 so that the combined life expectancy for both sexes for 1975 is one year lower than Flieger, et. al.'s estimate shown in Table 2.

To determine recent trends in the absence of hard data we tried to examine the data on infant mortality rate (IMR) reported by the Disease Intelligence Center of the Ministry of Health. Unfortunately, the latest data we have are only up to 1977 which we used for constructing time series estimates of q_0. This is shown in Table 3. The data show that IMR do not appear to be declining from the 1975 level.

Table 3

ESTIMATION OF INFANT MORTALITY RATE (q_0), PHILIPPINES, 1950-1977

	Unadjusted IMR[a]	Assumed Correct q_0	Correction Factor	Estimated q_0
1950	101.6	160.0[b]	1.57480	160.0
1951	105.6	-	1.57190	166.0
1952	101.6	-	1.56901	159.4
1953	105.3	-	1.56611	164.9
1954	94.2	-	1.56321	147.3
1955	84.3	-	1.56031	131.5
1956	83.9	-	1.55742	130.7
1957	93.0	-	1.55452	144.6
1958	80.0	-	1.55162	124.1
1959	72.4	-	1.54873	112.1
1960	73.1	113.0[c]	1.54583	113.0
1961	72.4	-	1.54807	112.1
1962	67.7	-	1.55031	104.9
1963	66.6	-	1.55256	103.4
1964	61.5	-	1.55481	95.6
1965	68.5	-	1.55706	106.7
1966	65.8	-	1.55931	102.6
1967	65.2	-	1.56155	101.8
1968	65.5	-	1.56380	102.4
1969	64.1	-	1.56604	100.4
1970	59.3	93.0[c]	1.56829	93.0
1971	62.0	-	1.53981	95.5
1972	67.9	-	1.51133	102.6
1973	64.7	-	1.48285	95.9
1974	58.7	-	1.45437	85.4
1975	53.3	76.0[c]	1.42589	76.0
1976	56.9	-	1.39741	79.5
1977	56.8	-	1.36893	77.8

[a] IMF estimated from vital registration and census data as reported in Philippine Health Statistics, 1977, Disease Intelligence Center, Ministry of Health, Manila, 1981.

[b] Arbitrarily set at this level representing a level slightly higher than that implied by the difference between unadjusted and "correct" values for 1960.

[c] Estimates of q_0 from Flieger, et al. (1981).

Table 4

AGE INTERVAL AND CO-VARIATE MAIN EFFECTS ESTIMATES FROM THE UNIVARIATE AND MULTIVARIATE MODELS FOR THE PHILIPPINES

Variable	Univariate	Multivariate
	(Grand mean effect: -3.755)	
Age interval		
0- 1 month	-	2.418
1- 3 months	-	1.027
3- 6 months	-	0.282
6-12 months	-	0.157
1- 2 years	-	-0.372
2- 5 years	-	-1.278
5-10 years	-	-2.233
Mother's education		
4 years or less	0.394	0.215
5 or 6 years	0.054	0.029*
7 years or more	-0.448	-0.244
Father's education		
4 years or less	0.301	0.084
5 or 6 years	0.068	0.025*
7 years or more	-0.369	-0.109
Urban/rural		
Urban	-0.165	0.051
Rural	0.165	-0.051
Period of birth		
1959 and before	0.178	0.161
1960-9	-0.095	-0.089
1970 and after	-0.083	-0.071
Region		
Metro Manila	-0.399	-0.059*
Luzon	0.051	-0.019*
Visayas	0.142	-0.028*
Mindanao	0.207	0.107
Mother's age at birth		
Less than 20	0.136	0.181
20-34	-0.124	-0.093
35 and over	-0.012*	-0.088
Birth order		
First	-0.134	-0.199
Second and third	0.003*	0.029*
Fourth and higher	0.131	0.170
Sex of child		
Male	0.042	0.043
Female	-0.042	-0.043
Toilet facility		
Inside house	-0.460	-0.192
Outside house	0.123	0.008*
None	0.337	0.183
Lighting		
Electricity	-0.294	-0.151
Other	0.294	0.151

*Not significantly different from zero at the five percent level using a two-tailed test.

Source: Martin, L., et al. (1983; p. 422)

Another piece of information regarding more recent mortality trends comes from the study on the covariates of child mortality in the Philippines based on the 1978 Republic of the Philippines Fertility Survey (RPFS) conducted by Martin, et al. (1983). The results of the analysis based on the application of proportional hazards model are reproduced in Table 4. Individual, household, and areal variables known to affect childhood mortality are shown to be significant and in the expected direction. Of interest to us at this point are the coefficients of the variable "Period of Birth" in the univariate model. In this model only one co-variate in addition to age is included. The coefficients suggest that risk of childhood mortality was slightly higher in the most recent period, 1970 and after, relative to the preceding period, 1960 to 1969. An alternative explanation that the respondent's recollection of more recent deaths is better was not considered plausible by the authors (i.e. Martin, et al.), since this would require the omission of deaths which occurred in the fairly recent past (8-18 years before the survey date. Thus, it would appear that the risk of childhood mortality has failed to decline significantly during the period 1970-1978 relative to that of the earlier period 1960-1969. This result, however, runs counter to our earlier information that as far as 1970-1975 period is concerned, the infant mortality probability actually declined at a faster rate than during the 1960s. (See Table 2.)

To obtain another indication of mortality trends in the 1970s, we examined the test run projection from the economic-demographic model constructed by Paqueo and Herrin (1984). In this projection both fertility and infant mortality were endogenously determined by the macroeconomic variables as observed during the period 1960 to 1980, using 1960 as the base year. The resulting projections for INFANIM are as follows:

Year	Projected INFANIM	Actual INFANIM
1960	-	113.0
1961	109.2	-
1970	95.2	93.0
1975	82.9	76.0
1977	78.2	-
1980	59.2	-

The results show a drop in projected infant mortality averaging 1.56 deaths per 1,000 annually between 1961 and 1970, 2.46 deaths per 1,000 annually between 1970 and 1975, and 4.74 deaths per 1,000 annually between 1975 and 1980. It would appear that the accelerating mortality decline during the 1970-1975 period was more than sustained during the latter half of the decade. The sharpest decline occurred after 1977; from 78.2 in 1977 to 59.2 in 1980. If the improvements in infant mortality achieved in 1975-80 were indeed larger than in 1970-75, then these improvements should be reflected in a corresponding faster increase in life expectancy in 1975-80 than in 1970-75 unless mortality improvements

in childhood and older ages have not kept pace. The more rapid decline in projected INFANTM during the 1975-1980 period is mainly due to the faster growth of per capita real personal consumption expenditures and of real health expenditures. During the 1975-1980 period, the average annual growth of real per capita personal consumption expenditures rose to 2.3 percent, up from 1.6 percent in the 1970-1975 period, while the average annual increments in real health expenditures rose by 9.95 pesos per capita during the 1975-1979 period, up from 6.65 pesos per capita during the preceding period. The average annual increments in LABI/LABS, however, remained practically the same in 1970-1979 period as in the 1970-1975 period, the change being 0.010 and 0.014, respectively.

While mortality declines accelerated in the 1970s, we expect that such declines would have decelerated in the early 1980s in view of the declining growth in real per capita PCE, increasing unemployment and underemployment, increasing real price of food, and declining increments in real per capita public health expenditures. To what extent this has actually happened cannot be accurately determined at present in view of the absence of recent mortality data. Mortality data obtained from the 1983 NDS should shed light on this when they become available.

Fertility Trends

While fertility data have normally been more available relative to mortality data, we likewise found it difficult to get up-to-date fertility data that might shed light as to trends during the most recent period. The latest source of information, the 1983 National Demographic Survey, has yet to produce firm estimates of total fertility, for example. With this limitation in mind, we present below the trends in fertility and their determinants.

Table 5 presents selected fertility estimates from various sources. The most reasonable estimates from 1960 on are reproduced below together with average annual changes.

	Levels			Average Annual Change per 1,000			Real per Capita GNP
Year	CBR	TFR	IMFR	CBR	TFR	IMFR	Growth (%)
1960	46.0	6.5	9.6	-	-	-	-
1970	39.2	6.3	9.6	0.68	0.02	0.0	2.1
1975	34.8	5.2	8.8	0.88	0.22	0.16	3.6
1982	33.6		7.8	0.15		0.14	2.6

Long term trends in the crude birth rates reveal a pattern of slow decline from the turn of the century to 1960, a moderate drop during the period 1960-1970 averaging 0.68 births per 1,000 annually, and a slightly faster decline during the 1970-1975 period averaging 0.88 births per 1,000 annually. In the most

Table 5

SELECTED FERTILITY ESTIMATES: PHILIPPINES

Source	Year	Crude Birth Rate (CBR)	Total Fertility Rate (TFR)	Total Marital Fertility Rate (TMFR)
Smith[a]	1903	50 or over		
Madigan-Avancena[a]	1948-60	49.1		
Lorimer[a]	1948-49	48.0		
Chavez-Nazaret[a]	1950-55	48.6		
	1955-60	46.5		
UPPI	1960	46.0[b]	6.5[c]	9.6[c]
UPPI	1905	44.5[b]	6.3[c]	9.7[c]
UPPI	1970	39.2[b]	6.3[c]	9.6[c]
UPPI	1975	34.8[b]	5.2[c]	8.8[c]
NEDA[d]	1982	33.6	-	-
NEDA[e]	1982		4.2	
UPPI	1982			7.8[f]

Sources:
[a] See Cabigon, J. (1980) for sources and methods
[b] Concepcion, M. B. (1984)
[c] Cabigon, J. in Concepcion, M. B. (1983)
[d] NEDA (1984)
[e] NEDA (1983)
[f] UPPI (1984)

recent period 1975-1982, the decline in crude birth rates appeared to have decelerated sharply at only 0.15 births per 1,000 annually.

A decomposition analysis of changes in crude birth rates from 1960 to 1975 conducted by Concepcion (1980) shown in Table 6 revealed that the moderate decline in crude birth rate from 1960 to 1970 was due equally to marital fertility decline on one hand, and to the combined effects of age structure and marriage pattern, on the other. Since 1970, the role of marital fertility change in crude birth rate changes dominated other sources of change; the role of marriage patterns become insignificant. The decline in crude birth rate during the period 1970-1975 was in fact totally due to the decline in marital fertility. Hence the slowing down in the decline in the crude birth rate since 1975 may, therefore, be due to the slowing down of marital fertility declines.

With respect to the other fertility measures, the total fertility rate, (TFR) and total marital fertility rate, (TMFR), remained practically at the same level from 1960 to 1970. Both fertility measures declined in the 1970-75 period. Unfortunately, no hard data on these measures are available for the more recent period. The 1982 TFR figure from NEDA (1984) was estimated based on assumed trends, while the TMFR was estimated from a 25 percent sub-sample of 1983 NDS and is a single-year estimate not directly comparable to estimates for previous years. The estimates for previous years are based on five-year averages centered on the

Table 6

DECOMPOSITION OF CHANGES IN CBR BY SOURCE OF VARIATION, PHILIPPINES: 1960-1975

Period	CBR T = 1	CBR T = 2	CBR Change		Absolute Change due to			Percent of Decline due to		
			Amount	Percent	Age Structure	Marriage Pattern	Marital Fertility	Age Structure	Marriage Pattern	Marital Fertility
1960-1970	46.00	39.25	- 6.75	-14.7	-1.2	-1.9	-3.6	17.9	28.5	53.6
1970-1975	39.25	34.85	- 4.40	-11.2	0.4	0.1	-4.9	-8.8	-1.9	110.7
1960-1975	46.00	34.85	-11.15	-24.2	-0.7	-1.8	-8.7	6.5	15.8	77.7

Source: Concepcion, (1980, Table 4, p. 10).

year of reference. If, however, the 1983 NDS estimate of TMFR is close to the true value, then it would appear that marital fertility decline has not accelerated between 1975 and 1982. In fact, it may have decelerated somewhat, or at best it merely maintained the rate of decline observed during the 1970-1975 period.

What might be the factors affecting the fertility trends since 1970? Among the proximate determinants of fertility, the most important are changes in marriage patterns and changes in marital fertility, the latter mainly due to contraception. Singulate mean age at marriage have reached 22.8 years in 1970 and 23.2 years in 1975 which are relatively high by Asian standards. Given the relatively high age at marriage already achieved by the 1970, it would appear that the relative contribution of nuptiality change to the overall fertility decline in the subsequent periods will become less and less important. In fact as the decomposition analysis by Concepcion described earlier indicate, nuptiality patterns no longer contributed to crude birth rate decline in the 1970-1975 period as it did in the 1960s. In view of this we expect that subsequent fertility declines would be mainly due to the changes in marital fertility. The relatively rapid decline in fertility from 1970-75, therefore, must have come almost exclusively from marital fertility change due to increased use of contraception, and perhaps insignificantly from abortion.

Data on contraceptive prevalence rates shown in Table 7 do indicate substantial increases from 1968 to 1973 and from 1973 and 1978. During the period 1978 to 1983, however, contraceptive prevalence rates appeared to have declined. There are of course serious difficulties in comparing contraceptive prevalence data. For one there are possible response errors with respect to the less effective methods of contraception which could vary from survey to survey. Furthermore, survey data are subject to the usual sampling errors.

