



# Growth Models, Development Planning, and Implementation in the Philippines\*

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## Introduction

### **Background**

Has Philippine development planning benefited from the wisdom, if any, of economic growth theory? Has plan improvement, if it has occurred, resulted in the enhancement of plan implementation? What has been the impact of the intervention necessitated by plan implementation on the development of market forces?

Since the early years of the post-World War II period, the Philippine government has prepared socioeconomic plans to guide its development. These plans spelled out the visions of development of the population, the goals to be attained, the strategies for attaining them, and the instruments for the goals' successful realization. On the average, there have been two such plans every decade. Representative plans include the Rehabilitation Plan for the 1950s; the Socio-Economic Development Plan for the 1960s; the Development Plan for the 1970s; the Poverty Eradication Plan for the 1980s; the Human Development Plan for the 1990s; and the Good Governance Plan during the initial years of the 21<sup>st</sup> century. No doubt these plans have been the products of the innate intelligence and perspicacity of the planners, especially in the early years, but perhaps unbeknownst even to them, they have been influenced by growth models.

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The growth models themselves have evolved over time. First, there was the classical model outlined by Ricardo some 200 years ago; then the initial version of the neoclassical model put forward by Harrod-Domar in the first few years after World War II; then the most influential Solow model of only a generation and a half ago; and now the new growth theory.

Of the many perils of judging the past from the point of view of the present, that of imposing the current orthodoxy on past conduct is easily the most dangerous. It cannot only distort history but also obscure the prospect that today's truth may turn out to be tomorrow's falsehood. Yesterday we were all Keynesians. Today we are all free marketers. What will we be tomorrow? Yet, there are "eternal verities" even in economics. Invariant across time and space, these are the unalterable truths that give the economists confidence in their craft, enabling them to judge the economic rationality of all decisions and actions—past, present, and future.

The same cannot be said of the theories of economic growth. These are prognostications of the evolution of economies over long periods of time. It is true that they are based on the eternal verities but as prognostications, they can be shown up by time to have been right or wrong. Yet, they are evolving. Early on, they predicted that as economies transformed over the long term, the landlord would become the most important actor in the economy. The growth model of that time thus focused on land as the major factor of production. Later, the limelight shifted to the capitalist and models concentrated on capital and capital formation. These days the new growth theory is aimed at technical change and how this is transforming economies. New growth models thus try to explain how technological change comes about.

One thing is sure: this paper will not fault Philippine development plans of the early post-war period for being innocent of horizontal innovation anymore than it will censure the practice of medicine for not knowing how to treat polio before the discovery of the Salk vaccine. Still there are the eternal verities. It will be wrong for any person to think that she or he can invest without saving, whether that person is brown or blue, whether she or he belongs to past generations or the present one. Philippine planning must be judged against the eternal verities of economic theory and the conventional wisdom of the growth models pertinent in that period.

### ***Organization of the paper***

This paper will first describe relevant economic growth models, focusing on the variables of interest to them, the goals, the instruments, and how the variables change or move over time until they reach that stage of development pertinent to current purposes. It will then review the Philippine development plans that have been prepared in the last 50 years in terms of their visions of development, their goals or targets, their strategies for attaining them, and the instruments they envisioned for mobilization in plan implementation.

With respect to implementation, the paper will judge success or failure in terms of qualitative and judgmental measures, there having been no time to estimate quantitative indicators of success or failure of implementation. Lastly, the paper will address the issue of whether intervention as necessitated by development plans has strengthened or weakened market forces.

## **Economic growth models**

Economic growth models project the pace and direction of growth of economies over the long term. They are concerned first with initial conditions, then with changes in these conditions, and then with the characteristics of the steady state. Although they are not concerned with short-term issues such as those that afflict many developing countries (i.e., inflation, budget deficits, tariff rates, etc.), their characterization of the conditions of travel, including changes in critical variables and the impact of these on future growth and the features of the steady state, make them extremely attractive to planners of short- and medium-term development.

### ***The classical growth model***

Concern for the long-term future of economies dates back to Adam Smith (1776), who began with the observation of a hypothetical state of affairs, describing it as “that original state of things, which precedes both the appropriation of land and the accumulation of (capital) stock.” That is, when land was freely available to all and capital was as of yet non-existent, only labor mattered in the production of output. Output and prices depended on labor alone. Every commodity traded at prices proportional to the amount of labor expended in its production. In other words, the formation of prices was governed by the labor theory of value. Those prices remained constant so long as the labor content of commodities remained unchanged.

What happens if, say, the population doubles? The labor force will also double, and since land is plentiful, there will be enough land to maintain the land-labor ratio. Labor productivity will remain the same and wages will remain unchanged. Since there are no other claimants to the national product, it will all go to wages.

But wait, says the Reverend Malthus (1921). If the wage rate is above subsistence, it will result in population increase; if it is below subsistence it will result in population decline. Only when it is at subsistence level will it ensure equilibrium in the population-production nexus. This is the iron law of wages.

It fell upon Ricardo (1948) to see the pieces of a puzzle in all this and make sense of what seems to be unfolding, giving rise to what is now called Ricardo’s “magnificent dynamics.” The increase in population will force the people to scatter to the rest of the land, forcing them to cultivate steadily

poorer lands until they occupy even the poorest land. Labor becomes plentiful and land becomes scarce. As the movement unfurls, diminishing returns to land set in, labor productivity declines, wages fall, and rents rise. Landlords become the dominant class. Workers receive a diminished part of the national product in the form of subsistence wages; landlords take up the rest in the form of rent. Thus, it is that at the Malthusian steady state, wages are at bare subsistence level while rents are sky-high.

Malthus can be acknowledged to have been shortsighted, but even the great Ricardo failed to anticipate technological change and what this implied to human existence. Suppose a change in technique occurs so that what used to require two days' work now needs only one day? Assuming the change occurs in the same proportion in all sectors, real wages will double. So long as its increase does not outstrip that of production, a larger population will enjoy increased real income.

