off guard. They had no readily available conceptual apparatus with which to analyze the process of economic growth in largely agrarian societies that lacked modern economic structures. But they did have the recent experience of the Marshall Plan, under which massive amounts of U.S. financial and technical assistance enabled the war-torn countries of Europe to rebuild and modernize their economies in a matter of years. Moreover, was it not true that all modern industrial nations were once undeveloped agrarian societies? Surely their historical experience in transforming their economies from poor agricultural subsistence societies to modern industrial giants had important lessons for the "backward" countries of Asia, Africa, and Latin America. The logic and simplicity of these two strands of thought—the utility of massive injections of capital and the historical experience of the now developed countries—was too irresistible to be refuted by scholars, politicians, and administrators in rich countries, to whom people and ways of life in the developing world were often no more real than UN statistics or scattered chapters in anthropology books. Because of its emphasis on the central role of accelerated capital accumulation, this approach is often dubbed "capital fundamentalism."

Rostow's Stages of Growth

Stages-of-growth model of development A theory of economic development, associated with the American economic historian Walt W. Rostow, according to which a country passes through sequential stages in achieving development.

The most influential and outspoken advocate of the **stages-of-growth model of development** was the American economic historian Walt W. Rostow. According to Rostow, the transition from underdevelopment to development can be described in terms of a series of steps or stages through which all countries must proceed. As Rostow wrote in the opening chapter of *The Stages of Economic Growth:*

> This book presents an economic historian's way of generalizing the sweep of modern history.…It is possible to identify all societies, in their economic dimensions, as lying within one of five categories: the traditional society, the preconditions for takeoff into self-sustaining growth, the take-off, the drive to maturity, and the age of high mass consumption.…These stages are not merely descriptive. They are not merely a way of generalizing certain factual observations about the sequence of development of modern societies. They have an inner logic and continuity.…They constitute, in the end, both a theory about economic growth and a more general, if still highly partial, theory about modern history as a whole.[1]

The advanced countries, it was argued, had all passed the stage of "takeoff into self-sustaining growth," and the underdeveloped countries that were still in either the traditional society or the "preconditions" stage had only to follow a certain set of rules of development to take off in their turn into self-sustaining economic growth.

One of the principal strategies of development necessary for any takeoff was the mobilization of domestic and foreign saving in order to generate sufficient investment to accelerate economic growth. The economic mechanism by which more investment leads to more growth can be described in terms of the **Harrod-Domar growth model**,[2] today often referred to as the *AK* model because it is based on a linear production function with output given by the capital stock *K* times a constant, often labeled *A*. In one form or another, it has frequently been applied to policy issues facing developing countries, such as in the two-gap model examined in Chapter 14.

Harrod-Domar growth model A functional economic relationship in which the growth rate of gross domestic product (g) depends directly on the national net savings rate (s) and inversely on the national capital-output ratio (c).

The Harrod-Domar Growth Model

Every economy must save a certain proportion of its national income, if only to replace worn-out or impaired capital goods (buildings, equipment, and materials). However, in order to grow, new investments representing net additions to the capital stock are necessary. If we assume that there is some direct economic relationship between the size of the total capital stock, K, and total GDP, Y—for example, if \$3 of capital is always necessary to produce an annual \$1 stream of GDP—it follows that any net additions to the capital stock in the form of new investment will bring about corresponding increases in the flow of national output, GDP.

Suppose that this relationship, known in economics as the **capital-output ratio**, is roughly 3 to 1. If we define the capital-output ratio as k and assume further that the national **net savings ratio**, s, is a fixed proportion of national output (e.g., 6%) and that total new investment is determined by the level of total savings, we can construct the following simple model of economic growth:

Capital-output ratio A ratio that shows the units of capital required to produce a unit of output over a given period of time.

Net savings ratio Savings expressed as a proportion of disposable income over some period of time.

1. Net saving (S) is some proportion, s, of national income (Y) such that we have the simple equation

$$S = sY \tag{3.1}$$

2. Net investment (I) is defined as the change in the capital stock, K, and can be represented by ΔK such that

$$I = \Delta K \tag{3.2}$$

But because the total capital stock, K, bears a direct relationship to total national income or output, Y, as expressed by the capital-output ratio, c,[3] it follows that

$$\frac{K}{Y} = c$$

or

$$\frac{\Delta K}{\Delta Y} = c$$

or, finally,

$$\Delta K = c\Delta Y \tag{3.3}$$

1/c is a measure of the efficiency of capital utilization.

3. Finally, because net national savings, S, must equal net investment, I, we can write this equality as

$$S = I \tag{3.4}$$

But from Equation 3.1 we know that $S = sY$, and from Equations 3.2 and 3.3 we know that

$$I = \Delta K = c\Delta Y$$

It therefore follows that we can write the "identity" of saving equaling investment shown by Equation 3.4 as

$$S = sY = c\Delta Y = \Delta K = I \tag{3.5}$$

or simply as

$$sY = c\Delta Y \tag{3.6}$$

Dividing both sides of Equation 3.6 first by Y and then by c, we obtain the following expression:

$$\frac{\Delta Y}{Y} = \frac{s}{c} \tag{3.7}$$

Note that the left-hand side of Equation 3.7, $\Delta Y/Y$, represents the rate of change or rate of growth of GDP.