Disregarding sampling errors for the moment, some apparent progress can be seen if we reexamine the data by methods as follows:

				Change	
	1973	1978	1983	1973-78	1978-83
All Modern Program Methods Only	10.4	12.5	17.5	2.1	5.0
All Program Methods (Excluding Rhythm)	11.4	16.4	20.0	5.0	3.6
All Program Methods Only	18.4	25.3	28.3	6.9	3.0
All Methods (Assuming that Non-Program Methods in 1978 are around 5.6)	24.4	30.8	33.4	6.4	2.6

If we assume that response errors with respect to modern methods are relatively small, then one can see that progress has been made towards accelerating their use in the most recent period. If the prevalence rates for condom and rhythm are included, we see an increase in contraceptive prevalence over the 1978-1983 period; however, the rate of increase is much less than in the previous

Table 7

ESTIMATES OF CONTRACEPTIVE PREVALENCE RATES:
PHILIPPINES, 1968-1983

Method	1968[a]	1973[a]	1978[b]	1983[b]
All Methods	15.5	24.4	37.1	33.4
Modern Program Methods	2.2	10.4	12.5	17.5
Pill	1.3	6.9	4.8	5.5
IUD	0.9	2.6	2.4	2.6
Ligation	*	0.9	4.7	8.9
Vasectomy	*		0.6	0.6
Other Program Methods	5.5	8.0	12.7	10.8
Rhythm	5.5	7.0	8.9	8.3
Condom	*	1.0	3.8	2.5
Non-Program Methods	7.8	6.0	11.8	5.1
Withdrawal	6.2	4.0	9.5	3.9
Abstinence	-	-	1.8	0.8
Others	1.6	2.0	0.5	0.4

Sources: [a] See Herrin, A. N. and T. Pullum (1981).
[b] U.P. Population Institute (1984).

* Cannot be determined from available data; less than 1 percent.

** Users of two methods in combination were classified as users of one of the methods; condoms took precedence over rhythm, which took precedence over withdrawal.

period. The trend for "All Methods" also shows an increase over the two periods, but the increase in the 1978-1983 period is again less than that observed for the previous period. Because the prevalence rate for non-program methods in 1978 is unusually high, suggesting serious response errors, we assume in the above comparison that the true rate would be in between the rates observed for 1973 and 1983, which would be around 5.6 percent.

On the basis of the above sets of comparisons in descending order of probable data reliability, it would appear that contraceptive prevalence rates have not declined as the data in Table 7 would suggest at first glance. Some gains appear to have been made especially for modern program methods. However, overall, the gains over the last period, 1978-1983, are somewhat less than the gains in the previous period 1973-1978. Moreover, if the gains in the most recent period can be explained solely by sampling errors, then the best that could be said is that contraceptive prevalence rates had remained the same between 1973 and 1978. This is obviously a disturbing development, and this lack of progress in increasing prevalence rates is undoubtedly the major proximate factor for the lack of acceleration in fertility declines in the most recent period.

This observation does not directly suggest that the huge investments in money and effort in expanding the total outreach of the family planning program have not had any significant impact on contraceptive prevalence. An earlier study by Laing (1980) suggests

that after controlling for socioeconomic characteristics and clinic-based activities, contraceptive prevalence rates are significantly higher in barangays where outreach efforts have been more intensive. Whether such efforts were sufficiently effective to make a significant impact on national fertility trends, however, is a different question. To be able to answer this question, we need to examine the underlying socioeconomic determinants of fertility change, and what their impact have been relative to that of the population program.

More recently, it has been possible to examine the macro determinants of fertility based on constructed time series data. Previously, quantitative studies on the determinants of fertility were either cross-section studies of international data at the macro level or cross-section analysis of survey data at the micro level. In a recent analysis, Paqueo and Herrin (1983) estimated the determinants of marital general fertility rate (MGFR) and the resulting equation is as follows:

$$\begin{aligned} \ln MGFR_t = {} & 6.476 + \underset{(2.69)}{0.9285}\ WAGE_t - \underset{(-2.67)}{0.0121}\ WAGE_t * EDUCP_t \\ & - 2.5680\ \frac{GNP_t}{POP_t} + 0.0266\ \frac{GNP_t}{POP_t} * EDUCP_t \\ & + \underset{(2.00)}{0.0001}\ FINFANIM_t * EDUCP_t - \underset{(-2.83)}{0.0126}\ PRFOOD_t \\ & - \underset{(-1.33)}{0.0550}\ TDUM \end{aligned}$$

$$\bar{R}^2 = 0.938 \qquad D.W. = 2.03 \qquad N = 21\ (1957\text{-}1977)$$

where MGFR = marital general fertility rate (number of live births per thousand currently married women)

WAGE = real wage (in pesos at 1972 prices)

EDUCP = percent of adult population age 25 years and over with less than high school educational attainment

GNP = gross national product (in million pesos at 1972 prices)

FINFANTM = five-year moving average of infant mortality rate (q_0) per 1,000 births

TDUM = dummy variable: 1 for observations after 1969; zero otherwise

Other variables are as defined earlier.

The regression analysis shows that on the whole, i.e. taking interaction terms into account, the marginal effect on marital fertility of GNP/POP is negative, consistent with the usual demographic transition hypothesis, while that of WAGE is positive, consistent with Encarnación's (1973) threshold hypothesis. The marginal effect of real food price, PRFOOD, is negative, while that of infant mortality is positive but small and declining with increasing education. Both effects are as expected.

The fertility trends since 1970 can be understood in terms of the above relationships. The more rapid increase in real per capita GNP in the 1970-1975 period is expected to reduce fertility

in this period much more significantly than the relatively slower increase in real per capita GNP in the subsequent period 1975-1982. The effect of the decline in real wage and the increase in real food price over both periods would have reinforcing effects on fertility decline. If the decline in real wage rates and the increase in real food prices were larger in the more recent period than in the 1970-1975, as is more likely, then their dampening effect on marital fertility will tend to be felt more in the recent period than in the former. They would therefore have the effect of partially offsetting the weakened downward effect of per capita GNP on marital fertility. The net effect, however, may still be a slower rate of fertility decline in view of the stronger effect of GNP/POP on MGFR. Thus the slowing down of the increase in contraceptive prevalence rates may simply be a reflection of the easing down of the downward pressures on fertility of the macroeconomic variables.

The apparent failure to sustain fertility declines in the more recent period is not only due to the effect of broad macroeconomic trends, but perhaps also by the failure of direct interventions to have significant independent impact on fertility change. This conjecture is supported by the regression results above if we take the dummy variable to represent other factors including the effects of family planning activities. The effect of TDUM while negative is not statistically significant at the usual levels of significance. What this implies is that, given

that the macroeconomic factors were unable to sustain and accelerate fertility declines since 1975, family planning activities have not succeeded in countervailing or offsetting the unfavorable macroeconomic effects on fertility declines. The result then is slower fertility decline since 1975.

III. DEMOGRAPHIC PROSPECTS IN THE LIGHT OF THE CURRENT ECONOMIC CRISIS: SHORT RUN PERSPECTIVE

In analyzing the demographic implications of the current economic crisis, we begin with the following accepted facts: widespread unemployment/underemployment, drastic decline in GNP per capita (and, hence, consumption), substantial reduction in real wage in the face of extremely high inflation rates, soaring prices of food, drugs, and transportation and shortage in medical supplies. Economic recovery is nowhere in sight; the political system is unstable; and people (including those in government) are angry and demoralized.

What are the probable immediate demographic effects of the difficulties and uncertainties that people are confronted with today? We examine the question first with reference to mortality and then to fertility decisions.

Mortality

The regression analysis described earlier indicates significant negative correlation between infant mortality and personal consumption per person, employment rate (in full-time equivalent units) and public health expenditures per capita. The real price of food, on the other hand, appears to be positively correlated with infant mortality. These results support the Malthusian view that during hard times one would expect mortality to rise. Hence,

given the worsening in employment rate, real wage, consumption per person and the food price, the immediate probable effect of the economic crisis is to decelerate mortality declines if not increase mortality levels outright.

The regression analysis also suggests however, that the mortality effect of the current economic crisis can be attenuated by increased real public health expenditures per capita. Ironically, however, government is not in a position to substantially raise its health expenditures per capita for various reasons---including the need to support distressed government or semi-government corporations and financial institutions as well as the heavy debt service burden. More importantly, real gross national product has drastically fallen. In fact, in the current and next year's budget real health expenditures per capita is way below that of 1982. The next year's budget would even be tighter, if government projection of a 20-25 percent rate of inflation is exceeded, which is likely to be the case in view of the current rate of inflation of 60 percent.

The analysis above suggests the following:

1. there is an urgent need to strengthen the population program to soften the impact of the economic crisis on mortality, particularly among infants.

2. clearly, by the nature of the problem at hand, it should be carried out in conjunction with its maternal/child care program.

3. in order not to dissipate whatever gains are accomplished through (1) and (2) above, untimely pregnancies need to be prevented (voluntarily, of course) by providing family planning services in connection with the above measures.

The success of (3) above would obviously depend on couple's inclination to practice family planning. As we shall indicate below there is probably such an inclination as a result of the present crisis.

Fertility

The regression analysis of marital general fertility described earlier suggested the role of specific macroeconomic variables on fertility trends. With the current economic crisis, we would expect that the decline in real per capita GNP growth will tend to arrest the rapid fertility decline observed in the early 1970s. However, the combined effects of the declines in real wage rates and the increase in the real price of food, which work in the opposite direction, would tend to hasten such decline. On balance, however, the net effect of macroeconomic variables will probably tend to slow down fertility declines rather than to accelerate it.

The above analysis, however, does not take into account the role of drastic changes in expectations resulting from the economic crisis which could effectively shift the entire set of relationships towards reduced demand for children. In view of the lack of

empirical information regarding the role of economic stress on fertility, our discussion below will be mainly speculative.

At the micro level, there are several possible reactions to the economic crisis among a large group of couples. First, one group of couples may view the current crisis as temporary. Their long term expectations of the future remains as before the crisis, and therefore, their long term fertility goals would likewise remain essentially the same. In the short term, however, their likely reaction from economic stress would be to postpone additional births in order to stretch out their limited resources to maintain current consumption standards. The implication of this scenario is that couples would increase their demand for effective contraceptive methods in the short run. The role of the family planning program in the short run would, therefore, be to help meet such prospective demand through the provision of better information and wider access to contraceptive supplies and services. However, because fertility may be expected to increase in the future once the economic crisis is over as couples begin to implement their long term fertility goals, there is a need to consider a long run strategy of motivating these couples to revise their expectations of the future that would lead to a decline in their long term demand for children. Such motivational efforts might involve provision of better information as to the likely long term economic prospects. We describe the nature of such efforts later.

Second, some couples may indeed respond to the economic crisis by revising entirely their long term expectation of economic security and correspondingly their long term fertility goals. For these couples, limitation of additional children will be both a short run and long run strategy. As a result, the need for sustained efforts to provide wider access to family planning information and services is imperative on the part of the population program.

Third, there may be a group of couples whose economic expectations and fertility goals would not be affected by the current economic crisis. This group may be further subdivided into two sub-groups. The first are the very poor who might feel that the current crisis and eventual economic recovery will not substantially affect their current and future economic status, and therefore, they will pursue their usual long term strategy of having a large number of children to cope with their poverty situation. The second are the relatively well-off who can survive the crisis without limiting their family size. This second group, however, are most likely to have small family size norms anyway and, therefore, there is little need to worry about this group. It is the first group that is worrisome, because their strategy of continued high fertility in the context of declining household resources could lead to the unintended consequence of high infant/child mortality. For this group, a

different motivational tact might be used to encourage fertility control in the short term to minimize mortality risks, and to encourage fertility control in the long term as part of a new strategy based on revised expectations about the future.

We shall return to the discussion on population policy and strategy later. Suffice to say at this point, that the economic crisis is bound to affect couples in different ways, the majority of them most likely in terms of increased demand for fertility limitation. The implication is that the population program must be ready more than ever to effectively respond to such increased demand in the short term even as it continues to lay the groundwork for its longer term strategy of sustaining fertility reductions in the future.

Population Growth

In view of the foregoing prospective trends in mortality and fertility, what can we say about the current population projections that are based upon pre-crisis assumptions? The NCSO (1983) population projections made two assumptions regarding mortality decline, both of which now need reexamination. The first assumption is that mortality will decline moderately, i.e. "that present government programmes for the health conditions of the people are continued and maintained at current relative resource allocation" (p. 3). The second assumption is that mortality will decline rapidly, i.e. "that greater strides in effecting a more favorable mortality

condition will be attained in the next couple of decades through a reinforced public health program coupled with substantial improvement in overall standards of living." (p. 3) The moderate decline assumption involves a decadal increase in life expectancy of around 3 years from 1980 to 2010 so that by year 2010 life expectancy will be 70.3 years. Slower improvements are then expected beyond 2010 so that life expectancy will be 73.5 years by 2030. In contrast the rapid mortality assumption involves a decadal increase of around 4.4 years from 1980 to 2000 so that life expectancy reaches 70.3 years at the end of the period; thereafter improvement slows down such that a life expectancy of 73.9 years is reached in year 2030.

Our analysis of the mortality implications of the economic crisis would suggest that the rapid mortality decline assumption might no longer be realistic. Moreover, the moderate mortality decline assumption can be achieved only with significant improvements in the efficiency of present government health programs in view of the probable reduction in real per capita allocation relative to the 1970s. With the probable slowing down of mortality decline, population growth will likewise tend to slow down, assuming that fertility trends remain the same. The price of such slowing down of population growth will obviously be high and would be considered unacceptable.

Future fertility trends remain unclear as we have seen earlier. If fertility decline merely slows down in the short run as a result of postponement of births and later accelerate once economic recovery is achieved, then population growth will slow down at first but accelerate later. In the short run a sharp deceleration in population growth can be expected from the combined low fertility and constant mortality. Several other scenarios are possible which were not captured by the NCSO projections. The implication is that with the economic crisis, realistic population projections become a more difficult undertaking, since one has to take account of several potential time paths that mortality and fertility change can take, depending not only on the time frame of economic recovery and development, but also on the ability of public programs to significantly affect fertility and mortality in the light of resource constraints.