### ***The neoclassical model***

#### *The Harrod-Domar growth model*

Telescoping the centuries and overstepping the heads of the great architects of the neoclassical revolution—W. Stanley Jevons (1835-1882) in England, Carl Menger (1840-1921) in Austria, and Leon Walras (1834-1910) in Switzerland—we come to the end of World War II and focus on the Harrod-Domar growth model (1937, 1947), the precursor of contemporary neoclassical growth models. If the classical model emphasized the role of land and the landlord in the development process, the neoclassical model focused on capital accumulation.

The Harrod-Domar model explored the conditions for balanced growth of an economy over the long haul. Suppose the number of workers is growing at 1 percent a year and that technological change is “labor augmenting” (i.e., raising the efficiency of labor at the rate of 2 percent a year, then labor in efficiency units is growing at 3 percent a year). This is the concept of the natural rate of growth. This model says that where labor is growing at the natural rate, the condition for balanced growth requires that output and capital must also grow at the same rate. How much net investment is needed each year to keep capital growing at the natural rate? More precisely, how much must people save and invest of their income to keep the growth of capital in balance with the growth of output and labor? Defining  $y = dY/Y$  as the growth rate of output,  $s = S/Y$  as the saving rate, where  $S$  is saving, which in equilibrium is equal to investment  $I$ , which is identically equal to  $dK$ , where  $K$  is capital, and  $z = dK/dY$  as the incremental capital-output ratio, the model says:

$$s = yz \qquad (1)$$

That is, the needed saving depends on the growth rate of output and the value of the incremental capital-output ratio. If the capital-output ratio is 4 and the growth rate 3, then people must save 12 percent of their annual income to guarantee a 3 percent growth rate of capital. This is the condition for balanced growth.

The model has a deficiency—the lack of a mechanism to guarantee the attainment of (1)—the so-called knife's edge. What happens if  $s > yz$ ? The model explodes.

### *The Solow growth model*

The neoclassical growth model received its first formulation in the hands of Solow. The Solow (1956) model added the role played by technical change to the role of capital in sustaining growth. The model describes an economy producing a commodity output with the use of inputs labor and capital. There are constant returns to scale. Capital accumulation leads to an increase in the capital-labor ratio, which in turn leads to an increase in output per worker.

Formally:

$$Q = q(AL, K) \quad (2)$$

where  $Q$  is output,  $L$  is labor,  $A$  a measure of labor efficiency, and  $K$  capital.

Dividing the two sides by  $AL$ , we have  $q = f(1, k)$  or, dropping the constant 1,

$$q = f(k) \quad (3)$$

where  $q = Q/AL =$  output per efficiency unit of labor; and  $k = K/AL =$  capital-efficiency unit of labor ratio.

The capital-per labor efficiency unit,  $k$ , evolves according to

$$dk/dt = sf(k) - (n + g + d)k \quad (4)$$

where  $s$  is the rate of saving,  $n$  the rate of population growth,  $g$  the rate of growth of technology, and  $d$  the depreciation rate of capital. The model takes  $s$ ,  $n$ ,  $g$ , and  $d$  as exogenous.

As long as the production function is well behaved, the economy approaches the steady state over time. The steady state is defined by

$$dk/dt = 0 \quad (5)$$

or, using a star to denote the steady state value

$$sf(k^*) = (n + g + d)k^* \quad (6)$$

In the steady state, income per efficiency unit of labor,  $q^* = f(k^*)$ , is constant. Income per person grows at rate  $g$  and total income grows at rate  $(n + g)$ .

The model has many predictions. Mankiw (1995) summarizes them as follows:

- (a) In the long run, the economy approaches a steady state that is independent of initial conditions.
- (b) The steady state level of income depends on the rate of saving and population growth. The higher the rate of saving, the higher the steady state level of income per person. The higher the rate of population growth, the lower the steady state level of income per person.
- (c) The steady state rate of growth of income per person depends only on the rate of technological progress; it does not depend on the rates of saving and population growth.
- (d) In the steady state, the capital stock grows at the same rate as income, so the capital-to-income ratio is constant.
- (e) In the steady state, the marginal product of capital is constant, whereas the marginal product of labor grows at the rate of technological progress.

In the main, these predictions were consistent with real world experience and developments, but they, especially prediction (c), gave rise to doubts among many analysts.

### ***The new growth theory***

The new growth theory—although it is not so new, since it embodies nothing fundamentally different from Solow—criticizes the neoclassical model on several counts. To begin with, the model's prediction (c) that differences in saving behavior and government policies will lead to differences in steady state capital-labor ratios and levels of income but will have no effect on the long-run growth of income—which will all converge to the common growth rate of technical progress—is bothersome for it contradicts the notion that a country can grow faster if it saves (and invests) more or if its government pursues better economic policies. Then, too, the model has no explanation for technological change.

At the same time, the new growth theory levels three specific criticisms, all relating to the consistency of the model's prediction with empirical findings. First, the neoclassical model's predictions of differences in per capita income are much lower than indicated by empirical studies. Second, the model's prediction of the rate of convergence to the steady state is much faster than is supported by international data. Third, the model's predictions of rates of return to capital are much too small to account for income changes that obviously arise from changes in capital.

The new growth theory attempts to improve the neoclassical growth model by making a more careful analysis of convergence, refining the role of capital in the model, and endogenizing technological change.

### *Convergence*

The convergence hypothesis—growth rates are negatively related to national income—is more likely to be validated if tested on data pertaining to a set of similar countries (i.e., all poor, all rich, etc.). (It turns out that the hypothesis the more rapidly an economy grows, the more it is below its steady state is supported by a range of studies. See Barro and Sala-I-Martin (1995) for a survey of this literature.) In this context, the currently ambiguous conclusion derived from data based on a heterogeneous sample of countries can be reinterpreted. The data can simply mean that wide discrepancies in growth rates among countries arise from their differences in steady state income levels. Persistent differences in growth rates over long periods can simply constitute variations in transitional growth rates, as countries adjust to their different long-run steady state income levels (Mankiw 1995; Sachs and Warner 1995a). In other words, countries converge conditionally. Conditional convergence is convergence by each economy to its own steady state (Barro and Sala-I-Martin 1992).