Equation 3.7, which is a simplified version of the famous equation in the Harrod-Domar theory of economic growth, states simply that the rate of growth of GDP ($\Delta Y/Y$) is determined jointly by the net national savings ratio, s, and the national capital-output ratio, c. More specifically, it says that in the absence of government, the growth rate of national income will be directly or positively related to the savings ratio (i.e., the more an economy is able to save—and invest—out of a given GDP, the greater the growth of that GDP will be) and inversely or negatively related to the economy's capital-output ratio (i.e., the higher c is, the lower the rate of GDP growth will be). Equation 3.7 is also often expressed in terms of gross savings, s^G, in which case the growth rate is given by

$$\frac{\Delta Y}{Y} = \frac{s^G}{c} - \delta \tag{3.7'}$$

where δ is the rate of capital depreciation.[4]

The economic logic of Equations 3.7 and 3.7′ is very simple. To grow, economies must save and invest a certain proportion of their GDP. The more they can save and invest, the faster they can grow. But the actual rate at which they can grow for any level of saving and investment—how much additional output can be had from an additional unit of investment—can be measured by the inverse of the capital-output ratio, c, because this inverse, $1/c$, is simply the output-capital or output-investment ratio. It follows that multiplying the rate of new investment, $s = I/Y$, by its productivity, $1/c$, will give the rate by which national income or GDP will increase.

In addition to investment, two other components of economic growth are labor force growth and technological progress. The roles and functioning of these three components are examined in detail in Appendix 3.1. In the context of the Harrod-Domar growth model, labor force growth is not described explicitly. This is because labor is assumed to be abundant in a developing-country context and can be hired as needed in a given proportion to capital investments (this assumption is not always valid). In a general way, technological progress can be expressed in the Harrod-Domar context as a decrease in the required capital-output ratio, giving more growth for a given level of investment, as follows from Equation 3.7 or 3.7′. This is obvious when we realize that in the longer run, this ratio is not fixed but can change over time in response to the functioning of financial markets and the policy environment. But again, the focus was on the role of capital investment.

Obstacles and Constraints

Returning to the stages-of-growth theories and using Equation 3.7 of our simple Harrod-Domar growth model, we learn that one of the most fundamental strategies of economic growth is simply to increase the proportion of national income saved (i.e., not consumed). If we can raise s in Equation 3.7, we can increase $\Delta Y/Y$, the rate of GDP growth. For example, if we assume that the national capital-output ratio in some less developed country is, say, 3 and the aggregate net saving ratio is 6% of GDP, it follows from Equation 3.7 that this country can grow at a rate of 2% per year because

$$\frac{\Delta Y}{Y} = \frac{s}{c} = \frac{6\%}{3} = 2\% \tag{3.8}$$

Now if the national net savings rate can somehow be increased from 6% to, say, 15%—through some combination of increased taxes, foreign aid, and general consumption sacrifices—GDP growth can be increased from 2% to 5% because now

$$\frac{\Delta Y}{Y} = \frac{s}{c} = \frac{15\%}{3} = 5\% \tag{3.9}$$

In fact, Rostow and others defined the takeoff stage in precisely this way. Countries that were able to save 15 to 20% of GDP could grow ("develop") at a much faster rate than those that saved less. Moreover, this growth would then be self-sustaining. The mechanisms of economic growth and development, therefore, would be simply a matter of increasing national savings and investment.

The main obstacle to or constraint on development, according to this theory, is the relatively low level of new capital formation in most poor countries. But if a country wanted to grow at, say, a rate of 7% per year and if it could not generate savings and investment at a rate of 21% of national income (assuming that c, the final aggregate capital-output ratio, is 3) but could only manage to save 15%, it could seek to fill this "savings gap" of 6% through either foreign aid or private foreign investment.

Thus, the "capital constraint" stages approach to growth and development became a rationale and (in terms of Cold War politics) an opportunistic tool for justifying massive transfers of capital and technical assistance from the developed to the less developed nations. It was to be the Marshall Plan all over again, but this time for the nations of the developing world.

Necessary versus Sufficient Conditions: Some Criticisms of the Stages Model

Unfortunately, the mechanisms of development embodied in the theory of stages of growth did not always work. And the basic reason they didn't work was not because more saving and investment isn't a **necessary condition** for accelerated rates of economic growth but rather because it is not a **sufficient condition**. The Marshall Plan worked for Europe because the European countries receiving aid possessed the necessary structural, institutional, and

Necessary condition A condition that must be present, although it need not be in itself sufficient, for an event to occur. For example, capital formation may be a necessary condition for sustained economic growth (before growth in output can occur, there must be tools to produce it). But for this growth to continue, social, institutional, and attitudinal changes may have to occur.

Sufficient condition A condition that when present causes or guarantees that an event will or can occur; in economic models, a condition that logically requires that a statement must be true (or a result must hold) given other assumptions.

attitudinal conditions (e.g., well-integrated commodity and money markets, highly developed transport facilities, a well-trained and educated workforce, the motivation to succeed, an efficient government bureaucracy) to convert new capital effectively into higher levels of output. The Rostow and Harrod-Domar models implicitly assume the existence of these same attitudes and arrangements in underdeveloped nations. Yet, in many cases, they are lacking, as are complementary factors such as managerial competence, skilled labor, and the ability to plan and administer a wide assortment of development projects. There was also insufficient focus on another strategy for raising growth that is apparent from Equation 3.7: reducing the capital-output ratio, c, which entails increasing the efficiency with which investments generate extra output—a theme we take up later.

3.3 Structural-Change Models

Structural-change theory The hypothesis that *underdevelopment* is due to underutilization of *resources* arising from structural or institutional factors that have their origins in both domestic and international *dualism*. *Development* therefore requires more than just accelerated *capital* formation.

Structural transformation The process of transforming an economy in such a way that the contribution to national income by the manufacturing sector eventually surpasses the contribution by the agricultural sector. More generally, a major alteration in the industrial composition of any economy.

Lewis two-sector model A theory of development in which surplus labor from the traditional agricultural sector is transferred to the modern industrial sector, the growth of which absorbs the surplus labor, promotes industrialization, and stimulates sustained development.