The use of economic-demographic models would be ideal in projecting population under varying assumptions regarding trends in macroeconomic variables and regarding potential impacts of public programs. Unfortunately, it has not yet been possible to perform this kind of exercise with the Paqueo and Herrin (1984) model currently being tested and refined.

IV. POPULATION AND THE ECONOMY: A LONG TERM VIEW

Traditionally, the role of population in the long term economic development of a country is described by comparing the impact of alternative demographic trends on such economic variables as income, employment, government expenditures, etc. Such comparisons are usually made through the use of economic-demographic models constructed to describe the country in question. An original aim of this paper was to provide such analysis using the Paqueo and Herrin (1984) model. However, as mentioned earlier, the model could not yet perform the necessary simulations in time for the preparation of this paper.

In order to provide a fresh perspective on the role of population in Philippine development, we examined in detail below the dynamic interplay between economic and demographic factors related to the problem of providing productive employment to the growing labor force. We start the discussion with the view that a critical aspect in the success of the Philippine economy and society in significantly raising levels of living and improving the quality of life of the growing population is the capacity to achieve full employment at rising real wages. This capacity is determined on the one hand by the growth of the labor force, and on the other hand, by the growth and efficiency of the economy. After briefly examining the nature and extent of the employment problem, we proceeded to

examine the historical experience of labor absorption in the Philippines. We note that, given the fast growth of the labor force, the failure of the economy to expand its labor absorptive capacity can be traced, among others, to the failure of the economy to raise total factor productivity. This failure in turn is a consequence of the structure of economic incentives brought about by trade, monetary and fiscal policies, and recently to a political environment which tends to encourage waste and inefficiency.

The prospects for greater efficiency hinges on the future structure of incentives and penalty both in the economic and political spheres. This future, however, is uncertain, whereas the prospects of continued growth of the population and of labor supply well into the 21st century, irrespective of fertility trends that can realistically be expected, is quite certain in view of the inherent momentum of population growth. In this context, the role and value of population control in the long term development of the Philippine economy emerges clearly. Even if a change in the structure of economic incentives can be effected in the short term to arrest and later reverse the deterioration in total factor productivity growth, the impact of this change on full employment with rising incomes may only be felt in the medium or long run in view of the accumulated unemployed and underemployed and of the continued growth of population and labor supply. This time frame may not be acceptable in view of society's desire to raise levels

of living and improve the quality of life as quickly as possible. In the light of this, we argue that the long-term objective of full employment with rising real wages can be greatly facilitated by reducing the growth of its labor force through fertility reduction now. The role of moderating population growth becomes more crucial if economic performance can not be significantly improved quickly.

Labor Force and Employment

The nature and extent of the employment problem can readily be seen in Table 8. In the first quarter of 1978, the number of employed persons was down to 0.8 million, constituting 5.2 percent of a labor force (15 years old and over) of 15.38 million. In the same quarter of this year, the unemployed stood at 1.2 million--- 6.3 percent out of a labor force of 20.63 million. In addition, the total number of unemployed persons rose from 1.5 million in 1978 to 6.9 million in 1984. As a proportion of the labor force, this means an increase from 10.2 to 34.5 percent. Overall, the total number of openly unemployed and underemployed persons rose from 2.3 million to 8.2 million or, in terms of proportion to labor force from 15.4 to 40.8 percent.

It is important to note in this regard that the labor force between 1978-1984 appears to be growing at an extremely rapid rate of 5.68 percent per year. In absolute terms, the average annual increment in the labor force is about 0.875 million. This is, of

Table 8

SELECTED EMPLOYMENT INDICATORS: PHILIPPINES, 1978-1984

Indicator	Period			
	1978	1983		1984
	First Qtr.	First Qtr.	4th Qtr.	First Qtr.
1. Unemployment as a proportion of the labor force (in %)	5.2	5.9	4.1	6.3
2. Unemployed (in M)	0.8	1.2	.9	1.3
3. Underemployment as a proportion of the L.F. (in %)	10.2	29.0	30.5	34.5
4. Underemployed (in M)				
Total	1.5	5.6	6.3	6.9
Visible	.8	3.4	3.8	3.9
Invisible	.7	2.2	2.5	3.0
5. Annual Sectoral Distribution of Employment (in %)	1957-1964	1964-1971	1971-1978	1983 First Qtr. / 1984 First Qtr.
Agriculture	60.5	55.8	52.9	50.1 / 49.1
Industry	18.2	18.7	19.0	14.8 / 50.9
Services	21.3	25.4	28.1	34.9 /

Source: Integrated Survey of Households, for dates indicated.

Figures for 1978 and 1983 are from An Analysis of the Philippine Economic Crisis: A Workshop Report (1984).

course, an underestimate inasmuch as it excludes those who are in the 10-14 age group.

From a historical perspective, the labor force has been growing very rapidly, although it did not approach 5.68 percent prior to 1975. It can be gleaned from Table 9 that the labor force growth was on the whole accelerating during the postwar years. Except for the period 1956-71, when it dipped to 2.5 percent, the annual growth rate was continually rising from 1.3 percent in 1956-60, to 3.2 in 1960-65, 3.3 in 1971-75 and then 5.8 in 1976-78. These rates of growth are way above the average for developing countries of about 2.0 percent.

Essentially, the rapidity of growth of the labor force is due to the fast rate of growth of the working age population, which in turn is due to the high fertility rate combined with low death rate in the previous decades. Looking at Table 9 again, one finds that the household population in the working age group was growing during the postwar period between 3.2 and 4.2 percent per year.

Labor Absorption: Historical Perspective

To situate the current problem of employment and rapid labor force growth, we shall now examine a slice of Philippine postwar history.

Table 9

POPULATION AND LABOR FORCE GROWTH BY AGE:
PHILIPPINES, 1956-1978

	1956-1960	1960-1965	1965-1971	1971-1975	1976-1978
Household Population					
All Ages	3.3	3.6	4.2	3.3	4.0
10-24	3.0	4.4	4.3	3.3	3.2*
25-44	2.4	3.9	3.8	2.5	3.6
45-64	5.9	-2.0	4.3	3.5	6.4
65 and over	3.3	-0.7	4.2	7.7	9.6
In the Labor Force					
All Ages	1.3	3.2	2.5	3.3	5.8
10-24	-0.1	2.0	1.2	2.6	3.6*
25-44	0.5	4.7	3.1	2.7	5.5
45-64	5.5	1.6	4.2	3.6	-8.5
65 and over	5.0	0.2	2.6	8.9	12.7

*15-24 years old.

Sources: Domingo (1984) from Integrated Sample Survey of Households Bulletin (formerly the National Sample Survey of Households).

Table 10

AVERAGE ANNUAL HOUSEHOLD POPULATION (10/15 YEARS OLD AND OVER) AND LABOR FORCE BY EMPLOYMENT STATUS, 1957, 1961, 1966, AND 1971-1980
(in thousands, except percent)

	1957	1961	1966	1971	1972	1973	1974	1975	1976[b]	1977	1978	1979[c]	1980[d]
Population (10/15 years old and over)[a]	15,365	17,358	21,143	25,811	26,968	28,332	28,810	29,351	31,376				
Labor Force (LF)	8,771	9,995	11,822	12,911	13,701	14,140	14,470	14,724	24,837 16,244	25,695	26,688	27,918	28,803
Employed (E)	8,103	9,245	10,984	12,246	12,834	13,450	13,885	14,142	15,018 15,427	15,328	16,502	17,536	18,076
Unemployed	1,434	2,118	2,612	1,862	1,628	1,663	1,417	1,652	14,238 1,634	14,547	15,652	16,802	17,202
Visibly[e]	936	1,111	1,035	807	762	849	763	811	3,628 829	2,897	2,324		
Invisibly[f]	498	1,007	1,577	1,055	866	814	654	841	2,178 805	1,588	1,236		
Unemployed (U)	668	751	838	666	867	690	584	581	1,450 818	1,309	1,088		
Labor Force Participation Rate (LFPR)	57.1	57.6	55.9	50.0	50.8	49.9	50.2	50.2	780 51.8	781	850	734	874
Employment Rate	92.4	92.5	92.9	94.8	93.7	95.1	96.0	96.1	60.5 95.0	59.7	61.8	62.8	62.8
Underemployment Rate: % of LF	16.3	21.2	22.1	14.4	11.9	11.8	9.8	11.2	94.8 10.1	94.9	94.8	95.3	95.2
% of E	17.7	22.9	23.8	15.2	12.7	12.4	10.2	11.7	24.2 10.6	18.9	14.1		
Visibly: % of LF	10.7	11.1	8.8	6.3	5.6	6.0	5.3	5.5	25.5 5.1	19.9	14.3		
% of E	11.6	12.0	9.4	6.6	5.9	6.3	5.5	5.7	14.5 5.4	10.4	7.5		
									15.3	10.9	7.9		

Table 10
(Continued)

Group/Indicator	1957	1961	1966	1971	1972	1973	1974	1975	1976[b]	1977	1978	1979[c]	1980[d]
Invisibly: % of LF	5.7	10.1	13.3	8.2	6.3	5.8	4.5	5.7	5.0 9.7	8.5	6.6		
% of E	6.1	10.9	14.4	8.6	6.7	6.1	4.7	5.9	5.2 10.2	9.0	7.0		
Unemployment Rate	7.6	7.5	7.1	5.2	6.3	4.9	4.0	3.9	5.0 5.2	5.1	5.2	4.2	4.8

[a]The minimum age for labor force membership was set at 10 years before 1976 and 15 years thereafter.

[b]The second figures in 1976 and the figures of 1977 to 1980 are from the quarter-based household surveys while those of the earlier years are from the week-based surveys.

[c]Figures for this year are preliminary estimates based on hand tallied result of accomplished questionnaires for four quarters.

[d]Figures for this year are preliminary estimates based on hand tallied result of accomplished questionnaires for the last two quarters.

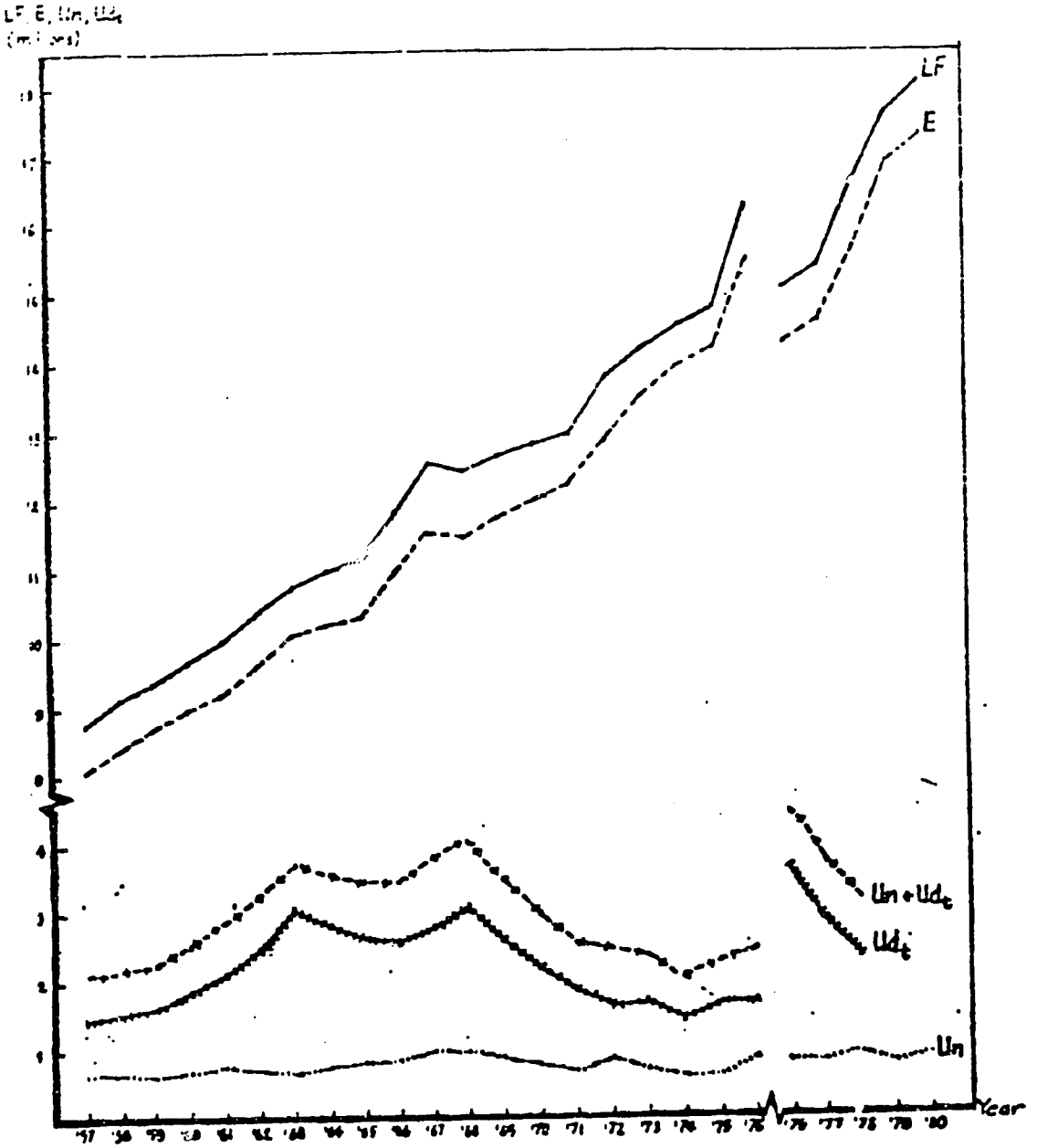
[e]Visibly underemployed---those who worked less than 40 hours and wanted additional work.