As critics put it, such an interpretation would not only allow the neoclassical model to account for disparities in growth rates across countries, it would also allow national saving behavior and institutional and policy parameters to affect growth (via their effect on the long-run steady state level of income).

### *Share of capital*

The Solow model has another empirical shortcoming. As stated earlier, its predictions of differences in per capita income are much lower and the rate of convergence to the steady state much faster than those indicated by empirical studies. In fact, this divergence is corrected if the usual share of capital (about one-third for the United States) in the production function is increased to twice its value. Such an increase can be achieved if the definition of capital is widened to include human capital. This is so because the larger the weight of capital in the production function, the greater the impact of saving—that is, through a heightened capital-output ratio—on the steady state level of

income (Mankiw, Romer, and Weil 1992). This also means that the adjustment to the long-run steady state level of income will be more protracted and, indeed, closer to observed transition times. Thus, incorporating human capital in this simple way enables predictions of the neoclassical model to yield a reasonable approximation of the data.

Expanding the definition of capital is one way of bringing conclusions of the neoclassical model closer to empirical reality. Another is by imputing externalities to capital. As developed by Romer (1986), when a firm accumulates capital, it adds not only to its physical capital stock but also to its stock of technical knowledge. Unlike physical capital, however, this stock of technical knowledge is a public good, generating spillovers or positive externalities to other sectors. Other sectors gain in addition to the owners of capital. Returns to capital therefore accrue not just to owners of capital but to gainers from the externality. In terms of the economy, the firm's capital accumulation impacts positively not only on its own production but on the output of the economy as a whole.

An extreme example of models of this type is the so-called  $Y = AK$  models, or AK models for short, in which capital is not substitutable with labor. In these models, capital's share is large enough to enable economies to grow perpetually with no convergence to a long-run steady state level of income.

Two points can be raised on these models. Spillovers are difficult to measure and would need to be very large if they were to effectively double capital's share in income. The perpetual growth in AK models is simply at odds with empirical studies, which suggest that countries typically make 2 percent of the adjustment to their steady state each year and move half-way toward their steady state in 35 years (Mankiw 1995; Barro and Sala-i-Martin 1995).

### *Endogenous growth models*

The lack of an explanation for technical change in his formulation subsequently obliged Solow to try to explain how technical change comes about, saying that it comes from changes embodied in, as well as from changes disembodied from, capital such as changes in organization. However, his empirical tests were based on extreme assumptions in one case that all technical change is disembodied and, in the other, that it is all embodied; and these yielded inconclusive results. Subsequent efforts allowing a combination of technical changes and improvements in labor produced results that were statistically superior to Solow's but which were inconclusive.

Because the rate of technical change is exogenous in the neoclassical model, efforts have been made to provide a theory of how technology changes over time. Models resulting from this effort have been called by the name "endogenous growth models." These models are held together by a common denominator: they all represent different ways of rationalizing a much higher aggregate share of capital than in the simple neoclassical model.



### *Learning by doing models*

In “learning by doing” models, firms improve their techniques through practice rather than through research or any other deliberate effort. An outstanding example of this class of models is that presented by Lucas (1998). Here Lucas assumes two sectors in the economy, a “high-tech” sector (e.g., advanced manufacturing) and a traditional sector (e.g., agriculture). Each sector uses two factors of production, unskilled labor, which can move freely between sectors; and sector-specific human capital. Better at learning by doing than the traditional sector, the high-tech sector is also the high-growth sector. If workers move from the low- to the high-tech sector, the increase in the high-growth sector will more than offset any fall in the rate of growth of the other sector, yielding a net increase in the economy’s rate of growth. The model yields long-run growth rather than convergence to a finite level of output.

### *Horizontal innovation*

This class of models belongs to the so-called horizontal innovation framework. Its central proposition is that firms produce a final good using several intermediate goods consisting of different types of capital, in addition to labor. There are increasing returns to scale to the number of varieties available and used. New designs of these intermediate goods are produced by a research and development (R&D) sector. New knowledge arises and new designs increase in proportion to the number of existing varieties. Over time knowledge and the number of new designs increase. Knowledge and the new designs are accessible to all researchers. In this context, a researcher designing a new good adds to the body of knowledge available to all researchers, increasing the marginal product of all researchers in producing new designs and increasing the rate of growth of final output.

### *Vertical innovation*

A variant to this framework is the “quality ladders” or vertical innovation model of Grossman and Helpman (1991), where there is a single intermediate good used in final good production at any time, with a new variety replacing the existing one if it is of a higher quality. This model yields similar results as the horizontally differentiated inputs case but differs from the latter in that a new input replaces rather than augments previous inferior quality inputs. Despite this difference, the basic mechanism of growth is similar. The state of knowledge is embodied in the blueprint for the latest and best variety. Such knowledge is available to all. The higher the quality of the latest variety, the more knowledge is available to researchers trying to design something better.

***What growth models say: A summary***

All the growth models obviously emphasized growth, since this was their main concern to begin with. Growth was to be seen in production or output—in deer, beaver, and corn in the old days, or the gross domestic product in the contemporary period. Proponents of these models all agreed that to generate output, inputs were necessary, namely, labor, land, and capital. They also agreed that increasing inputs would generate increased output, but they also knew that the increased input would run into diminishing returns. The classical model saw labor becoming abundant in the course of development and land becoming scarce. Consequently, wages tended toward subsistence level while land rents tended toward the sky.

The neoclassical model changed the focus of the prognostication—from land to capital and, later, to technology. The Harrod-Domar model said that to enable an economy to grow, the country needed investment, which had to come from domestic saving. The challenge was to raise the saving rate to generate an investment rate that would assure attainment of the targeted growth rate of output. The model referred to the incremental capital-output ratio, which is the quantity of additional capital needed to produce the additional output; and balanced growth, where output and capital are growing at the same rate as technically augmented labor.