Surplus labor The excess supply of labor over and above the quantity demanded at the going free-market wage rate. In the Lewis two-sector model of economic development, *surplus labor* refers to the portion of the rural labor force whose marginal productivity is zero or negative.

Structural-change theory focuses on the mechanism by which underdeveloped economies transform their domestic economic structures from a heavy emphasis on traditional subsistence agriculture to a more modern, more urbanized, and more industrially diverse manufacturing and service economy. It employs the tools of neoclassical price and resource allocation theory and modern econometrics to describe how this transformation process takes place. Two well-known representative examples of the structural-change approach are the "two-sector surplus labor" theoretical model of W. Arthur Lewis and the "patterns of development" empirical analysis of Hollis B. Chenery and his coauthors.

The Lewis Theory of Economic Development

Basic Model One of the best-known early theoretical models of development that focused on the **structural transformation** of a primarily subsistence economy was that formulated by Nobel laureate W. Arthur Lewis in the mid-1950s and later modified, formalized, and extended by John Fei and Gustav Ranis.[5] The **Lewis two-sector model** became the general theory of the development process in surplus-labor developing nations during most of the 1960s and early 1970s, and it is sometimes still applied, particularly to study the recent growth experience in China and labor markets in other developing countries.[6]

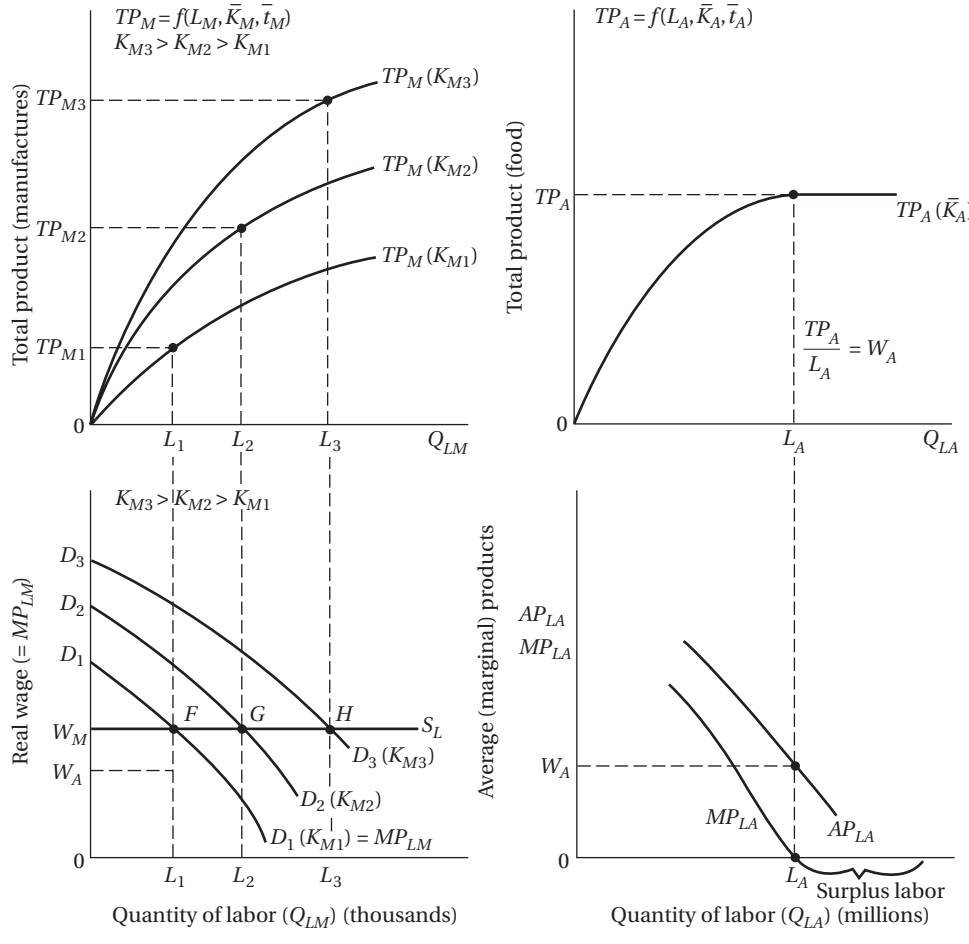
In the Lewis model, the underdeveloped economy consists of two sectors: a traditional, overpopulated, rural subsistence sector characterized by zero marginal labor productivity—a situation that permits Lewis to classify this as **surplus labor** in the sense that it can be withdrawn from the traditional agricultural sector without any loss of output—and a high-productivity modern, urban industrial sector into which labor from the subsistence sector is gradually transferred. The primary focus of the model is on both the process of labor transfer and the growth of output and employment in the modern sector. (The modern sector could include modern agriculture, but we will call the sector "industrial" as a shorthand). Both labor transfer and modern-sector employment growth are brought about by output expansion in that sector. The speed with which this expansion occurs is determined by the rate

of industrial investment and capital accumulation in the modern sector. Such investment is made possible by the excess of modern-sector profits over wages on the assumption that capitalists reinvest all their profits. Finally, Lewis assumed that the level of wages in the urban industrial sector was constant, determined as a given premium over a fixed average subsistence level of wages in the traditional agricultural sector. At the constant urban wage, the supply curve of rural labor to the modern sector is considered to be perfectly elastic.

We can illustrate the Lewis model of modern-sector growth in a two-sector economy by using Figure 3.1. Consider first the traditional agricultural sector portrayed in the two right-hand diagrams of Figure 3.1b. The upper diagram shows how subsistence food production varies with increases in labor inputs. It is a typical agricultural **production function** in which the total output or product (TP_A) of food is determined by changes in the amount of

Production function A technological or engineering relationship between the quantity of a good produced and the quantity of inputs required to produce it.