[f]Invisibly underemployed---those who worked 40 hours or more and wanted additional work.

Sources: NCSO, National Sample Survey of Households Bulletin (formerly The BCS Survey of Households Bulletin) for figures up to 1976 and Integrated Survey of Households Bulletin for 1976 to 1978.

Reprinted from Tidalgo and Esguerra (1982).

Chart 1 - LABOR FORCE BY EMPLOYMENT STATUS

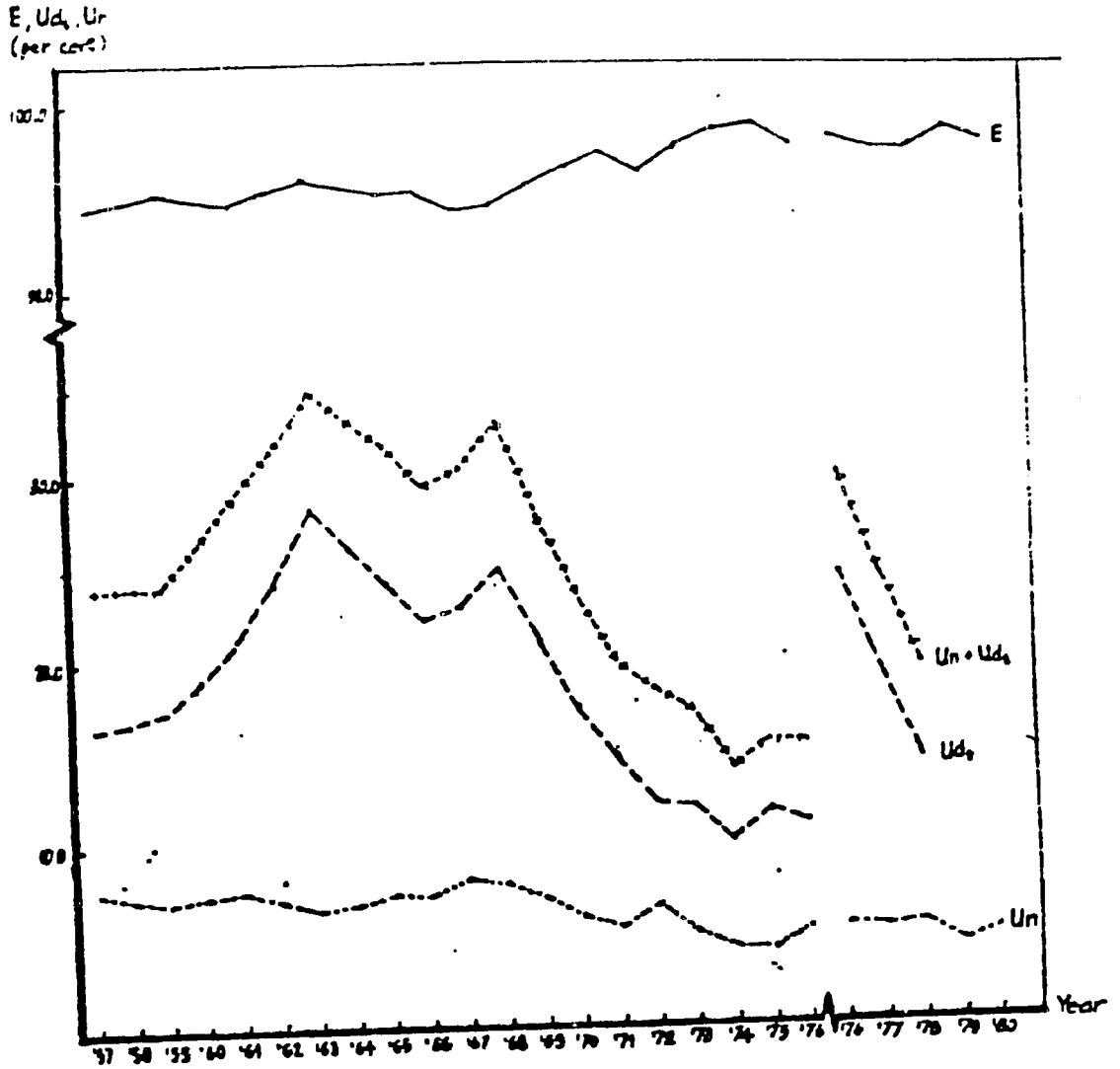


Note: LF - Labor Force
E - Employment
Ud_t - Total Underemployment
Un - Unemployment

Source: Figures for 1957, 1961, 1966, 1971-80 are from Table 8 of the text; those of 1959, 1963, 1965 and 1968 are from Table 1 in R.L. Tidalgo, "Labor Absorption in the Philippines, 1956-73," PEJ, Vol. 15, Nos. 1 & 2 (1976), p. 185 and the Bureau of the Census and Statistics Survey of Households Bulletin for the years indicated; and figures for the other years are interpolated values using geometric growth rates.

Reprinted from Tidalgo and Esguerra (1982)

Chart 2- LABOR FORCE BY EMPLOYMENT STATUS



Note: E - Employment
Ud_t - Total Underemployment
Un - Unemployment

Source: Figures for 1957, 1961, 1966, 1971-80 are from Table 8 of the text; those of 1959, 1963, 1965 and 1968 are derived from Table 1 in R.L. Tidalgo, "Labor Absorption in the Philippines, 1956-73," PEJ, Vol. 15, Nos. 1 & 2 (1976), p. 185, and the Bureau of the Census and Statistics Survey of Household Bulletin for the years indicated; and figures for the other years are derived from interpolated absolute values.

Reprinted from Tidalgo and Esguerra (1982)

It would appear from Table 10 and Charts 1 and 2 that the employment rate or the percentage of persons in the labor force who had a job during the week (or quarter, as the case may be) prior to the survey interview improved over the period 1957-80. Between 1957 and 1967, the employment rate hovered at about 92.5 percent. After 1967 it steadily began to go up until it reached 96.1 percent in 1975. During the second half of the 1970s it stood at about 95 percent. With the apparent improvement in the employment situation, the open unemployment rate fell correspondingly from 7.5 percent in 1957 to 3.3 percent in 1975, and stayed at around 5.0 percent in 1976-1980. In absolute terms (person count), one notices an increase in the number of openly unemployed person between 1957-1967. Between 1967 and 1975, however, the employment rate has so improved as to make the number of openly unemployed go down from 838 thousand in 1966 to 581 thousand in 1975. In the second half of the 1970's, however, with the acceleration of the growth of the labor force, open unemployment among persons 15 years old and over rose from 780 thousand in 1976 to 874 thousand in 1980. If one includes persons aged 10-14 years as was the case prior to the third quarter of 1967, open unemployment would certainly be higher, possibly in the neighborhood of 900 thousand.

It would also appear that underemployment (visible and invisible) as a percentage of employed persons dropped dramatically to about 11.7 percent in 1978, after having rapidly risen from 17.7

percent in 1957 to a high of about 29 percent in 1963. Much of the underemployment rate is accounted for by visible underemployment. In 1957 visible underemployment accounted for about 65.5 percent. It became smaller through time and by 1975 and 1976 it was only about 50 percent. In other words, the percentage of underemployed persons who were working less than 40 hours a week and wanted additional work became less dominant---a further indication of an improvement in labor utilization in 1957-1976.

In absolute terms the total number of unemployed persons increased from 1.43 million in 1957 to close to 3.0 million in 1963 and 1968. It then fell to as low as 1.42 million in 1974 inspite of the rapid growth of the labor force. On average it fluctuated at around 1.6 million in 1972-1976.

The discussion of underemployment from 1976 onwards must now consider the discontinuity in the time series. It would appear in the charts that underemployment both in absolute and relative terms jumped dramatically in the third quarter of 1976. This increase, however, is a statistical artifact brought about by the change in the way underemployment was measured. First, there was a change in the reference period from the past week to the past quarter. Second, while the underemployment series was calculated on the bases of hours worked during the past week between 1957-1976 of the data starting in the third quarter of 1976, underemployment was calculated on the basis of the number

of days of full time work during the past quarter. In the former period a person is classified as visibly (invisibly) underemployed if he works less (more) than 40 hours per week and wants additional work. In the latter period, the corresponding standard used is 64 days per three months. On the assumption of a five days a week and eight hours a day work schedule, the 64 days standard is an analogue of the 40 hours per week norm.

It has been noted earlier that in a situation like the Philippines where jobs are characterized by seasonality, irregularity and instability, the quarter-based estimates are likely to give significantly higher figures on underemployment (and capture more adequately the underutilization problem) than the week-based statistics. This is a major factor why the underemployment rate appears to have risen from 10.6 percent to 25.5 percent in the third quarter of the same year (1976). Because of the jump in underemployment rate, the absolute number of underemployed persons also rose dramatically in 1976 in spite of the exclusion of the 10-14 year olds from the labor force.

Hence, the "worsening" of underemployment in the 1976 is more apparent than real. In fact, if one looks only at the quarter-based estimates from 1976 to 1978, it is obvious that underemployment rate went down from 24.2 percent in 1976 to 18.9 percent in 1977 and then to 14.1 percent in 1980. In addition, the number of underemployed for the corresponding years has declined from

3.63 million in 1976 to 2.32 million in 1978. This suggests a continuation of the trend towards an improvement in the employment situation as indicated by the week-based statistics in the past, particularly the first half of the seventies.

To summarize, it would appear that the economy has more than kept pace in absorbing a rapidly growing labor force up to 1978. While there was a worsening of the employment problem towards the late 1950's until the early 1960's the trend seems to have been reversed in the mid-1960's and the employment situation began to improve particularly in the first half of the 1970's until late 1970's. The situation, however, was clearly and dramatically reversed during the period 1978-84. In view of this reversal, one can say that over the long haul of three decades, the economy on the whole could not sustain and permanently improve its labor absorptive capacity in relation to the rapid growth of the labor force.

Current development theories indicate that for a densely populated low-income economy to successfully absorb its growing labor force it must rely increasingly on the expansion of its non-agricultural sectors. Table 8 shows that there was a decline in the percentage of employment accounted for by the agricultural sector from 60.5 percent in 1957-1964 to 52.9 percent in 1971-1978. Unfortunately, it does not indicate a healthy transformation of the economy. One reason which immediately comes to mind is that

according to Table 8 the share of the industrial sector in total employment (using Kuznet's classificatory scheme) barely increased from 18.2 percent in 1957-64 to 19.0 percent in 1971-78. In fact, by 1983 it was down to 14.3 percent. What increased substantially is the share of the service sector from 21.3 percent to 28.1 percent during the same period. And, as Tidalgo and Esguerra (1982) pointed out, "services" is a lower productivity and, hence, low wage sector relative to industry." In fact, one interpretation of the trend might be that people have been pushed to the low wage service sector (just to survive) due to lack of job opportunities in the agricultural and industrial sectors. This interpretation is certainly consistent with the long-term stagnation or, worse, long term decline in the real wage rate as well as the negative rate of growth of output per worker in the service sector (Oshima 1983).

It may be noted at this point that the decline in the real wage was particularly steep during the same period (roughly 1968-1974) when unemployment and underemployment fell sharply both in relative and absolute terms. This strongly suggests that in order to accommodate the employment needs of a growing population the economy had to adjust real wage rate downwards to expand job opportunities.

For development efforts to be considered "successful" in regards the employment problem, it is imperative that, in a

country like the Philippines where real wage is very low, the expansion of employment should be followed by a rising real wage rate.

At this stage of the discussion, the following questions inevitably arise: Why did the economy fail to expand employment with rising real wage (or at least without real wage reduction)? Why did the industrial sector fail to absorb relatively more of the increasing labor supply---a failure that led a rising number (and proportion) of people to take on low productivity, low wage jobs in the service sector? Why is economy unable now to sustain the past rate of labor absorption?

These are certainly complicated questions requiring complex answers. The purpose of the following sections is to indicate systematically various macroeconomic, political and institutional factors that impinge directly or indirectly on these questions. First, we will examine the macroeconomic factors. Then, a discussion of institutional and political matters will follow.

The Macroeconomic Context

Oshima (1983) has assembled estimates of GDP per capita growth rates for monsoon Asia, against which Philippine performance can be compared. According to his study, the Philippines grew at the rate of 3.1 percent per year for the period 1950-80. It had a fast start with an annual growth rate of 3.6 percent in 1950-60,

compared with Southeast and South Asian countries at that time with the exception of Burma. Its growth was even faster than South Korea's and close to Taiwan's.

However, while these two countries together with other East and Southeast Asian countries increased their growth rate in the 1960-70 period, that of the Philippines fell to 2.2 percent. This is the lowest for the period among all East and Southeast Asian countries, though still above the growth rates of South Asian countries. The same pattern continued between 1970-80 with the exception that the Philippine growth rate during this period apparently rose to 3.4 percent. Oshima noted that due to those differential growth rates the Philippines, which had higher per capita incomes than Thailand and South Korea and about equal to those of Taiwan in the early 1950's, has fallen far behind the latter two countries, and was caught up in the early 1980's by Thailand which had only one-half of the Philippine income three decades earlier. Nevertheless, he acknowledges that, the Philippine postwar rate of growth of 3 percent is the same as the world's average. Additionally, he points out that the 3 percent growth rate is roughly the trend rate at which a dozen or so Western industrialized countries grew in the past century.