In the more general rendering of Solow, the growth model saw labor productivity as being dependent on the capital-labor ratio. The more capital per worker, the better—until the steady state is reached. There output per worker and the capital-labor ratio would be growing at the same rate as technical progress. For the first time, it introduced technology in the growth equation but without explaining how technology came about.

Filling this gap, among others, became the focus of the new growth theory. This theory explained how technical change came about. It came about through “learning by doing”—when entities improved their techniques through practice rather than on deliberate purpose, as exemplified by two sector models where one sector is “high-tech” and the other traditional. It came about also through R&D that not only increased the quality and quantity of intermediate capital inputs (horizontal innovation) or replaced existing capital inputs with newer and better ones (vertical innovation) but also spread enormous externalities all around. Finally, it came about also with human capital or investments in education.

The Solow formulation implied that government institutions and policies had no effect on the economy’s long-run growth, which would always tend to a constant, the exogenous rate of technical progress. Not so, says the new growth theory, and proceeded to demonstrate that “policies matter.”

Nevertheless, endogenous growth theory has not stood up well to empirical testing. The scale effects, the spillovers, the externalities, the

increasing returns, which are at the heart of new growth models, remain empirically unvalidated. In fact, some of the implications of new growth models are rejected outright by empirical evidence. For instance, in the differentiated inputs model of Romer (1990) and Grossman and Helpman (1991) growth is faster the larger the scale of the R&D sector. In the Lucas model, the growth rate is an increasing function of the scale of the high-tech sector. Against these, sophisticated econometric tests have found scale insignificant as a source of growth (Backus, Kehoe, and Kehoe 1992; Chand 1995; and Chand and Vousden 1995).

Convergence, which is too fast and conditional in the Solow model and may never take place in the new growth theory (as in AK models), seems irrelevant in practice. What matters to people witnessing the unfolding of the growth process is that growth takes place now and is sustained in their lifetime.

All this does not mean there is nothing to learn from growth models. Both the new and the old formulations of the neoclassical model elements constitute the basis of development planning. First, the emphasis on saving as the source of capital accumulation or investment is of utmost importance. The higher the saving rate, the higher the possibilities for accelerating capital accumulation. Where this rate is constrained by underdevelopment, foreign investment or foreign capital can augment it. Second, the same reference to capital accumulation brings to the center of the discussion investment in human capital or education. Third, reference to intermediate capital, whether of the horizontally enhanced or vertically replaced variety, brings into the analysis the role of R&D in the promotion of technical change. The role of R&D becomes critical in the dichotomy between a high-tech sector, where learning by doing is faster, and a traditional one.

Most significant of all perhaps, the demonstration (although inconclusively from an empirical viewpoint) that “policy matters” is indispensable to the very rationale of planning; to put forward the idea that interventions carried out in the implementation of plans—as the channeling of resources to high-tech sectors, to education, to R&D—can be conducive to the economy’s rapid development.

### **Philippine development planning and implementation**

For a better understanding of Philippine development plans in light of growth models, we will review them in terms of their visions of development, goals or targets, strategies, and instruments. Visions of development are images of prosperity, peace, and progress held by the population and, in a democracy, articulated by the political leadership enjoying the people’s mandate. The goals or targets are quantitative representations or proxies of the visions, usually expressed as percentage increases in production of commodities and services. Strategies are ways of proceeding toward the attainment of goals, say,

promoting agriculture ahead of industry, or making exports the leading sector. Instruments are quantitative means of attaining certain goals, their main distinction from strategies being that they are under the control of the government and as such can be increased or decreased, redirected, rechanneled, and so forth, by the concerned authorities to attain specific goals. Targets and instruments have a relationship that planners try to confirm or deny by empirical analysis.

### ***Rehabilitation and industrial development, 1950s***

The first of the development plans formulated for the Philippines was the Five-Year Program of Rehabilitation and Industrial Development (1949-1953), also called the Cuaderno Plan of 1949. Formulated under President Manuel Roxas and carried out for the most part under the leadership of President Elpidio Quirino, and reflecting the needs of the times, the Plan sketched the country's vision of development as reconstructing and rehabilitating the economy, which had been devastated by war. It identified the objectives of the plan as the need "to adjust the Philippine economy to the situation after 1954 (when US Government payments would have declined)," and "to better enable the country to make the structural adjustments necessary in the transition from an agricultural to an industrial economy with a minimum dependence on outside markets." For instrument, it proposed an investment bill amounting to P1,730 million to go into "dollar-producing" and "dollar-saving" enterprises consisting of agricultural and industrial projects, transportation and communication facilities, public works, housing, mining enterprises, and miscellaneous and minor industry projects.

At the implementation level, the Plan proposed the creation of a central authority that would be responsible for the administration and coordination of all government enterprises, including the ones yet to be established. The proposal was motivated by the "general feeling" that "under the present system of control, the efforts of coordination and supervision were restrictive and advisory, rather than promotional and developmental as they should be."

Some eight years later, after a few tentative interim plans, the Five-Year Economic and Social Development Program for FY 1957-1961 was formulated. Prepared under the leadership of President Ramon Magsaysay and implemented during the administration of President Carlos Garcia, the vision of this first fully articulated development plan for the country was to provide a higher standard of living for the people; its specific goals were the following: (a) a growth rate of 6 percent yearly for national income; and (b) the significant reduction of unemployment and underemployment. Its instruments for the attainment of these goals included: (a) an investment program to build industrial capacity; (b) a monetary and credit policy to give fuller support to private productive activity; (c) a foreign exchange policy to make foreign exchange increasingly available for use with maximum development impact

and to gradually eliminate exchange controls in order that competitive forces may be given free play in the economy; (d) a tariff policy aimed at minimizing the adverse effects of the elimination of exchange controls; (e) a fiscal policy that would generate increasing revenue and at the same time induce a greater and steadily growing volume of private productive investment; (f) a production policy that would promote diversification and a price policy that would not only ensure domestic price stability but also reduce if not entirely eliminate windfall profits in the import trade; (g) a commercial policy aimed at the expansion of overseas markets and the enlargement of the domestic market; and (h) a social development policy aimed at the development of skills, technology and research, health, education, labor, and social welfare facilities.