FIGURE 3.1 The Lewis Model of Modern-Sector Growth in a Two-Sector Surplus-Labor Economy



Average product Total output or product divided by total factor input (e.g., the average product of labor is equal to total output divided by the total amount of labor used to produce that output).

Marginal product The increase in total output resulting from the use of one additional unit of a variable factor of production (such as labor or capital). In the Lewis two-sector model, *surplus labor* is defined as workers whose marginal product is zero.

the only variable input, labor (L_A), given a fixed quantity of capital, $\overline{K}_A$, and unchanging traditional technology, $\bar{t}_A$. In the lower-right diagram, we have the **average** and **marginal product** of labor curves, AP_{LA} and MP_{LA}, which are derived from the total product curve shown immediately above. The quantity of agricultural labor (Q_{LA}) available is the same on both horizontal axes of the right-hand side of the figure and is expressed in millions of workers, as Lewis is describing an underdeveloped economy where much of the population lives and works in rural areas.

Lewis makes two assumptions about the traditional sector. First, there is surplus labor in the sense that MP_{LA} is zero, and second, all rural workers share *equally* in the output so that the rural real wage is determined by the average and not the marginal product of labor (as will be the case in the modern sector). Metaphorically, this may be thought of as passing around the family rice bowl at dinnertime, from which each person takes an equal share (this need not be literally equal shares for the basic idea to hold). Assume that there are L_A agricultural workers producing TP_A food, which is shared equally as W_A food per person (this is the average product, which is equal to TP_A/L_A). The marginal product of these L_A workers is zero, as shown in the bottom diagram of Figure 3.1b; hence the surplus-labor assumption applies to all workers in excess of L_A (note the horizontal TP_A curve beyond L_A workers in the upper-right diagram).

The upper-left diagram of Figure 3.1a portrays the total product (production function) curves for the modern industrial sector. Once again, output of, say, manufactured goods (TP_M) is a function of a variable labor input, L_M, for a given capital stock $\overline{K}_M$ and technology, $\bar{t}_M$. On the horizontal axes, the quantity of labor employed to produce an output of, say, TP_{M1}, with capital stock K_{M1}, is expressed in thousands of urban workers, L_1. In the Lewis model, the modern-sector capital stock is allowed to increase from K_{M1} to K_{M2} to K_{M3} as a result of the reinvestment of profits by industrial capitalists. This will cause the total product curves in Figure 3.1a to shift upward from $TP_M(K_{M1})$ to $TP_M(K_{M2})$ to $TP_M(K_{M3})$. The process that will generate these capitalist profits for reinvestment and growth is illustrated in the lower-left diagram of Figure 3.1a. Here we have modern-sector marginal labor product curves derived from the TP_M curves of the upper diagram. Under the assumption of perfectly competitive labor markets in the modern sector, these marginal product of labor curves are in fact the actual demand curves for labor. Here is how the system works.

W_A in the lower diagrams of Figures 3.1a and 3.1b represents the average level of real subsistence income in the traditional rural sector. W_M in Figure 3.1a is therefore the real wage in the modern capitalist sector. At this wage, the supply of rural labor is assumed to be unlimited or perfectly elastic, as shown by the horizontal labor supply curve $W_M S_L$. In other words, Lewis assumes that at urban wage W_M above rural average income W_A, modern-sector employers can hire as many surplus rural workers as they want without fear of rising wages. (Note again that the quantity of labor in the rural sector, Figure 3.1b, is expressed in millions, whereas in the modern urban sector, Figure 3.1a, units of labor are expressed in thousands.) Given a fixed supply of capital K_{M1} in the initial stage of modern-sector growth, the demand curve for labor is determined by labor's declining marginal product and is shown by the negatively sloped curve $D_1(K_{M1})$ in the lower-left diagram. Because profit-maximizing modern-sector employers are assumed to hire laborers to the point where their

marginal physical product is equal to the real wage (i.e., the point F of intersection between the labor demand and supply curves), total modern-sector employment will be equal to L_1. Total modern-sector output, TP_{M1}, would be given by the area bounded by points $0D_1FL_1$. The share of this total output paid to workers in the form of wages would be equal, therefore, to the area of the rectangle $0W_MFL_1$. The balance of the output shown by the area W_MD_1F would be the total profits that accrue to the capitalists. Because Lewis assumes that all of these profits are reinvested, the total capital stock in the modern sector will rise from K_{M1} to K_{M2}. This larger capital stock causes the total product curve of the modern sector to shift to $TP_M(K_{M2})$, which in turn induces a rise in the marginal product demand curve for labor. This outward shift in the labor demand curve is shown by line $D_2(K_{M2})$ in the bottom half of Figure 3.1a. A new equilibrium modern-sector employment level will be established at point G with L_2 workers now employed. Total output rises to TP_{M2} or $0D_2GL_2$, while total wages and profits increase to $0W_MGL_2$ and W_MD_2G, respectively. Once again, these larger (W_MD_2G) profits are reinvested, increasing the total capital stock to K_{M3}, shifting the total product and labor demand curves to $TP_M(K_{M3})$ and to $D_3(K_{M3})$, respectively, and raising the level of modern-sector employment to L_3.