It would appear then that, although it did not keep pace with the spectacular growth rates achieved by her East and Southeast Asian neighbors, the Philippines seemed to have performed satisfactorily by world standards. But this is more apparent

that real and it would be misleading to conclude as the government has done that the Philippine economy was (and is) basically sound even in the light of the present economic crisis. Essentially, the reason, which will be made clear below, is that the economy is weak in terms of total factor productivity growth. The per capita GDP growth of 3.4 percent in 1970-80, which apparently is a reversal of the downward drift in 1960-70 relative to 1950-60, was heavily financed by foreign borrowing during this period. It is in the 1970's and 1980's that the country borrowed heavily from abroad to become one of the big debtors in the international financial market today. With so much borrowing, the Philippines should have performed as well as the other Southeast Asian countries, if not better. In fact, however, while the other Southeast Asian and East Asian countries continue to grow, the Philippines experienced a zero growth rate in per capita GNP in 1982. And with the current economic crisis, GNP per capita growth begun to decline in 1983. This year GNP (absolute level) is estimated to decline by 6 percent.

The government blames external factors for the economic deterioration: namely (1) the two major oil price increases in 1973-74 and 1979-80 and (2) the world economic recessions. These two factors combined to cause a deterioration of the terms of trade by more than 40 percent over a span of 10 years. That these external shocks affected negatively the country's economic performance is beyond doubt. As an example, its fuel bill zoomed from $187.6 million in 1973 to $2.2 billion in 1980 inspite of

the fact that the quantity of oil imported did not increase. Note that the current account deficit in 1980 was 2.05 billion, suggesting that without those major oil price increases the current account could have been roughly balanced.

The economic malaise that the country is now experiencing can not, however, be solely due to the external shocks. After all, it can be argued that Taiwan, South Korea and even Thailand, which are quite comparable to the Philippines, did face the same shocks. Yet, they continue to perform very well---much better than the Philippines which borrowed much more from abroad per capita-wise than Thailand (Oshima 1983).

A widely held view consequently is that: (1) there are important factors or weaknesses that prevented the economy from growing at a faster rate, and (2) the impact of the external shocks was exacerbated by government failure to respond appropriately to those changes.*/ The following sections will examine what these internal factors are.

Total Factor Productivity: Postwar Record. A historical analysis of the developed countries and the newly industrializing countries (e.g., South Korea and Taiwan) reveals that for sustained

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*This is the basic conclusion of the report An Analysis of the Philippine Economic Crisis: A Workshop Report (1984).

economic growth and employment expansion with rising real wage to occur, the economy needs to be transformed in such a way as to promote rapid total factor productivity growth (TFPG). In this regard, sources of growth accounting studies show that in these countries TFPG was fast enough to account for about 50 percent (roughly) of the rate of growth of output. In the case of Taiwan and South Korea, for example, TFPG appears to be over 4.0 percent per year. In contrast, in the Philippine factor productivity growth was nowhere near that rate.

Oshima (1983), using conventional sources of growth accounting method and full time equivalent employment data, estimated factor productivity growth (TFPG) to be -1.6 percent. For the agricultural sector, TFPG is about 1.3 percent, while that of the non-agricultural sector is -2.0 percent.

Furthermore, according to Sanchez's (1983) price deflated estimates, the manufacturing sector registered a TFPG of over -4.5 percent. She also points out that, combining estimates by David and Barker (1979) and Manuel (1982), TFPG for 1956-75 appears to be 0.66 percent.

These figures, rough though they may be due to data limitations, are strongly indicative of a failure to achieve an economic transformation characterized by a more efficient allocation and use of the country's resources. These facts are consistent with the hypothesis of Tidalgo and Jurado (1976) that a rising proportion of

workers are being pushed to the low paying service sector (where neither crop land nor fixed capital is needed) because of the failure of the agricultural and industrial sectors to raise factor productivity and, hence, labor absorption at a sufficiently high rate.

The conclusion that total factor productivity growth in the Philippines has been at best minimal and, at worst, deteriorating is also consistent with our own finding (Paqueo and Herrin, 1984). Using data covering the period 1956-80, we obtained the following regression equation for our economic-demographic model (henceforth to be referred to as the PDP model):

$$1.\quad \ln \frac{GNP}{LABI} = 4.483 + \underset{(2.96)}{0.225} \ln \frac{KAPG}{LABI} + \underset{(4.73)}{0.584} \ln \frac{KAPFP}{LABI} + \underset{(2.09)}{0.108} \ln \frac{ENER}{LABI}$$

$$- \underset{(6.51)}{0.953} \ln EDUC5 - \underset{(-3.59)}{0.029} TIME$$

$$\bar{R}^2 = 0.983 \qquad N = 1956\text{-}1980 \qquad D.W. = 1.65 \qquad \rho = -0.2099$$

where EDUC5 = percent of employed persons 10 years old and over who have not completed grade six

ENER = energy input (in 10^{10} kilo calories)

GNP = gross national product (in million pesos at 1972 prices)

KAPG = government originated fixed capital stock (in million pesos at 1972 prices)

KAPFP = private sector originated fixed capital stock (in million pesos at 1972 prices)

LABI = labor time input in full time equivalent (in thousands ---40 hours/week standard used)

The regression equation above suggests that net of the contribution of education (which may be considered as index of educational capital), total factor productivity growth rate, as indicated by the coefficient of TIME, is about -3.0 percent. The annual rate of reduction in the percentage of workers with only grade five or less educational attainment (EDUC5) is about 2.5 percent. Multiplying this by the coefficient of EDUC5, we obtain a rough estimate of 2.4 percent as the contribution of education to total factor productivity growth. Hence, if one includes education's contribution, TFPG would be in the neighborhood of -0.6 percent (2.4 percent minus 3 percent). Hence, if it were not for the growth in the educational capital of Filipino workers, the rate of growth of GNP would have been much lower.

Employment, Wages and Total Factor Productivity. Consider now the following set of regression equations from the PDP model to illustrate some of the economic implications of the failure of total factor productivity to grow.

2. $\ln LABI = -3.74 + \underset{(7.30)}{1.00} \ln GNP - \underset{(-2.33)}{0.184} \ln WAGE + \underset{(2.49)}{0.679} \ln EDUC5$

$\bar{R}^2 = 0.983$ N = 1956-1980 D.W. - 1.51 $\rho = 0.196$

3. ENER = ENINT * GNP

4. $\ln ENINT = 0.382 + \underset{(22.39)}{0.90} \ln ENINT_{-1} - \underset{(-2.75)}{0.116} \ln PRENPR$

$\bar{R}^2 = 0.968$ N = 1960-1980 D.W. = 1.69 $\rho = 0.018$

Eq. 2 may be thought of as the conditional demand for labor function with the negative coefficient of real wage (WAGE) indicating a substitution effect from a wage change. The coefficient of EDUC5 is positive, suggesting that for a given wage, less labor input is needed to produce a given amount of output. The model assumes energy (ENER) demand (Eq. 3) as the product of GNP and energy intensity of output ($ENINT = \frac{ENER}{GNP}$). Energy intensity in turn is assumed to be a function of last year's energy intensity level and the relative or "real" price of energy (PRENPR), defined as the ratio of nominal price of oil and petroleum products to the implicit GNP price deflator. As expected, PRENPR has a negative coefficient.

These equations plus Eq. 1 presented earlier form a simultaneous system of equations whose reduced form may be written as (omitting the energy equation):

5. $\ln GNP = 0.213 + 0.279 + \ln KAPG + 0.722 \ln KAPFP - 1.11 \ln EDUC5$
$- 0.019 \ln WAGE + 0.120 \ln ENINT_{-1} - 0.016 \ln PRENPR$
$+ 1.237 TFPG * TIME$

6. $\ln LABI = 1.522 + 0.281 \ln KAPG + 0.729 \ln KAPFP - 0.440 \ln EDUC5 - 0.201 \ln WAGE + 0.121 \ln ENINT_{-1} - 0.016 \ln PRENPR + 1.248\ TFPG * TIME$

TFPG is the total factor productivity growth parameter of -2.94, which is just the coefficient of TIME in Eq. 1. Clearly, in this model, the greater the TFPG the higher is the growth rate of GNP and labor demand (LABI), holding real wage, PRENPR, capital and energy inputs constant. From the equations above, one can also infer from the coefficients of EDUC5 and its average annual rate of change of -2.5 that were it not for the past accumulation of educational capital the rate of growth of GNP and labor demand could have been substantially reduced.

Consider now the following rough calculations based on the value of the coefficient of EDUC5 and TFPG. Suppose that the total factor productivity growth net of education's contribution (TFPG) is 1.0 percent instead of -3.0 percent. This would imply an extra growth rate of GNP of the least about 4 percent which, if added to the Philippine average GNP growth rate between 1950-1980 of 5-6 percent, would be comparable to the growth rates achieved by Taiwan, South Korea and Singapore. If the real wage rate remains constant, labor demand would also be racing at about 10 percent per year. But, assuming that the labor supply is growing at 3-4 percent only, real wage would have risen substantially during the period under consideration to align demand for labor to available supply. It is, of

course, possible that labor force participation rate and supply would rise in response to wage increases and better employment opportunities that would attract "hidden" unemployed.

That the labor supply might be responsive to employment opportunities and wage can be gleaned from these equations of the PDP model:

7. $LABS = LFPR * POPW$

8. $$\ln LFPR = 1.684 + \underset{(4.81)}{7.870} \ln WAGE - \underset{(-4.74)}{1.724} \ln WAGE * \ln EDUCP - \underset{(-6.61)}{3.02} \ln \frac{KAPFP}{POPT} + \underset{(2.34)}{0.465} \ln \frac{KAPG}{POPT} + \underset{(1.82)}{0.492} \ln (LABI_{-1}/LABS_{-1})$$

$$\bar{R}^2 = 0.773 \qquad D.W. = 2.25 \qquad N = 1957\text{-}1978$$

Eq. 7 assumes that the number of persons looking for work (LABS) is the product of the labor force participation rate (LFPR) and the working age population (POPW). Eq. 8 suggests that given the range of value of EDUCP during the previous decades (EDUCP is the percentage of the 25 year olds and over <u>without</u> any completed high school education), the wage elasticity of labor force participation rate is positive and increasing with improvements in the educational composition of the population (i.e., reduction in EDUCP). Holding wage and other factors constant, a decline in EDUCP will also lead to an increase in LFPR. Incidentally, the interaction term (ln EDUCP * ln WAGE) was specified to take account of the hypothesis advanced by Encarnación (1975) that for households with low levels of

educational attainment the effect of an increase in potential wage might be to reduce labor force participation of women. The LFPR equation above is interesting in a number of respects. It shows a significantly negative coefficient for private fixed capital per person (KAPFP). Since this variable is a measure of privately owned wealth, its coefficient may be interpreted as a wealth effect, which is predicted by standard economic theory to be negative. The effect of KAPG, which may be considered a measure of social overhead capital, appears positive. This is consistent with the hypothesis that with better infrastructure and transportation system and, hence reduced cost of labor market participation, women might as a result be more inclined to look for work. Incidentally, given the relative magnitudes of the wealth variables, it may be inferred that one of the immediate effects of population growth ceteris paribus is to push labor force participation up due to a decline in wealth per capita. Finally, it is interesting to note that the coefficient of the employment rate variable ($LABI_{-1}/LABS_{-1}$) lagged one year is negative ---suggesting "discouraged worker" effect. This is the first econometric evidence of the long-suspected existence of hidden unemployment in the Philippines.

To complete our discussion of the labor market interactions, consider the following real wage adjustment regression equation of the PDP model.

$$9.\quad \Delta WAGE = 0.524 - \underset{(7.37)}{0.071}\ PRINF - \underset{(2.26)}{0.00029}\ (LABS_{-1} - LABI_{-1})$$

$$\bar{R}^2 = 0.704 \qquad D.W. = 1.65 \qquad N = 1957\text{-}1980$$

PRINF is the rate of inflation and WAGE is the change in real wage. The above equation shows the rate of inflation to be negatively correlated with the change in real wages. More importantly, it shows that excess supply of labor as measured by (LABS - LABI) lagged one year puts a downward pressure on the real wage. This result is quite significant in that it provides for the first time, empirical evidence for the Philippines confirming the long-held view that the labor market puts a downward pressure on real wage when there is excess labor supply.

Lal (1980; 1983) has dismissed the hypothesis that the real wage decline in the Philippines has been due to insufficient growth of labor demand and the rapid growth of the work force. Remarking that there is no evidence of any "discouraged worker" effect, he argues that, since employment has in fact kept pace with the labor supply as we have also noted previously, it is unlikely to be the cause of the observed real wage decline. Applying the Stolper-Samuelson-Rybcsynski model, he then argues that the "real wage trends are ... the result, in the more distant past, of the capital intensive bias imparted by the trade controls but more recently of the monetary and exchange rate policies, rather than any malfunctioning of labor markets or inadequate over all rates of growth of output and employment" (p. 44).