The instrumental program called for an investment of P2 billion by the public sector and P3.5 billion by the private sector.

As a matter of strategy, the Plan announced that in the government's system of priorities, priority had been given to "industries that are basic but which private capital is not at present ready or able to undertake (and) which need to be established as soon as possible to complement industries privately owned and privately operated." In other words, the government was to play only a subordinate role to the private sector in of developing the economy. The Plan continued its predecessor's policy of encouraging import-substituting industries but with the hope of eventually dismantling foreign exchange controls.

Implementation was carried out mainly through appropriations from the budget. Budgetary appropriations were based on the development plan.

### ***Integrated socioeconomic development, 1960s***

The most comprehensive and perhaps most "revolutionary" of the development plans was the Five-Year Integrated Socioeconomic Program for the Philippines (1961-1964), launched in the administration of President Diosdado Macapagal. Its vision remained the prosperity of the people and its principal goal the expansion of the gross domestic product by the compound rate of 6 percent per year over the 1961-1965 period. To achieve this goal, its principal instrument was an annual investment of P2,410 million or a total of P12,053 over the plan period. This investment was to come from domestic saving, which must increase from 12.7 percent of gross income in 1960 to about 16 percent by 1965. What domestic saving could not finance, some 11 percent of the programmed investment would come from foreign investment. Other instruments for plan execution were monetary, fiscal, and trade policies.

A major element of the strategy of development was the lifting of foreign exchange controls. At his State of the Nation Address on January 22, 1962, then President Macapagal, gave the following remarks:

It may now be expected that with genuine decontrol instituted in our foreign exchange transactions, a completely new atmosphere will prevail in our economy. The allocation of foreign exchange and the determination of the exchange rate will be left to market forces rather than to the arbitrary decisions of administrators. . . . For the first time the people will have it in their hands to determine the true external value of the peso by their freedom in buying and selling, without the necessity of licensing. . . . With the uncertainties of an arbitrary control mechanism removed, I expect renewed investments to take place . . . foreign investments to come in an ever greater flow to supplement our savings and augment our investments.

However, the strategy contained a contrary element: the Plan also proposed the raising of the tariff to neutralize the loss of protection to local industries resulting from the dismantling of the foreign exchange control. Implementation was carried out by line departments. Moral suasion was exercised at the highest level.

The Plan was clearly informed by an acquaintance with growth models. Among other things, it emphasized the crucial importance of saving, computed the incremental capital-output ratio, referred to the advantages of being a latecomer in the technological field, and referred to other considerations mentioned in the growth literature. For instance, with respect to the incremental-capital-output-ratio, it said: "If from 1950 to 1959, the equivalent of P1.00 of additional output in the economy could be achieved by over-all investments of fixed assets and inventory of P1.36, in the coming years it will likely take between P2.50 and P3.00 to achieve P1.00 of growth".

### ***Liberalization and freedom of the market, 1970s***

The Four-Year Development Plan FY 1972-1975, under President Ferdinand Marcos had two distinguishing characteristics: (1) its espousal of a new development strategy and (2) its use, for the first time in Philippine planning, of a formally specified macroeconomic model to underpin its estimates. The Plan carried about the same vision and goals as previous plans: higher per capita income (with GNP increasing at an average rate of 6.9 percent and per capita income increasing at an average of 3.7 percent, assuming a constant 3.1 percent increase in population), greater employment, more equitable income distribution, internal stability, and regional industrialization and development.

For strategy, the Plan vigorously argued for a re-examination of the economic policy framework—away from protection toward liberalization. In proposing reforms in certain aspects of economic policy, the Plan said it was "drawing in part from the experience of countries like Taiwan and South Korea, which have been experiencing growth rates in real output exceeding

10 percent annually.” It argued that “increasing the degree of economic freedom and reliance on the market mechanism in the allocation of products and resources is desirable.”

For policy instruments, the Plan specifically called for flexibility in wages (i.e., removal of the minimum wage to encourage employment especially labor-intensive activities), interest rates (i.e., elimination of the ceiling to accelerate the development of the capital market), the tariff (i.e., reduction of the rates to expose local industries to global competition and thereby encourage them to become more efficient and competitive), foreign investments (i.e., elimination of stringent laws on foreign investments so they come to the Philippines), exports (i.e., remove biases against them).

On the whole, the Plan called for a dismantling of the import substitution policies of the past and a liberalization of the economy, both internally and externally.

On the technical front, for the first time a plan used a macroeconomic model to estimate the values of policy variables to achieve the values of the specified goal variables. As the Plan stated: “The Plan targets were defined with the help of an empirical macroeconomic model of the economy. This model indicates the relationships between different economic variables . . . (making the planner) aware of the implications of alternative assumptions of policies and, accordingly, of what targets are feasible under different assumed conditions.”

To facilitate implementation, the Plan set up work programs for agriculture, industry, transportation, power and electrification, telecommunications, water supply and sewerage, and tourism. Its proposals for action were strongest on human resource development, education and manpower, employment, family planning, housing, health and nutrition, cooperatives, and social welfare and community development.

### ***Poverty alleviation and people power, 1980s***

The Medium-Term Philippine Development Plan 1987-1992 under the administration of President Corazon Aquino had the same vision as previous plans—the uplift and prosperity of the people. For the first time, however, the alleviation of poverty was mentioned as a major goal. Other goals were: the generation of more productive employment, the promotion of equity and social justice, and the attainment of sustainable economic growth where sustainable economic growth was defined as growth of the gross national product at 6.8 percent per year on the average.