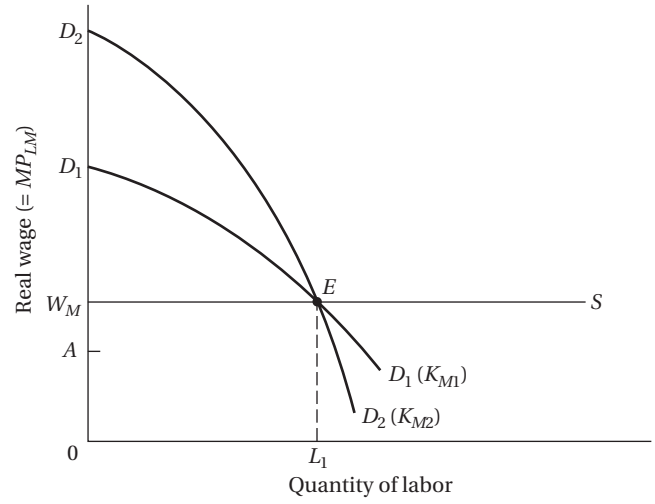
This process of modern-sector **self-sustaining growth** and employment expansion is assumed to continue until all surplus rural labor is absorbed in the new industrial sector. Thereafter, additional workers can be withdrawn from the agricultural sector only at a higher cost of lost food production because the declining labor-to-land ratio means that the marginal product of rural labor is no longer zero. This is known as the "Lewis turning point." Thus, the labor supply curve becomes positively sloped as modern-sector wages and employment continue to grow. The structural transformation of the economy will have taken place, with the balance of economic activity shifting from traditional rural agriculture to modern urban industry.

Self-sustaining growth Economic growth that continues over the long run based on saving, investment, and complementary private and public activities.

Criticisms of the Lewis Model Although the Lewis two-sector development model is simple and roughly reflects the historical experience of economic growth in the West, four of its key assumptions do not fit the institutional and economic realities of most contemporary developing countries.

First, the model implicitly assumes that the rate of labor transfer and employment creation in the modern sector is proportional to the rate of modern-sector capital accumulation. The faster the rate of capital accumulation, the higher the growth rate of the modern sector and the faster the rate of new job creation. But what if capitalist profits are reinvested in more sophisticated laborsaving capital equipment rather than just duplicating the existing capital, as is implicitly assumed in the Lewis model? (We are, of course, here accepting the debatable assumption that capitalist profits are in fact reinvested in the local economy and not sent abroad as a form of "capital flight" to be added to the deposits of Western banks.) Figure 3.2 reproduces the lower, modern-sector diagram of Figure 3.1a, only this time the labor demand curves do not shift uniformly outward but in fact cross. Demand curve $D_2(K_{M2})$ has a greater negative slope than $D_2(K_{M1})$ to reflect the fact that additions to the capital stock embody laborsaving technical progress—that is, KM_2 technology requires much less labor per unit of output than KM_1 technology does.

FIGURE 3.2 The Lewis Model Modified by Laborsaving Capital Accumulation: Employment Implications



We see that even though total output has grown substantially (i.e., $0D_2EL_1$ is significantly greater than $0D_1EL_1$), total wages ($0W_MEL_1$) and employment (L_1) remain unchanged. All of the extra output accrues to capitalists in the form of profits. Figure 3.2 therefore provides an illustration of what some might call "antidevelopmental" economic growth—*all* the extra income and output growth are distributed to the few owners of capital, while income and employment levels for the masses of workers remain largely unchanged. Although total GDP would rise, there would be little or no improvement in aggregate social welfare measured, say, in terms of more widely distributed gains in income and employment.

The second questionable assumption of the Lewis model is the notion that surplus labor exists in rural areas while there is full employment in the urban areas. Most contemporary research indicates that there is little surplus labor in rural locations. True, there are both seasonal and geographic exceptions to this rule (e.g., at least until recently in parts of China and the Asian subcontinent, some Caribbean islands, and isolated regions of Latin America where land ownership is very unequal), but by and large, development economists today agree that Lewis's assumption of rural surplus labor is generally not valid.

The third dubious assumption is the notion of a competitive modern-sector labor market that guarantees the continued existence of constant real urban wages up to the point where the supply of rural surplus labor is exhausted. Prior to the 1980s, a striking feature of urban labor markets and wage determination in almost all developing countries was the tendency for these wages to rise substantially over time, both in absolute terms and relative to average rural incomes, even in the presence of rising levels of open modern-sector unemployment and low or zero marginal productivity in agriculture. Institutional factors such as union bargaining power, civil service wage scales, and

multinational corporations' hiring practices tend to negate competitive forces in modern-sector labor markets in developing countries.

The fourth concern with the Lewis model is its assumption of diminishing returns in the modern industrial sector. Yet there is much evidence that increasing returns prevail in that sector, posing special problems for development policymaking that we will examine in Chapter 4.

We study the Lewis model because, as many development specialists still think about development in this way either explicitly or implicitly, it helps students participate in the debates. Moreover, the model is widely considered relevant to recent experiences in China, where labor has been steadily absorbed from farming into manufacturing, and to a few other countries with similar growth patterns. The Lewis turning point at which wages in manufacturing start to rise was widely identified with China's wage increases starting in 2010 (see the case study for Chapter 4).

However, when we take into account the laborsaving bias of most modern technological transfer, the existence of substantial capital flight, the widespread nonexistence of rural surplus labor, the growing prevalence of urban surplus labor, and the tendency for modern-sector wages to rise rapidly even where substantial open unemployment exists, we must acknowledge that the Lewis two-sector model—though valuable as an early conceptual portrayal of the development process of sectoral interaction and structural change and a description of some historical experiences, including some recent ones such as China—requires considerable modification in assumptions and analysis to fit the reality of most contemporary developing nations.