As a comment to Lal's view, it would appear that the Philippine labor market indicates a significant "discouraged" worker effect and forward sloping labor supply curve with respect to real wage. Hence, as the set of equations above shows, labor supply, employment demand, and real wage are endogenously determined. Consequently, it does not necessarily follow from the decline of unemployment/underemployment to conclude that the fall in real wage was not due to insufficient growth of output or to the rapid increase in the working age population. After all as indicated by the wage adjustment equation above, the labor market exerts a downward pressure on real wage (*ceteris paribus*) for as long as there is excess labor supply, even though the excess is getting smaller. It can also be shown from the set of equations above that, if the *ex ante* expansion in labor demand is slow relative to that of labor supply, unemployment/underemployment can still decline provided the real wage rate is allowed to fall sufficiently. In this regard it is our contention that, with rapid population growth and stagnation or deterioration in total factor productivity, employment kept pace with the growth of labor supply only by partly allowing the real wage to fall through a high and accelerating inflation rate during the period under consideration. This pattern of inflation in turn was the result of a set of foreign trade, fiscal and monetary policies adopted by the government.

Our contention then is that, while it is true that the package of trade, fiscal and monetary policies have been responsible for the high rates of inflation and, hence, for the real wage decline that consequently allowed employment to keep pace with the growth of labor supply, the economy could nonetheless have moved towards full employment without a downward adjustment in real wage, if total factor productivity growth has been rapid and the working age population has not been increasing at such a fast rate.

The failure to substantially raise total factor productivity is, of course, not the only reason for the unsatisfactory growth in labor demand (*ex ante*). Distortions in relative factor prices, which artificially cheapened capital use due to various trade, monetary and fiscal policies leading to unnecessarily high capital intensity, are also to blame (Tidalgo, 1976; ILO 1974; Bautista, Power and Associates, 1979).

Inefficiency, Excessive Capital Intensity, Capacity Underutilization and Government Policies. A standard explanation for the inefficiency and capital-intensive character of the Philippine economy is the prevailing structure of incentives brought about by government policies on trade, credits, taxes and industrial promotion. (Tidalgo, 1976; ILO, 1974; Bautista, Power and Associates, 1979; IBRD, 1976 and 1980). The structure of incentives, it is argued, has artificially cheapened the use of scarce capital resources relative to the abundant labor supply. These also protected certain industries

against competitive forces that ought to make them efficient and at the same time penalized otherwise potentially productive and labor-intensive sectors such as the agricultural and export sectors. Consequently, it is pointed out, that through the interacting effects of these policies the economy became excessively import-dependent, capital-intensive, and inefficient as it failed to take advantage of its comparative advantage, to learn how to be cost-effective at competitive standards of quality without government protection and support, and to utilize its capital more fully.

In the 1950's the government adopted import and foreign exchange controls. These induced the economy towards the production of commodities at the final stages and the excessive use of imported raw materials and capital inputs. The prices of these inputs have been made cheaper through an overvalued foreign exchange rate and a system of controls which allocated resources favorably to raw material and capital importations as they were considered "essential" commodities. The cheapening of capital was further induced by a low-interest credit policy adopted by government in support of its import-substituting industrial policy. Under this regime, export was penalized inasmuch as it had to receive less in terms of pesos from its dollar earnings, while it had to buy its inputs from the domestic market at a higher price relative to the international price. The agricultural sector was also penalized because (aside from its important role as the major exporter of traditional commodities like copra, lumber and sugar) imported food items,

being considered essential commodities, were allowed to enter at prices that do not reflect their true scarcity value, thereby making domestic local production of food items relatively less attractive vis-a-vis their importation. On the whole, in fact, the export and agricultural sectors were subsidizing imports, which in turn prevented their expansion.

An economic justification for the import substitution strategy is the development of a domestic industrial base and a class of local enterpreneurs who would eventually become more efficient and competitive (cost and quality wise), without government protection and support, through learning by doing, and other processes related to the infant industry argument. From hindsight, it is clear that the infants generally never grew up, even until now. The local enterpreneurs during this period, instead of learning how to make better and cheaper products that are internationally competitive, became dependent on, oriented to, and adept at seeking government protection and favors to maintain and expand profits without being innovative and cost-effective in dealing with the changing domestic and international economic markets. With this kind of orientation as well as the fact that many of the enterpreneurs have become politically powerful and entrenched, the perpetuation of the general structure of incentives and protection in one form or another became almost inevitable. And it proved to be difficult to reverse it even when the need to dismantle them, and shift to export promotion, became clear.

As a consequence of the structure of the economy which emerged in the 1950's, severe balance of payments problems were felt, which constrained the expansion of the import-dependent economy. This manifested itself in the deceleration of the growth of output starting with the closing years of the fifties. Given the smallness of the domestic market, the balance of payments problem was bound to result in the stagnation of the economy because of increasing difficulties in importing raw materials and capital goods.

For this reason and because of the widespread scandals surrounding the policies supporting the import-substitution strategy, controls were eventually dismantled starting in 1962 and the peso was devalued vis-a-vis the dollar when President Macapagal assumed office. Unfortunately, with the imposition of a highly protective tariff on imports these policy reforms failed to change much the structure of incentives favoring import substituting and capital-intensive industries (Bautista, Power and Associates, 1979). In view of our earlier remarks, this is not surprising in the light of the political power and orientation of the beneficiaries of the prevailing structure of incentives. The Marcos years, which began in 1965, saw the continuation of attempts to shift economic policy towards exports promotion. But despite the tariff changes and export and industrial promotion measures undertaken in the 1970's, price distortions continued. According to the IBRD (1980) study, for example, the bias towards capital intensive industries

displayed by the pattern of investment during 1960-69 remained the same even in 1970-75. A major reason for this is that the more important Board of Investment (BOI) incentives, which were intended to correct distortions brought about by economic policies imposed earlier have a capital cheapening effect (ILO 1974). Calculation by Bautista, Power and Asscciates (1979) shows a reduction in employment by some 40.7 thousand due to the BOI incentives---a conservative estimate considering that indirect employment effects were not accounted for.

A major manifestation of inefficiency due to misallocation of resources arising from government policies in the fifties and sixties is widespread excess capacity and underutilization. This situation, which Oshima (1983) alludes to as an important factor in the disappointing performance of Philippine total factor productivity growth, must have been exacerbated by the BOI incentives by further reducing the price of capital (Tidalgo 1983). This is significant considering that, according to Bautista's (1982) estimates based on 1969 data, full capacity operation in the manufacturing sector could have meant a gain in employment equal to 40 percent of the openly unemployed persons.

Another manifestation of the relationship between efficiency and protection is the observed high positive Spearman rank correlation of 0.65 between effective rate of protection and domestic resource cost (IBRD, 1980). On the basis of standard

literature, this correlation may be interpreted as confirming the view that protection makes industries inefficient. Oshima (1983), however, has pointed out that, while this is a plausible interpretation, it is possible that the causation may be also the reverse: "High costs" (due to poor management, industrial relation, etc.) lead to demand (and getting) continued protection." This is an interesting point (though it still needs to be systematically studied) in view of our earlier description of the character of the politically entrenched enterpreneurs created by the import substitution policies in the fifties, and the inability of government to dismantle protectionist and capital-biased trade, fiscal and monetary policies in the early sixties and to shift to export promotion strategy as South Korea and Taiwan have done.

This point of view is significant in that the pursuit of special privileges to obtain economic profit through the use of government machinery rather than through the provision of better and cheaper products eventually blossomed to serious proportions in the 1970's and 1980's with damaging consequences not only for efficiency of the economic system but also for equity.

Political and Institutional Context

In the monograph on the present economic crisis (An Analysis of the Philippine Economic Crisis: A Workshop Report—henceforth to be referred to as The Workshop Report), the following

distinguishing changes in economic policy in the 1970's and 1980's were noted (p. 53):

a. a break from the fairly conservative monetary, fiscal and trade policies of the two previous decades

b. an unprecedented expansion of the role of government in financial and product markets; and

c. an industrial reorganization of important economic sectors (towards greater economic concentration).

A consequence of this new government aggressiveness is the increasing share of government fixed capital accumulation relative to the total fixed capital expenditures. Indicative of this trend is the rising proportion of government to total construction expenditures---from 20 percent or less prior to 1971 to 33.9 percent in 1971-75 and 42.7 percent in 1981-82. A comparison of the estimated output elasticity of government originated fixed capital stock (KAPG) vis-a-vis the private sector original capital (KAPFP) in Eq. 1 described earlier clearly shows that the latter has a much higher elasticity. Consequently, the rising share of government investment expenditure must be a contributory factor to the inefficiency of the economy due to resource misallocation.

Another source of increased inefficiency during the period under consideration is the shift of government capital outlays to unproductive and counter-productive uses. In 1970-76 traditional infrastructure like school buildings, irrigation, roads and the like accounted for 50 percent of national government capital

outlays. Then it went down to 45.5 percent in 1977-80 and 36.3 percent in 1981-83. Meanwhile, the share of "other capital outlays increased from some negligible amount to 20.2 percent in 1977-80 and 17.3 percent in 1981-83. This category, according to the Workshop Report, includes those overdesigned and unproductive government complexes and buildings that proliferated during 1970's and 1980's. By 1981-83 it noted a jump in the share of corporate equity investments to 46.4 percent, exceeding that of the traditional infrastructure (36.3 percent). This reflects largely the massive bail-out program of government to rescue some large distressed but privileged private firms.

With its aggressive economic policy, government intervention in the market flourished and grants of special privileges became common. Low interest credits guaranteed by government became easy to obtain. Duty-free and tax privileges were granted to a number of industries like the hotels. Monopoly and monopsony power in certain industries rose through a number of decrees (coconut, sugar, National Food Authority and its subsidiaries, Philippine Education Co., etc.). These policies on the whole have likely raised inefficiency inasmuch as they have reduced the penalty for business failures due to mismanagement or misjudgement of entrepreneurs. This is in addition to the well-known negative effects of monopoly and monopsony on inefficiency and employment. Incidentally, it is not uncommon to hear about businessmen making a killing from a low interest loan from government institutions or

from a government guaranteed credit even after foreclosures and business failures. Not surprisingly, therefore, one reads a report from the PDCP President about the extensive mismanagement of borrowed funds among large corporations;[*] or the criticism by the Benguet Corporation President regarding the "windfall mentality" in the mining industry;[**] or the finding of Tsuda (1978) about the appalling (from the Japanese standpoint) management style among Filipino managers of Japanese-Filipino joint ventures, i.e., windfall, short-term profit-making and heavy draining of profits out of the enterprises, "irrational" nepotism, etc. Oshima (1983) cites these facts to suggest that the disappointing growth in productivity may be partly due to the attitudes and inefficient management style of Filipino businessmen. Our hypothesis is that these businessmen were to a large extent simply "rationally" taking advantage of the prevailing structure of incentives, risks and the political set-up. In this regard, the perception among privileged corporations that they have little to worry about the personal consequences of a failure has in fact been validated by the recent ₱4.0 billion government bail-out program undertaken to rescue these firms when they became distressed.

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[*] Business Day, November 29, 1984, quoting a report by PDCP President Vicente R. Jayme.

[**] Asian Wall Street Journal, November 9, 1982, reports on Benguet Corporation President Jayme Ongpin about the "windfall mentality" in the Philippine mining industry.

With such an economic environment, it was only a matter of time for the weakness of the economic fiber to be exposed in the form of business failures and difficulties, high rate of capacity underutilization, idle plants, the withdrawal of foreign firms from joint ventures, and ultimately the present economic crisis.

At this point the question arises as to how these ruinous economic policies could have come about. The answer is complex but a large part of the explanation can be found in the political sphere and is extensively discussed in the Workshop Report. Suffice is to say here that the breaks in economic policy noted earlier coincided with the destruction of democratic politics in 1972 when Martial Law was declared. Martial Law set into motion a political process that led to an unprecedented government structure where the President can indefinitely legislate as he wishes.

The Future and the Role of Population Control

Summarizing thus far, unemployment and underemployment seemed to have gone down through time beginning with the second half of the sixties. This decline, however, was achieved partly through a downward adjustment of the real wage and the absorption of the additional labor supply into relatively lower productivity sectors. Furthermore, it was at the expenses of present and future reductions in economic welfare and activity arising from the massive foreign borrowing which propped up the economy in the 1970's and 1980's. More importantly,

the economy is unable to sustain the improvement as shown by the spectacular worsening of the employment situation since 1978.

The inability of the economy to sustain rapid employment expansion and adjust real wage upwards, or at least prevent a decline, inspite of its huge borrowing program is due to a set of interacting factors: rapid population growth, stagnation (worse, deterioration) in total factor productivity, unnecessarily high capital intensity, and external shocks.

The rapid growth of population, which was the primary factor in the growth of labor supply, was due to the high birth rate coupled with a relatively low death rate in previous decades. The contribution of education to factor productivity growth appear substantial (approximately 2.5 percent per year). However, this was swamped by the growing inefficiency of the economic system. Without the contribution of education, total factor productivity growth seems to be deteriorating at roughly 3.0 percent per year. Consequently, overall total productivity growth is about -0.5 percent. This compares with Oshima's (1983) estimates of -1.6 percent. Total factor productivity growth has been particularly dismal in industry.

The failure of total factor productivity to grow can be traced to several factors. The most prominent is the structure of economic incentives brought about by trade, monetary and fiscal policies of government. In the 1950's and the 1960's price

distortions were rooted in the import substitution strategy and the failure of the economy to switch to a "neutral" pricing policy, which would have also promoted exports. These distortions remained basically unchanged in substance throughout the past decades inspite of some tariff reforms in the 1970's. But on top of these is the deterioration in inefficiency due to government economic policies that are distinctively characteristics of the years under the Marcos regime. These policies did not only lower the relative price of capital as in earlier years; they also reduced the penalty for failure due to misjudgement, incompetence, and greed both in the business and public sectors. During these years too, grants of monopoly power and other mandated economic privileges became common. Finally, as the share of government expenditures in GNP zoomed to unprecedented levels, the composition of capital outlays shifted towards less productive uses. Adoption of these policies in turn was caused or facilitated by a political set-up which lacks checks and balances, accountability, and a free market of dieas. They were also largely the result of the misuse of the government machinery by some group to obtain underserved economic advantages, which encourage waste and inefficiency.