To achieve its targets, the Plan proposed a two-pronged strategy: the liberalization of the economic regime and the creation of employment opportunities. Liberalization involved the general lowering of tariffs and the removal of anti-labor biases in laws and regulations. Employment creation was to focus on the rural areas. In the short term, efforts would focus on the creation



of income-earning activities and, in the medium term, on the generation of labor-intensive industries, especially in the export sector. The strategy involved the speedy implementation of agrarian reform in agriculture, the expansion of production in agriculture on the basis of comparative advantage, and the conservation of natural resources. The strategy saw that as growth took place in agriculture, the industrial sector would receive stimulation from increased demand of rural folk and rural-based industries. Industrial production would thus expand, giving rise to additional employment opportunities in the sector.

The strategy saw that the liberalization of the economic regime would expose local industries to foreign competition. This would oblige them to improve their efficiency and strengthen their international competitiveness. In the medium and long term, this participation in global trade would infuse dynamism to the economy.

The strategy involved a land dimension. Land use must be carefully planned so that industrial and agricultural growth would not degrade the environment.

The strategy was to be underwritten by an investment program totaling P57.8 billion (equal to 5.6 percent of GNP) over the six-year period.

Policy instruments included the budget, taxation system, tax rates, the monetary system, credits, interest rates, tariff rates, and the exchange rate. In particular, greater budgetary support would go to education and manpower, health, nutrition, family planning, housing, social services, and community organizations. The other policy instruments were to be purged of biases, reduced, or liberalized to foster competition and encouraged the development of free market forces in the economy.

At the implementation level, the role of government was to encourage and support private enterprise and not to compete with it. The private sector was the primary agent of economic development. In the context of the times, its strength and vigor would be reinforced if it was supported by nongovernmental organizations (NGOs) and people's organizations (POs). Consistent with the demonstration of people power, NGOs and POs would play a role in development implementation, along with the government and the private sector itself.

### ***Human development and international competitiveness, the 1990s***

The vision that illumined the Medium-Term Philippine Development Plan 1993-1998, prepared in the administration of President Fidel Ramos, was the same as that which motivated previous plans—prosperity for Filipinos and the uplift of many from the clutches of poverty. The Plan cast the goal in positive terms, however: “The goal of all economic development efforts is the development of the human person and the improvement of the quality of life . . . For the majority of Filipinos at this time, human development is synonymous with the attainment of the most basic needs, such as being well nourished and



free from avoidable diseases, being adequately sheltered and clothed, being educated, having resources sufficient to provide for the needs of the next generation, being physically safe, and being politically empowered to deal with one's social circumstances." The Plan added that human development and the alleviation of poverty are best achieved through the efforts of people themselves. These goals are also attained faster when domestic producers are internationally competitive, it said.

The Plan defined the specifics of the goals as follows: (a) the reduction of poverty incidence from 39.2 percent in 1991 to about 30 percent by 1998; (b) the generation of employment at an average of 1.1 million jobs per year, from 1994 to 1998; (c) the expansion of GNP at an average rate of 5.7 to 7.4 percent and of GDP from an average rate of 3.4 to 4.4 percent in 1994 to an average rate of 8.1 to 9.8 percent in 1998; (d) the reduction of the inflation rate from some 9.0 to 10.0 percent in 1994 to 4.0 percent by 1998; and (e) the reduction of the population growth rate from 2.36 percent in 1990 to less than 2 percent in 1998.

The Plan proposed a strategy calling for a continuation of the preceding policy of liberalization, deregulation, and globalization.

As a major instrument for goal attainment, the Plan proposed an investment program that ranged from 24.5 percent of GNP in 1994 to 29.5 percent by 1998. The bulk of the investment would come from the private sector; an average of 6 percent of GNP would come from the public sector. To finance these investments, domestic saving must increase from 19.8 percent of GNP in 1994 to 27.8 percent in 1998. This would be augmented with foreign saving, which should not exceed 1.7 of GNP by 1998. Other instruments for mobilization were taxation, spending, domestic and foreign borrowing, money supply, foreign trade, and the foreign exchange rate

Like the Plan of the early 1970s, this Plan came to its estimates of growth, among others, through the use of a macroeconomic model.

To facilitate implementation, the Plan drew up detailed work programs for specific sectors, for instance, the promotion of science and technology, including the transfer and commercialization of technologies; the development and production of competitive goods and services; and the global search for and acquisition of global technology applicable to the Plan's priority areas; and support for R&D.

### ***Good governance and the rule of law, 2000s***

The vision of development has not changed, which is the uplift of the people to a life of prosperity and dignity but the overriding objective of the Medium-Term Philippine Development Plan (2001-2004), prepared under the leadership of President Gloria Macapagal Arroyo, has changed. It is now expanded to include the eradication of poverty as a major goal. The goal has four components, namely, (a) macroeconomic stability with equitable growth

based on free enterprise, (b) agriculture and fisheries modernization with social equity, (c) comprehensive human development and protection for the vulnerable, and (d) good governance and the rule of law.

On the growth side, GDP was expected to grow at an average rate of 5.1 to 5.6 percent over the period 2001-2006, GDP at the increasing rate of 3.3 percent in 2001 to 6.9 percent in 2006. In parallel fashion, the various sectors would grow as follows: industry from 2.3 percent in 2001 to 7.1 to 7.6 percent in 2006; the services sector at the accelerating rate of 4.0 percent in 2001 to 6.6 to 7.1 in 2006. The biggest sector, agriculture, would expand from 3.1 percent in 2001 to 3.9 to 4.9 percent in 2006.

With the programmed growth rates of output, domestic employment was expected to increase by an average of 1 million a year over the Plan period, or an average of 3.2 to 3.5 percent a year. In addition, another 1 million a year would be deployed overseas. Inflation, the intermediating mechanism between the people and the products and services they need, would be brought down from 6.0 to 7.0 percent in 2001 to 4.5 to 5.5 percent in 2006.

The Plan outlines a strategy focused on growth and human development in a framework of macroeconomic stability, free enterprise, and good governance. Growth was to be achieved in agriculture, especially in crop production and fisheries, and industry and later services. Human development would focus on the reform of the educational system, including basic and higher level education, and on the promotion and upgrading of skills. The promotion of growth in agriculture required the modernization of the sector and land reform, at the very least. Industrial growth required improvement of efficiency and competitiveness through exposure to global competition, among others.