Structural Change and Patterns of Development

Like the earlier Lewis model, the **patterns-of-development analysis** of structural change focuses on the sequential process through which the economic, industrial, and institutional structure of an underdeveloped economy is transformed over time to permit new industries to replace traditional agriculture as the engine of economic growth. However, in contrast to the Lewis model and the original stages view of development, increased savings and investment are perceived by patterns-of-development analysts as necessary but not sufficient conditions for economic growth. In addition to the accumulation of capital, both physical and human, a set of interrelated changes in the economic structure of a country are required for the transition from a traditional economic system to a modern one. These structural changes involve virtually all economic functions, including the transformation of production and changes in the composition of consumer demand, international trade, and resource use as well as changes in socioeconomic factors such as urbanization and the growth and distribution of a country's population.

Patterns-of-development analysis An attempt to identify characteristic features of the internal process of structural transformation that a "typical" developing economy undergoes as it generates and sustains modern economic growth and development.

Empirical structural-change analysts emphasize both domestic and international constraints on development. The domestic ones include economic constraints such as a country's resource endowment and its physical and population size, as well as institutional constraints such as government policies and objectives. International constraints on development include access to external capital, technology, and international trade. Differences in development level among developing countries are largely ascribed to these domestic and

international constraints. However, it is the international constraints that make the transition of currently developing countries differ from that of now industrialized countries. To the extent that developing countries have access to the opportunities presented by the industrial countries as sources of capital, technology, and manufactured imports, as well as markets for exports, they can make the transition at an even faster rate than that achieved by the industrial countries during the early periods of their economic development. Thus, unlike the earlier stages model, the structural-change model recognizes the fact that developing countries are part of an integrated international system that can promote (as well as hinder) their development.

The best-known model of structural change is the one based largely on the empirical work of the late economist Hollis B. Chenery and his colleagues, who examined patterns of development for numerous developing countries during the postwar period. (This approach also built on research by Nobel laureate Simon Kuznets on modern economic growth of developed countries.)[7] Their empirical studies, both cross-sectional (among countries at a given point in time) and time-series (over long periods of time), of countries at different levels of per capita income led to the identification of several characteristic features of the development process. These included the shift from agricultural to industrial production, the steady accumulation of physical and human capital, the change in consumer demands from emphasis on food and basic necessities to desires for diverse manufactured goods and services, the growth of cities and urban industries as people migrate from farms and small towns, and the decline in family size and overall population growth as children lose their economic value and parents substitute what is traditionally labeled child quality (education) for quantity (see Chapter 6), with population growth first increasing and then decreasing in the process of development. Proponents of this school often call for development specialists to "let the facts speak for themselves" rather than get bogged down in the arcana of theories such as the stages of growth. This is a valuable counterbalance to empty theorizing, but it also has its own limits.

Conclusions and Implications

The structural changes that we have described are the "average" patterns of development that Chenery and his colleagues observed among countries in time-series and cross-sectional analyses. The major hypothesis of the structural-change model is that development is an identifiable process of growth and change, whose main features are similar in all countries. However, as mentioned earlier, the model does recognize that differences can arise among countries in the pace and pattern of development, depending on their particular set of circumstances. Factors influencing the development process include a country's resource endowment and size, its government's policies and objectives, the availability of external capital and technology, and the international trade environment.

One limitation to keep in mind is that by emphasizing patterns rather than theory, this approach runs the risk of leading practitioners to draw the wrong conclusions about causality—in effect, to "put the cart before the horse." Observing developed-country patterns such as the decline of the share of the labor force in agriculture over time, many developing-country policymakers have been inclined to neglect that vital sector. But as you will see in Chapter 9,

that is precisely the opposite conclusion to the one that should be drawn. Observing the important role of higher education in developed countries, policymakers may be inclined to emphasize the development of an advanced university system even before a majority of the population has gained basic literacy, a policy that has led to gross inequities even in countries at least nominally committed to egalitarian outcomes, such as Tanzania.

Empirical studies on the process of structural change lead to the conclusion that the pace and pattern of development can vary according to both domestic and international factors, many of which lie beyond the control of an individual developing nation. Yet despite this variation, structural-change economists argue that one can identify certain patterns occurring in almost all countries during the development process. And these patterns, they argue, may be affected by the choice of development policies pursued by governments in developing countries as well as the international trade and foreign-assistance policies of developed nations. Hence, structural-change analysts are basically optimistic that the "correct" mix of economic policies will generate beneficial patterns of self-sustaining growth. The international-dependence school to which we now turn is, in contrast, much less sanguine and is in many cases downright pessimistic.

3.4 The International-Dependence Revolution

During the 1970s, international-dependence models gained increasing support, especially among developing-country intellectuals, as a result of growing disenchantment with both the stages and structural-change models. While this theory to a large degree went out of favor during the 1980s and 1990s, versions of it have enjoyed a resurgence in the twenty-first century as some of its views have been adopted, albeit in modified form, by theorists and leaders of the antiglobalization movement.[8] Essentially, international-dependence models view developing countries as beset by institutional, political, and economic rigidities, both domestic and international, and caught up in a **dependence** and **dominance** relationship with rich countries. Within this general approach are three major streams of thought: the neocolonial dependence model, the false-paradigm model, and the dualistic-development thesis.

The Neocolonial Dependence Model

The first major stream, which we call the **neocolonial dependence model**, is an indirect outgrowth of Marxist thinking. It attributes the existence and continuance of **underdevelopment** primarily to the historical evolution of a highly unequal international capitalist system of rich country–poor country relationships. Whether because rich nations are intentionally exploitative or unintentionally neglectful, the coexistence of rich and poor nations in an international system dominated by such unequal power relationships between the **center** (the developed countries) and the **periphery** (the developing countries) renders attempts by poor nations to be self-reliant and independent difficult and sometimes even impossible.[9] Certain groups in the developing countries (including landlords, entrepreneurs, military rulers, merchants, salaried public officials, and

Dependence The reliance of developing countries on developed-country economic policies to stimulate their own economic growth. Dependence can also mean that the developing countries adopt developed-country education systems, technology, economic and political systems, attitudes, consumption patterns, dress, and so on.