With regards to the high capital intensity of the economy, one can also conclude that most of the policies mentioned above have contributed a great deal to high capital intensity as most of them have artificially made the price of capital cheaper relative to labor.

Given these facts, what then can be said about the prospects of labor absorption between now and 2000? It is clear that the supply of labor will continue to grow at a fast pace in the medium run and then decelerate moderately as a result of a fall in the birth rate which started in the first half of the 1970's. The growth rate of labor supply, however, will probably remain the neighborhood of 3.0 percent.

On the demand side, expansion in the medium run will be much slower than the past growth. This is because of the heavy external debt service problem ($1.5 billion annually in interest payment alone) and a decline in the growth of capital formation resulting from increased tax rates, rising price of imports, high interest rate and the uncertainty about economic policies and the political system. In the face of a rapidly growing working age population, the consequence would be rising number of unemployed and under-employed workers coupled with another downward adjustment in the real wage and increase in "hidden" unemployment due to the "discouraged worker effect".

In addition to these adverse conditions, one must consider the external environment. The ongoing economic recovery of the world economy particularly the U.S. is a bright spot in the present economic landscape. Unfortunately, however, this recovery is accompanied by very high U.S. interest rates. This makes it more difficult to make interest payments for the Philippine external

debt. Another external factor that the country must contend with is the situation in the Middle East. An escalation of the current conflagration in the area could reduce oil supply and drastically cut down demand for overseas workers. Such a scenario would be damaging to the Philippine economy, which is dependent on the Middle East not only for its oil supply but now also for the employment of its workers and their corresponding foreign earnings. Tan (1984) reports that currently there are between 600,000 and 700,000 Filipino overseas contract workers, most of whom are located in the Middle East. In 1983, they contributed about 17 percent of foreign exchange earnings. Given these facts, increasing reports of a downturn in the demand for overseas labor in the Middle East is indeed bad news for the Philippines.

In the long-run, economic growth and the expansion of labor demand will depend critically on the ability of the country to transform its political economy into a highly efficient system. As can be inferred from the previous discussion, there is so much growth that can be had from the same amount of resources by simply being more efficient. It will also depend on the rate of improvement in the educational composition of the work force. In this regard, it is unfortunate that due to the misguided economic policies pursued by government in the 1970's and 1980's, a deceleration is possible in the rate at which the educational attainment of the labor force will rise in the future. Symptomatic of the ruinous nature of those policies, the share of education whose contribution

to economic growth appears substantial, declined from about 30 percent of national government expenditures before the proclamation of martial law to roughly 12 percent since then.

The prospects for greater efficiency hinges on the future structure of incentives and penalty both in the economic and political spheres. In turn, this critically depends on the outcome of the current political struggles. Unfortunately, it is quite risky to make predictions about this matter. What is certain however, is the prospect of continued growth of the population and of labor supply well into the 21st century. Where then does this leave us?

In the best case scenario, suppose a change in the structure of economic incentives can be effected in the short term to arrest and later reverse the deterioration in total factor productivity growth. The impact of this change on full employment with rising incomes is most likely to be felt only in the medium or long run in view of the accumulated unemployed and underemployed, and of the continued growth of population and labor supply. This time frame may not be acceptable in view of society's desire to raise levels of living and improve the quality of life as quickly as possible. In the light of this, the long-term objective of full employment with rising real wages can be greatly facilitated by reducing the growth of its labor supply through fertility reduction. The urgency of such effort can not be overemphasized in view of the time lag in which fertility reduction eventually translates itself into reducing growth of labor supply. Moreover the role of

moderating population growth becomes more critical if economic performance can not be significantly improved quickly.

Looking into the future in the most optimistic manner, that is, where economic management is conducted in the best of intentions, honest policy mistakes can still be made and the economy can be subjected to various external shocks. As a result, the economy's capacity to respond and to recover may be greater if population pressure is lighter than if population pressure is heavier. In the former case, the policy maker can have greater flexibility in trying our alternative policies and strategies, a feature not easily obtained under intense population pressure.

It might be instructive at this point to describe more concretely the impact of economic trends on household incomes and the need for fertility control. Consider the following counter-factual projection for 1980-2000, using the PDP model (a copy of the paper describing the model accompanies this paper.) We assume balance of payments to be zero; nominal foreign exchange rate rising at the rate equal to the 1980 rate of inflation; the rate of improvement in educational composition is the same as the 1976-80 experience; and the rest of the exogenous variables (e.g. fixed term external loans, interest rate on foreign debt, and the terms of trade) take on their actual 1980 values. The projections presented (Tables 11 and 12) are preliminary results of the model and presented for illustrative purposes only.

Table 11

PROJECTED ANNUAL RATES OF GROWTH OF GNP, POPULATION, HOUSEHOLDS AND FAMILY INCOME: 1980-2000
(Percent)

Indicator	1985-90	1990-95	1995-2000
GNP	4.85	4.41	3.95
Population	2.0	1.83	1.63
Households	4.39	3.96	3.38
Mean Household Income	0.09	0.33	0.50
Percent of Population with Household Income Below			
₱1,500 (1972 prices)	-0.09	-0.34	-0.44
₱3,000 (——————)	-0.06	-0.23	-0.30

Table 12

PROJECTED VALUES OF SELECTED DEMOGRAPHIC VARIABLES:
1985-2000

Indicator	1985	1990	1995	2000
Population (millions)	53.947	59.610	65.333	70.867
CBR	22.85	19.98	18.7	17.0
MGFR	149	120	105	92

First, we note that the growth of the economy is decelerating. Second, inspite of the over 4 percent rate of growth of GNP, household income is stagnant. Third, given a lognormal distribution of incomes and constant variance within urban and rural areas, the percentage of households with incomes below ₱1,500 and ₱3,000 in 1972 prices remains relatively unchanged. A closer examination of the results reveals that the major reason for the stagnation of mean household income is the high rate of growth of households (over 4 percent per year). This is, of course, mainly the result of high fertility and low mortality in the past decades. Its negative consequence on mean household income is illustrative of the economic effect of "demographic momentum".

An encouraging note in the scenario is that fertility rate is declining significantly. And with population growth rate way below the rate of growth of households, household size tends to diminish. If this decline is realized, it would be a welcomed trend in view of the projected stagnation of average family income. A smaller household means smaller necessary requirements and allows for a greater flexibility in coping with adverse income situations.

V. POPULATION POLICY AND PROGRAM

The macroeconomic contributions to further acceleration of mortality and fertility declines can be expected to diminish in the short run in the light of the economic crisis. In view of this, sustaining and accelerating mortality and fertility declines in the short run will have to rely more heavily on the population and health program. Given more severe resource constraints in the light of the economic crisis, it is important for the program to achieve greater efficiency now more than ever. This requires among others the need for a more accurate identification of the target population in need of interventions to maximize program impact. In this section we attempt to identify the directions population policy and program strategies might take in the light of the previous discussions, with special attention to the objective of fertility reduction. We first examine some aspects of past program strategy and performance, then examine currently proposed strategies.

Philippine Population Program. The establishment of the Commission on Population in 1970 marked the formal direct entry of the government into the population field. At the start, the Population Program was integrated with the health service delivery structure, specifically the maternal and child health care delivery system. In order to strengthen the Program, attempts were made to take the Program out of the health structure in order to extend the

reach of clinic services and to utilize non-medical personnel to motivate people to practice family planning (SCRPPP, 1978, p. 6). In 1975, the Total Integrated Development Approach (TIDA) was adopted and piloted in seven provinces. This program sought to integrate family planning with the other development activities in the rural areas. As the Special Committee to Review the Philippine Population Program (SCRPPP) noted, the lack of uniformity in field implementation, partly attributed to the vagueness of the TIDA concept, led to the adoption of the National Population and Family Planning Outreach Project (NPFPOP) in 1976. The principal objective of the project is to provide family planning motivation activities and services to all couples regardless of proximity to stationary clinics. This project has become the core activity of the family planning program since then.

Since the inception of the Program, various legislations were enacted to support the family planning program. (See SCRPPP, 1978, Appendix 3). In 1978, a comprehensive review of the Philippine Population Program was conducted by a Special Committee created by the President of the Philippines. Among others, the Committee recommended that the Philippine Population Program, which has remained essentially a family planning program, should be designed on a broader scale and be fully integrated in the national development plans of the country. As a result the ultimate goal of the Program was expressed more explicitly in

terms of the achievement of overall welfare of the family and society, rather than just proximately, in terms of fertility reduction.

More recently, program documents explicitly reiterate and stress the Program's five basic policies of noncoercion, unacceptability of abortion, self-reliance, integration, multi-agency participation and participation of public and private sectors. Various strategies of the program address specific subgroups including preschoolers, youth, pre-marriage groups, married couples of reproductive age, community influentials, and population program professionals.

Population Program Performance. At this point it might be instructive to examine major features of program performance with respect to increasing contraceptive prevalence rates among married couples of reproductive age, with special attention to the performance of the Outreach Project.

In 1978 and 1980, Community Outreach Surveys (COS) were undertaken for the purpose of evaluating the Outreach Project. The findings from these surveys indicate that the Outreach Project has been functioning well in many ways. While important weaknesses were noted, they were thought to be those that could be dealt with through improvement of management and support services. (See Laing, 1981 for a summary of findings). Based on a multivariate analysis of the 1980 COS data, Laing has also shown that "several Outreach

variables are significantly and independently correlated with prevalence and that all together "explain" a substantial proportion of the variance in prevalence." (Laing, 1981, p. 124). This general finding is true for all methods as well as for the clinical methods.

An impact evaluation study designed to address the question of project effect on levels of contraceptive use and fertility was done by Herrin and Pullum (1981). Using COS data they found evidence of a substantial decline in the areas covered by the Outreach Project in family size preferences, measured by the percentages of currently-married, non-pregnant, fecund women who want no more children, and particularly women with three or more children. Moreover, among women who want to stop childbearing, there was a dramatic increase in the use of more effective contraception, which reflects more than anything else a shift away from inefficient methods. Although the authors could not directly attribute these changes to the shift from a clinic-based program to outreach, still these changes are consistent with what one can expect if the Outreach had been effective.

These findings seem to indicate that the Outreach Project has had an impact on contraceptive prevalence at least in the covered areas. If we look at contraceptive prevalence rates, however, we find that based on the COS data, there was hardly any change in overall prevalence rates between 1978 and 1980. The overall rate

for 1978 was 48.1 percent, while for 1980, it was 45.5 percent. The decline may not be real as this might be due to possible response errors with respect to less effective methods; hence, a generous conclusion is that overall contraceptive prevalence rates have not changed significantly. Likewise, the data examined by Herrin and Pullum (1981) also show no significant difference in overall prevalence rates between 1978 and 1980 COS among the women under study. The rates were 68.6 percent in 1978 and 68.0 percent in 1980.

What these imply, therefore, is that the Outreach Project, if it had any impact at all, had simply facilitated the shift from less effective to more effective methods. The relevant data are as follows:

	COS (All Currently Married Women Age 15-44 Years)		COS (Fecund, Non-Pregnant, Currently Married Women Age 15-49 who Wanted no More Children)	
	1978	1980	1978	1980
Modern Program Methods	11.4	14.1	10.1	22.5
Others	36.7	31.4	58.5	45.5
All Methods	48.1	45.5	68.6	68.0

This shift from less effective to more effective methods is also reflected in the 1978 RPFS and 1983 NDS data after allowing for adjustment in the data for withdrawal and abstinence as described earlier, as follows:

	1978	1983
Modern Program Methods	12.5	17.5
Others	18.3	15.9
All Methods	30.8	33.4

The lower contraceptive prevalence rate obtained from the 1978 RPFS and 1983 NDS compared to the COS reflect the fact that the former surveys covered the entire population while the latter covered only the Outreach areas. In the latter we expect higher prevalence rates due to more intensive efforts being put by the Program in these areas relative to the non-outreach areas.

While the shift from less effective to more effective methods is indeed a welcome development from the standpoint of program performance, the fact still remains that for fertility decline to accelerate, overall contraceptive prevalence must increase significantly, preferably the increase being due to modern methods. Shifting methods alone at still relatively low levels of overall contraceptive prevalence rates, while this increases the overall use-effectiveness of methods, will not be sufficient to accelerate fertility declines and achieve the Program's fertility goals. The question then boils down to how can the program increase contraceptive use? What might be the directions the program might take? We address this questions now:

Suggested Directions. First, granting that the Outreach Project is still a sound strategy and has in fact performed well in spite of logistical and other organization problems, its coverage is still not truly nationwide. Program statistics estimate that the Outreach Project in 1982 covered only 3.787 million MCRAs out of the total estimated 6.138 million MCRAs outside Metro Manila, for a coverage rate of 62 percent. The same statistics reported a contraceptive prevalence rate for this covered areas of 56 percent, of which 70 percent are due to modern methods. This rate is obviously too high to be reliable, since this would imply that the contraceptive prevalence rate in the non-covered areas is zero or negative, if the true national contraceptive prevalence rate based on the 1983 NDS would be just around 34 percent. If the rate given by service statistics is indeed accurate, then it could only mean that the Outreach Project is not in fact effectively covering the 3.787 million MCRAs it claims to have covered, but only a subset of such MCRAs.

Two factors may, therefore, account for the slow increase in national contraceptive prevalence rates between 1978 and 1983 on the basis of the above analysis. The first is the incomplete national coverage of the project. It leaves out 38 percent of all MCRAs outside Metro Manila. This is sizeable enough, it would seem. Secondly, even in outreach areas, if our inference above is correct, the effective coverage of the project is still incomplete.