Policy instruments would be mobilized to invigorate the economic framework and environment. The budget would be carefully monitored so that the deficit could be reduced and later reduced to zero; the tax system would be restructured to make it responsive to the needs of free enterprise and the people, especially the vulnerable; the banking system would be strengthened to make it an efficient mechanism for spurring growth and developing the capital market.

More than anything else, governance would be decisively improved. To this end, the public bureaucracy would be strengthened, graft and corruption would be stamped out, peace and order would be restored, and the rule of law would be enforced. The impact of this decisive action would be, in the short and medium term, the restoration of investor confidence and the consequent revival and expansion of economic activity; and, in the long term, the eradication of poverty.

For implementation, the Plan has detailed work programs for the various sectors intended to facilitate action at the sectoral level. As a general rule, implementation should be the responsibility of the line departments at both

the national and the local levels. Fund allocations should be checked against priorities in the budget. Moral suasion should be made and demonstrated at all levels of the bureaucracy, from the lowest to the highest.

## **Growth models' impact on the quality of planning and effectiveness of implementation**

### ***Quality of planning***

The identification and description of visions is the responsibility of the political leadership, not of the planners. The political leaders are assumed to be in contact with the people and therefore know their dreams and aspirations. To a great extent, translating those into goals is also their duty. Planners, however, also have a role to play. They must see to it that goals are realistic in that they are within the capabilities of existing resources to achieve. However, it is in the formulation of the strategy of development and in the identification and mobilization of instruments for attaining the goals that the responsibility of the planners is highest. It is also their obligation to cast the plan in clear and unambiguous terms. At bottom, these are technical matters. The general direction of strategy as well as the relative effectiveness of instruments for the achievement of goals can be deduced from growth models. Systematic and intelligible construction of the plan arise from orderliness of thought. Any judgment on the quality of planning must rest on these three considerations. (For a comprehensive description and analysis of the institutional structure of development planning in the Philippines, see Alonzo 1998.)

Whether viewed from the perspective of the eternal verities or judged in terms of the concerns and features of economic growth models prevailing at various stages in time, there is no doubt that the quality of planning in the country has improved. The improvement is obvious at several levels. One, there is today a clearer distinction between vision and strategy, between targets and instruments. Two, there is a better understanding of the impact of strategy on development. And three, the statistical basis is stronger and sounder.

A scrutiny of the development plans that have been prepared in the Philippines in the last 50 years indicates that the visions of the plans have changed little over the years. This vision ranged from reconstruction and rehabilitation right after World War II to the uplift of the population to a life of prosperity and dignity in a society of freedom and independence years later. The vision has remained the same to this day.

The specific goals have also changed little, though they have intensified in recent years. The target of raising the growth rate of the national income to an average of 6.0 percent per year, enough to improve by substantial measure the standards of living of the people, remains valid but there is now greater concern for human development and the eradication of poverty.

It is in the development and formulation of strategy where the change has been radical. In the first 20 years of the second half of the 20<sup>th</sup> century, the strategy of development was one of import substitution and protection. Then, beginning in the 1970s, it shifted to export promotion and liberalization. Currently, the strategy is focused on deregulation and globalization. .

The strategy that began in the 1980s placed strong emphasis on the social sector—the channeling of more resources to education and manpower, health, nutrition, family planning, housing, and social services. It lent great importance to the participation of NGOs and POs in government decisionmaking, no doubt an affirmation of people power. These days it is focused on technology and how this can be harnessed in development in general and poverty eradication in particular.

Whether the changes in strategy have been good or bad for the economy will not be taken up here. Economic theory clearly favors liberalization and globalization but whether these thrusts succeed in the real world in the Philippines, only time will tell.

Instruments for goal attainment have correspondingly increased or, more precisely, have correspondingly increased in number. Previously, instruments consisted of investment, fiscal, monetary and trade policy, and regulatory policies. Subsequently, these were augmented by education and skills policies. Now the very government itself has become a policy instrument.

The technical quality of the plans has improved markedly over time. At first, quality was the result of the personal intelligence and perspicacity of the planners alone; later, it was informed by the influence of economic growth models. The improvement in technical quality reached an apex in the 1970s, when, for the first time, a statistically estimated macroeconomic model was used to underpin the plan. It continued in the 1980s, when the planning authorities used another macroeconomic model for the same purpose. The improvement continues to this day, when the planners obviously bring to bear knowledge of growth models and planning theory on the preparation of the plan.

Lastly, the statistical basis of plans has improved tremendously. This too can be ascribed, at least partly, to growth models, which emphasize the indispensability of statistical information in the preparation of plans or forecasts. In the early days, planners had to make do with data and information of dubious reliability. As the Five-Year Economic and Social Development Program for 1957-1961 stated: "The present state of statistics and economic information in this country precludes the use of advanced techniques of econometric projection in the formulation of economic programs and setting of quantitative goals. In setting objectives for the public sector, every effort has been exerted to make them as accurate as possible. Nevertheless, the difficulties are such that even these should be primarily regarded as indicators of orders of magnitude rather than immutable quantities."

Since then the country's statistical system has expanded in breadth and depth and raised its accuracy and reliability by leaps and bounds. The country now has a national statistical office regularly—i.e., monthly, quarterly, annually—collecting and compiling vital statistical information, through surveys large and small and censuses of the population at least once in 10 years. The office is staffed with technically well prepared individuals, upright in their conduct and professional in their outlook.

The system under mandate of the law carries out a census of the population at least once in ten years. It thus has just about all the information on the population that plans need. In addition, it compiles the national accounts on a regular basis. The national accounts constitute the foundation for most of projections in development plans. They are fully articulated, containing data on production, consumption, capital formation, exports, imports, value-added of sectors, and other sectors at the level of detail required by planners. The system also has social, environmental, and related statistics, collected from sister agencies to complement the National Statistic Office's own compilation.