Dominance In international affairs, a situation in which the developed countries have much greater power than the less developed countries in decisions affecting important international economic issues, such as the prices of agricultural commodities and raw materials in world markets.

Neocolonial dependence model A model whose main proposition is that underdevelopment exists in developing countries because of continuing exploitative economic, political, and cultural policies of former colonial rulers toward less developed countries.

Underdevelopment An economic situation characterized by persistent low levels of living in conjunction with absolute poverty, low income per capita, low rates of economic growth, low consumption levels, poor health services, high death rates, high birth rates, dependence on foreign economies, and limited freedom to choose among activities that satisfy human wants.

Center In dependence theory, the economically developed world.

Periphery In dependence theory, the developing countries.

trade union leaders) that enjoy high incomes, social status, and political power constitute a small elite ruling class whose principal interest, knowingly or not, is in the perpetuation of the international capitalist system of inequality and conformity in which they are rewarded. Directly and indirectly, they serve (are dominated by) and are rewarded by (are dependent on) international special-interest power groups, including multinational corporations, national bilateral-aid agencies, and multilateral assistance organizations like the World Bank or the International Monetary Fund (IMF), which are tied by allegiance or funding to the wealthy capitalist countries. The elites' activities and viewpoints often serve to inhibit any genuine reform efforts that might benefit the wider population and in some cases actually lead to even lower levels of living and to the perpetuation of underdevelopment. In short, the neo-Marxist, neocolonial view of underdevelopment attributes a large part of the developing world's continuing poverty to the existence and policies of the industrial capitalist countries of the northern hemisphere and their extensions in the form of small but powerful elite or **comprador groups** in the less developed countries.[10] Underdevelopment is thus seen as an *externally* induced phenomenon, in contrast to the linear-stages and structural-change theories' stress on *internal* constraints, such as insufficient savings and investment or lack of education and skills. Revolutionary struggles or at least major restructuring of the world capitalist system is therefore required to free dependent developing nations from the direct and indirect economic control of their developed-world and domestic oppressors.

Comprador group In dependence theory, local elites who act as fronts for foreign investors.

One of the most forceful statements of the international-dependence school of thought was made by Theotonio Dos Santos:

> Underdevelopment, far from constituting a state of backwardness prior to capitalism, is rather a consequence and a particular form of capitalist development known as dependent capitalism.…Dependence is a conditioning situation in which the economies of one group of countries are conditioned by the development and expansion of others. A relationship of interdependence between two or more economies or between such economies and the world trading system becomes a dependent relationship when some countries can expand through self-impulsion while others, being in a dependent position, can only expand as a reflection of the expansion of the dominant countries, which may have positive or negative effects on their immediate development. In either case, the basic situation of dependence causes these countries to be both backward and exploited. Dominant countries are endowed with technological, commercial, capital and sociopolitical predominance over dependent countries—the form of this predominance varying according to the particular historical moment—and can therefore exploit them, and extract part of the locally produced surplus. Dependence, then, is based upon an international division of labor which allows industrial development to take place in some countries while restricting it in others, whose growth is conditioned by and subjected to the power centers of the world.[11]

A similar but obviously non-Marxist perspective was expounded by Pope John Paul II in his widely quoted 1988 encyclical letter (a formal, elaborate expression of papal teaching) *Sollicitudo rei socialis* (The Social Concerns of the Church), in which he declared:

> One must denounce the existence of economic, financial, and social mechanisms which, although they are manipulated by people, often function almost automatically, thus accentuating the situation of wealth for some and poverty for the rest. These mechanisms, which are maneuvered directly or indirectly by the more

developed countries, by their very functioning, favor the interests of the people manipulating them. But in the end they suffocate or condition the economies of the less developed countries.

The False-Paradigm Model

A second and less radical international-dependence approach to development, which we might call the **false-paradigm model**, attributes underdevelopment to faulty and inappropriate advice provided by well-meaning but often uninformed, biased, and ethnocentric international "expert" advisers from developed-country assistance agencies and multinational donor organizations. These experts are said to offer complex but ultimately misleading models of development that often lead to inappropriate or incorrect policies. Because of institutional factors such as the central and remarkably resilient role of traditional social structures (tribe, caste, class, etc.), the highly unequal ownership of land and other property rights, the disproportionate control by local elites over domestic and international financial assets, and the very unequal access to credit, these policies, based as they often are on mainstream, neoclassical (or perhaps Lewis-type surplus-labor or Chenery-type structural-change) models, in many cases merely serve the vested interests of existing power groups, both domestic and international.

False-paradigm model The proposition that developing countries have failed to develop because their development strategies (usually given to them by Western economists) have been based on an incorrect model of development, one that, for example, overstresses capital accumulation or market liberalization without giving due consideration to needed social and institutional change.

In addition, according to this argument, leading university intellectuals, trade unionists, high-level government economists, and other civil servants all get their training in developed-country institutions where they are unwittingly served an unhealthy dose of alien concepts and elegant but inapplicable theoretical models. Having little or no really useful knowledge to enable them to come to grips in an effective way with real development problems, they often tend to become unknowing or reluctant apologists for the existing system of elitist policies and institutional structures. In university economics courses, for example, this typically entails the perpetuation of the teaching of many "irrelevant" Western concepts and models, while in government policy discussions, too much emphasis is placed on attempts to measure capital-output ratios, increase savings and investment ratios, privatize and deregulate the economy, or maximize GDP growth rates. As a result, proponents argue that desirable institutional and structural reforms, many of which we have discussed, are neglected or given only cursory attention.