What in fact might be effectively covered are MCRAs who are easiest to reach, already motivated to practice contraception, and worse, probably a large proportion, would probably practice contraception anyway without the project. This second consideration implies the need for a careful review of actual coverage of the project and the specification of of its target MCRAs. This diagnostic review should lead to a better specification of who among the covered MCRA s family planning interventions should be focused. This should result in the identification of MCRAs who can be "left alone", and the resources so released allocated first to expand effective coverage in the covered areas, and second if resources still permit, to expand coverage to the non-covered areas. Those who can be "left alone" would most likely include those MCRAs with high education, high SES indicators, residing near service centers, etc. Additional program efforts directed at these MCRAs would probably not lead to significant overall program impact on contraceptive prevalence.

The strategy that is suggested then is twofold: (a) increase efficiency of program effort in the covered areas through better specification of the target population; (b) expand coverage of the Outreach Project to the uncovered areas both within the Outreach areas and outside the Outreach areas, financed partly from the resources released due to (a), and supplemented by resources from external donor agencies as they become available.

This strategy addresses two problems that the Program will be facing in the light of the economic crisis. The first, as we have indicated earlier, is the need to effectively cope with the probable increase in the demand for contraception as couples hit by the crisis respond by postponing briths in the short run. This need is probably greatest among MCRAs not yet covered by the Outreach, hence the need for expanding coverage. For equity reasons, there is a need to shift efforts towards those in greater need for contraception in the light of the crisis and away from those less in need. Secondly, by expanding coverage now, the Program lays the groundwork for its long term task of sustaining and increasing contraceptive use nationwide.

To insure maximum impact of the program under this proposed strategy, it is essential to set up a mechanism for the systematic monitoring of program coverage and efficiency based on a clearer specification of the target population. The procedures for such monitoring as well as for target specification are well known in the social sciences. (See Herrin, 1984 enclosed, specifically Chapters III and IV). Whether these procedures are equally well-known to program managers, or better, whether these procedures are actually being applied in the field by these managers still remains to be seen. It would be worthwhile to upgrade the skills of field personnel in such procedures.

We now move our discussion of strategy from the operational level to that of communication. The communication strategy can be viewed from two levels. The first is directed at the highest levels of government, the aim of which is to insure continued commitment to the program and to a steady flow of resources. The second is directed at the target couples. We discuss each in turn.

We stated at the start of our paper that in the light of the current economic crisis, the Population Program is especially vulnerable to the contention that what needs to be done now is not population control but a restructuring of the political economy that would raise economic efficiency, improve income distribution and promote stability. The population problem, it may be argued, can be attended to later on, or will somehow be solved once the restructuring successfully puts the economy on a path of sustained growth and development. Our analysis of the preceding section with respect to the national objective of achieving full employment at rising real wages suggests that even if we look into the future in the most optimistic manner, that is, where economic management is conducted with the best of intentions, honest policy mistakes can still be made and the economy can be subjected to various external shocks. As a result, the economy's capacity to respond and to recover may be greater if population pressure is lighter (i.e. slower growth of the labor force with respect to the objective of full employment with rising real wages) than if population pressure is heavier. In the former case, the policy maker can have greater flexibility in

trying out alternative economic policies and strategies, a feature not easily obtained under intense population pressure.

In view of the apparent ambivalence among policy makers in the recent past as to the role of the population planning in the total development efforts, it would appear that now is a good opportunity to renew and strengthen the commitment to population planning. A useful strategy, quiet but firm, would be to deemphasize the old and worn out arguments that rapid population growth either leads to or aggravates economic problems, but rather to emphasize that with the current crisis, the best efforts to improve the economy's long run capacity to achieve the nation's development objectives will be greatly facilitated by stronger efforts to moderate population growth now. In other words, given the temper of the times it may be wise to deemphasize the view that rapid population growth is part of the problem, and instead to emphasize the view that moderating population growth is part of the answer.

At the household level, we suggest a communication strategy that emphasizes the need for fertility control now to enable households to effectively cope with both current and future adverse income situations. Our analysis based on a counter-factual projection described earlier suggests that even in the best of macroeconomic circumstances, the prospect for the next 15 years is one wherein household incomes can not be expected to increase substantially. Under this situation, it would be to the advantage

of families to have fewer children in view of the difficulties and uncertainties that may lie ahead over the next 15 years. Having fewer children should give them some elbow room to meet a possible stagnation in family incomes as well as future shocks arising from political unrest and bad economic policies. Philippine postwar history is replete with examples of those policies. If the past is any guide to the future, then a cautious policy towards procreative decision is imperative. For such communication to be effective, efforts to motivate couples to reduce fertility will have to be made in conjunction with the broader socioeconomic efforts and self-reliance programs that assist households to effectively cope with their current adverse income situation. In this broader context, fertility limitation must be seen as part of the short run survival strategy and a long run imperative.

Comments on Current Program Strategies. POPCOM documents reveal that for 1983-1987, the national population program will concentrate on: (POPCOM, 1984)

"1. improving coordination and linkages with partner and participating agencies through a network of public and private community-based organizations;

2. building the capability of local government and community organizations to plan and manage the population program at their level with the aim of promoting self-reliance;

3. developing community capability to finance contraceptive costs as well as other family planning services, nutrition, primary health care, and day care centers;

4. upgrading the quality of natural family planning practice;

5. continuing the promotion of effective program methods;

6. developing a population data bank and information network to provide the necessary information for planning, decision making and policy formulation for population; and

7. upgrading and sustaining the technical and management capability of the program workers.

Improving coordination and linkages with partner and participating agencies would be facilitated by a common conceptual framework of economic-demographic interactions. Such framework will provide program managers a broader perspective and appreciation of the direct and indirect impacts of their respective projects on other projects, as well as on the attainment of specific development objectives. It is a welcome development indeed to note that through POPCOM's initiative, its senior staff, regional coordinators and their staff, as well as selected senior staff of participating

agencies, have undergone intensive training on Population and Development Planning conducted by the School of Economics during the past year. The broadened population-development perspective expected to result from such training programs are in turn expected to heighten the need for cooperation and to facilitate coordination among agencies in designing and implementing programs. It is too early to say whether in fact the broader perspective has led to better coordination, but the effort to achieve a common framework is a step in the right direction.

A process evaluation team in 1981 reports that the level of local government support to the population program, especially the Outreach Project was quite high. Financially, however, local governments have been able to finance only 30 percent of the recurrent cost of the project. Recent information show that for 1983, local governments have pledged the amount of ₱24.8 million or 42 percent of total cost. It will be of interest to find out, whether with the economic crisis, local governments are still willing and able to absorb the cost of the Outreach Project. Their continued support as well as the willingness of the national government to allow them to allocate local funds to finance a larger share of the cost will undoubtedly depend on the perceived degree of significance and priority that both levels of government attach to the Population Program in general and to the Outreach Project in particular. The communication strategy suggested earlier, adapted

to the local situation, would be relevant to POPCOM's efforts to hold on to local government's commitment to the program.

Developing community capability to finance contraceptive costs as well as other family planning services as a long-term strategy appears quite sound on many counts. Part of this strategy is a cost recovery program for contraceptive supplies and services. A question that naturally arises in this regard is the effect of charging user's cost on contraceptives. Recent studies suggest that an increase in the price of contraceptives does not have any significant negative effect on usage (Akin, Guilkey and Paqueo, 1984; see also Cabigon, 1984). This finding appears to be supportive of the cost recovery program. It certainly points to the need to seriously consider it as part of a long term strategy. It should be pointed out, however, that it is necessary to confirm the above finding inasmuch as various technical problems in the study have yet to be fully addressed before the results can be accepted as conclusive. For example, problems related to the use of perceived prices and differential quality of specific methods that could affect the results have not been convincingly solved in such studies. Hence, further studies are urgently needed to validate such finding. Moreover, in view of the lack of information about the particular type of cost-sharing or cost-recovery scheme that will be effective and viable, it is best to test alternative schemes on a pilot basis. The test could perhaps be conducted in COS areas in conjunction with current

efforts to set up the Primary Health Care Program. The results of such test should provide a firmer basis for decisions to implement cost-sharing schemes nationwide.

In addition to the above reservation, we feel that implementation of this proposed cost-sharing scheme nationwide has serious welfare implications, especially for the poor majority who would be most in need of contraception in this time of economic crisis. Raising prices of contraceptives, which will be the effect of the cost sharing scheme, while it may not reduce contraceptive use (assuming this is correct), will nevertheless mean that the household in question will have to use some its resources to finance contraception which otherwise could be allocated to maintain current consumption standards in the face of declining income prospects. In view of the welfare loss involved, which could be relatively large among poorer households, the scheme if implemented at present will tend to be regressive and inequitable. For this additional reason, we suggest that the implementation of this proposed cost-sharing scheme be postponed during this time of crisis.

It might be pointed out that in our earlier suggestion, improving efficiency involves specifying the target population more precisely so that program efforts can be directed to those most in need of such interventions. Those that could be excluded by the application of more precise criteria would invariably

include those who are already practicing contraception or are motivated to practice contraception and are able to pay the cost of supplies or services without significant loss to their welfare. Could not a case for implementing a cost-sharing scheme be made among such groups? Would not such scheme generate funds that could be allocated to support efforts to expand the coverage of the program to those most in need?

These questions are obviously worth serious consideration. A policy of continued provision of low cost or free contraceptive would probably involve some loss of efficiency because this policy leads to the provision of services to those who could and would be willing to pay, if everybody else are required to pay. There is little that could be done to effectively exclude them from free/ low cost services if they so request such services because they can reasonably point out that everybody else is getting the services free or at low cost. Excluding this group might only reduce support for the program if these groups are also among the influentials in the community. The policy of cost-sharing for everybody, however, as we have suggested, involves loss of welfare among the very poor. In resolving this dilemma we feel that the loss of welfare to the poor majority in this time of crisis should be given more weight in decisions regarding the implementation of a cost-sharing scheme than the possible loss of efficiency in not implementing such a scheme. Efficiency can be obtained in other activites based on a more precise specification of the target population, i.e., in

house visits, information and motivational campaigns, and other demand creation activities.

The dilemma is most likely to be less serious if a large proportion of MCRAs who are willing and able to pay for contraception are in fact already obtaining and paying for such services from non-program outlets, even if free/low cost contraceptives are available in the community. The reason behind this is that this group might place considerable importance to non-price factors such as perceived quality and convenience in obtaining such supplies. In this regard, the private sector could play a major role by making available constant flow of services and supplies to this group. It can certainly be expected that if there is profitable market for contraceptives, the private sector will readily move in. What the appropriate policy might be under such a situation is to allow the private sector to advertise and to sell supplies and services in their respective outlets. To insure the protection of the consumer, the Program can coordinate with relevant agencies to see to it that the service providers (for IUD and sterilization) are qualified to perform such services, and that the supplies (pills and condoms) are of good quality. Sale of pills could further be regulated through prescription to insure that the user is in fact getting the particular pill suggested by a medical personnel based on a previous consultation. To avoid inconvenience in obtaining future supplies, prescription forms or cards should be reusable and could be presented to any outlet.

If there is bound to be opposition towards sale of contraceptives in private outlets (e.g. sari-sari store) as in the past because of the fear that such access can lead to increased sexual promiscuity among the youth, then further safeguards can be made. Contraceptive users can be accredited by the Program through issuance of I.D. cards, for example, indicating that the person is a user of a particular contraceptive. This will probably help reduce opposition to the active advertisement and sale of contraceptives by private outlets. At the same time the user is assured of continued access to the contraceptive of his/her choice. All of these possibilities, however, need field testing to determine their feasibility and effectiveness.

Upgrading the quality of natural family planning practice and the promotion of effective program methods are both complementary efforts to increase use effectiveness of contraception. In the promotion of clinical methods however, there is a need to effectively address the well documented reluctance of women (never users and drop outs) to practice such methods because of fear (real or imagined) of side effects. To counteract such reluctance, the Program needs to improve support services especially in the area of monitoring potential problems regarding usage of pills and IUDs, perhaps through itinerant teams that will provide consultation services and follow-ups in areas that are far from existing clinics.

Developing a population data bank and information network to provide the necessary information for policy-making and decision making is obviously an important undertaking in any program. Improving the relevance and timeliness of information requires a need to determine what major questions are to be addressed. In the light of the previous discussion the following questions and the corresponding information needs appear to have priority.

1. Which groups should be provided more intensive efforts and of what type of effort? To specify the target population more precisely requires a more detailed information at the field level of the characteristics of MCRAs that are bound to be intimately related to the need for contraceptive information and services. For example, which group of MCRAs are not contracepting because (a) while motivated to practice, they have little or no access to services and supplies; (b) while they do not want anymore children, they are afraid to practice modern methods because of fear of side effects and inconvenience; (c) they want to have a large family size as part of a long term strategy to cope with poverty. With the economic crisis, there may be a shift in the relative sizes and location of these groups.

2. How well have program efforts reached the target population in terms of coverage and in terms of the quantity and quality of service? This requires monitoring evaluation, again at field level, to determine actual coverage and efficiency of program efforts among the specified target population. This information should provide the basis for decisions regarding respecification of targets or modification of service delivery strategies.

3. What has been the impact of the program and what has been the major factors affecting its success or lack of it? This requires systematic impact evaluation, which in turn requires comparable and reliable time series data on such impact indicators as contraceptive prevalence and fertility together with their socioeconomic and program related determinants at both the macro and micro levels.

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