The system is also decentralized, ensuring that data available in the system are as disaggregated, location- and sector-specific as planners want them to be.

This is not to say that planners get every piece of statistic they want. Not by a long shot. Their need for greater detail in the variables of national income, employment, income distribution, to mention a few, is not satisfied by the statistical system. To get these details, the planners themselves have to do the job. Still and all, development plans these days are no longer stymied by lack of data. They have the national statistical system to support them.

There is little doubt that the quality of development planning in the country has improved and that this improvement has been facilitated by, among others, the planners' acquaintance with growth models.

### ***Effectiveness of implementation***

The effectiveness of plan implementation cannot be judged from the plan itself for the simple reason that it is "outside" of the plan—referring to the decisions and actions of the people carrying out the plan in the real world. To an extent, however, it can be inferred from the plan. Plans that are specific in their description of goals, strategies, and instruments and definite in their reference to sectors and subsectors lend themselves more easily to successful implementation than plans of general orientation, because they provide the implementer with clear and unambiguous programs of action on ground level.

A review of the development plans focused on their specificity, clarity, and degree of detail suggests that plans of recent years pass the review more easily than those of earlier decades. More recent plans, beginning with that for the 1990s and including the current one, give clearer, less ambiguous, more definitive descriptions of the strategies and instruments they espouse

than their predecessors. Thus, it can be said that plan implementation in the country has improved.

However, the ultimate test of successful implementation has to be actual outcomes, and it is here that the conclusion seems to be otherwise. If the growth rates of an average 6 percent per year of GNP or GDP, as indicated in the Plans, had prevailed, our GNP and GDP would be at least two times their current values and our per capita income—where the growth rate of population has tapered down to less than 2.0 percent beginning in the mid-1970s as planned—would be about two and a half times its present level. The same conclusion can be derived from changes in other target variables: the price level and the inflation rate would be lower, unemployment would be close to zero, exports would be almost twice their present value if planned values had been realized. On this basis, it can be concluded that plan implementation in the Philippines in the last half-century has not been effective.

Is this conclusion logically supportable? Perhaps not. Such a conclusion would have to assume causation, i.e., that the goals were not achieved because of ineffectiveness of implementation. In fact, the relationship might only be one of association or correlation. But from the point view of recent experience, exogenous factors like coups d'état, externally sourced crises and even local banditry might have been the prime culprits.

That point having been made, it must be stated nevertheless that the bureaucracy has a responsibility in plan implementation, tasked as it is to implement the plan. If it is hardworking, technically well prepared, and morally upright, it can transform even an inadequate highly aggregated plan into a detailed program of action, especially on ground level, where it counts. On the other hand, it can wreak untold havoc on the implementation of the most carefully crafted plan if it is lazy, ignorant, morally unfit, or just plain indifferent. One has only to recall the recent state of affairs at the Bureau of Internal Revenue, when its employees staged a strike to protest then Commission Rene Bañez' efforts to reform the bureau, which were deemed crucial to improving tax administration in the country.

This section of the paper cannot end on that note, however. Perhaps another measure of effectiveness in plan implementation—and perhaps of the technical soundness of the plan as well—can be added. This is the state of profitability of enterprises during the plan period. As former Socioeconomic Planning Secretary Dante B. Canlas put it. "If elements of the business sector are reporting large profits, as they are, plan conception and implementation must be good." Reasonable people will not disagree with that assessment.

### **Intervention vs. reliance on market forces**

In command economies, the purpose of intervention is to negate decisions of the private sector or, stated in another way, to neutralize forces of the free

market. In fact, intervention or “command” is intended precisely to supplant the free market. It is not so in market economies, where planning is mostly goal-setting and intervention is aimed at bringing out market forces and reinforcing and strengthening them to help attain Plan goals. Such is the case in the Philippines.

From the very beginning, plans had characterized the Philippine economy as a free enterprise economy, where the private sector was the leading sector in development. The government was to play only a subordinate and supportive role to the private sector. In the early years, this role took the form of engaging only in those activities that the private sector could not be expected to pursue because of the prohibitive amount of capitalization needed (steel mills, electricity, water and other utilities), or because of the public or semi-public character of the goods or services planned to be produced (e.g., rice and corn distribution, irrigation, fertilizer distribution, and so forth), only to be withdrawn from the private sector. In more recent years, plan implementation has focused less on directly productive activities and more on the enforcement of policies for the guidance of resource allocation, incentives, and disincentives to industries to go into one activity or another, and for regulatory purposes.

In the Philippines planning and implementing authorities correctly regard the Plan as “indicative” and not “commanding,” a program for non-interference in the dynamics of market forces. However, noninterference has often been interpreted to mean “to do nothing at all.” As a result, the situation is not that there is “too much” intervention in the workings of the market arising from imperatives of development plans but that there is “too little.”

What seems needed today is intervention at two levels: articulation and actual execution. The private sector, domestic and foreign, if not the people as a whole, certainly can benefit from a more careful articulation of policies, plans and programs. This can be done by staff departments, perhaps led by NEDA itself. The high authorities can reinforce this through moral suasion and demonstration.

On their part, the line departments must perform their duty with greater determination. They can accelerate efforts to create those elements of the economic environment that the market needs in order to function well—the physical infrastructure (e.g., transportation, communication, public works), social overhead (e.g., medical facilities, schools), social services (e.g., resettlement, housing), and political services (strengthened bureaucracy, law enforcement), and so forth.

Such ways of intervening will most certainly improve the workings of the market.

**Conclusion**

Philippine development planning has indeed benefited from the wisdom of economic growth models. This has resulted in the enhancement of their quality, technically and statistically. Implementation, to the extent that it can be inferred from the details of plan strategies and instruments, can be said to also have improved. But this conclusion must be tempered by a reference to reality, where over the years plan targets have not been realized or have been realized only partly. To be more successful in plan implementation, the government at both staff and line levels must articulate the plan more carefully and carry out infrastructural and other supportive programs with greater determination. These efforts will most help invigorate the market.



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