The Dualistic-Development Thesis

Implicit in structural-change theories and explicit in international-dependence theories is the notion of a world of dual societies, of rich nations and poor nations and, in the developing countries, pockets of wealth within broad areas of poverty. **Dualism** is the existence and persistence of substantial and even increasing divergences between rich and poor nations and rich and poor peoples on various levels. Specifically, although research continues, the traditional concept of dualism embraces four key arguments:[12]

Dualism The coexistence of two situations or phenomena (one desirable and the other not) that are mutually exclusive to different groups of society—for example, extreme poverty and affluence, modern and traditional economic sectors, growth and stagnation, and higher education among a few amid large-scale illiteracy.

1. Different sets of conditions, of which some are "superior" and others "inferior," can coexist in a given space. Examples of this element of dualism

include Lewis's notion of the coexistence of modern and traditional methods of production in urban and rural sectors; the coexistence of wealthy, highly educated elites with masses of illiterate poor people; and the dependence notion of the coexistence of powerful and wealthy industrialized nations with weak, impoverished peasant societies in the international economy.

2. This coexistence is chronic and not merely transitional. It is not due to a temporary phenomenon, in which case, time could eliminate the discrepancy between superior and inferior elements. In other words, the international coexistence of wealth and poverty is not simply a historical phenomenon that will be rectified in time. Although both the stages-of-growth theory and the structural-change models implicitly make such an assumption, to proponents of the dualistic development thesis, growing international inequalities seem to refute it.
3. Not only do the degrees of superiority or inferiority fail to show any signs of diminishing, but they even have an inherent tendency to increase. For example, the productivity gap between workers in developed countries and their counterparts in most developing countries seems to widen.
4. The interrelations between the superior and inferior elements are such that the existence of the superior elements does little or nothing to pull up the inferior element, let alone "trickle down" to it. In fact, it may actually serve to push it down—to "develop its underdevelopment."

Conclusions and Implications

Whatever their ideological differences, the advocates of the neocolonial-dependence, false-paradigm, and dualism models reject the exclusive emphasis on traditional neoclassical economic theories designed to accelerate the growth of GDP as the principal index of development. They question the validity of Lewis-type two-sector models of modernization and industrialization in light of their questionable assumptions and developing-world history. They further reject the claims made by Chenery and others that there are well-defined empirical patterns of development that should be pursued by most poor countries. Instead, dependence, false-paradigm, and dualism theorists place more emphasis on international power imbalances and on needed fundamental economic, political, and institutional reforms, both domestic and worldwide. In extreme cases, they call for the outright expropriation of privately owned assets in the expectation that public asset ownership and control will be a more effective means to help eradicate absolute poverty, provide expanded employment opportunities, lessen income inequalities, and raise the levels of living (including health, education, and cultural enrichment) of the masses. Although a few radical neo-Marxists would even go so far as to say that economic growth and structural change do not matter, the majority of thoughtful observers recognize that the most effective way to deal with these diverse social problems is to accelerate the pace of economic growth through domestic and international reforms, accompanied by a judicious mixture of both public and private economic activity.

Dependence theories have two major weaknesses. First, although they offer an appealing explanation of why many poor countries remain underdeveloped, they give no insight into how countries initiate and sustain development. Second and perhaps more important, the actual economic experience of developing countries that have pursued revolutionary campaigns of industrial nationalization and state-run production has been mostly negative.

If we are to take dependence theory at face value, we would conclude that the best course for developing countries is to become entangled as little as possible with the developed countries and instead pursue a policy of **autarky**, or inwardly directed development, or at most trade only with other developing countries. But large countries that embarked on autarkic policies, such as China and, to a significant extent, India, experienced stagnant growth and ultimately decided to open their economies, China beginning this process after 1978 and India, after 1990. At the opposite extreme, economies such as Taiwan and South Korea, and China more recently, which have most emphasized exports to developed countries, have grown strongly. Although in many cases close ties to metropolitan countries during the colonial period apparently produced damaging outcomes—as in Peru under Spain, the Congo under Belgium, India under Great Britain, and West Africa under France—in a majority of cases, this relationship appeared to have significantly altered during the postcolonial period. Clearly, however, conflicts of interest between the developed and developing worlds, such as took center stage at the Copenhagen climate summit in December 2009 and have played a role in recent WTO and G20 meetings, are genuine and cannot be ignored.

Autarky A closed economy that attempts to be completely self-reliant.

We next consider the view that the keys to development are found in free markets. For perspective, as will be noted in later chapters, governments can succeed or fail just as markets can; the key to successful development performance is achieving a careful balance among what government can successfully accomplish, what the private market system can do, and what both can best do working together.

While the international-dependence revolution in development theory was capturing the imagination of many Western and developing country scholars, a reaction was emerging in the late 1970s and early 1980s in the form of a neoclassical free-market counterrevolution. This very different approach would ultimately dominate Western (and to a lesser extent developing country) theories of economic development during the 1980s and early 1990s.

3.5 The Neoclassical Counterrevolution: Market Fundamentalism

Challenging the Statist Model: Free Markets, Public Choice, and Market-Friendly Approaches

In the 1980s, the political ascendancy of conservative governments in the United States, Canada, Britain, and West Germany came with a **neoclassical counterrevolution** in economic theory and policy. In developed nations, this counterrevolution favored supply-side macroeconomic policies, rational expectations theories, and the privatization of public corporations. In developing

Neoclassical counterrevolution The 1980s resurgence of neoclassical free-market orientation toward development problems and policies, counter to the interventionist dependence revolution of the 1970s.

countries, it called for freer markets and the dismantling of public ownership, statist planning, and government regulation of economic activities. Neoclassicists obtained controlling votes on the boards of the world's two most powerful international financial agencies—the World Bank and the International Monetary Fund. In conjunction and with the simultaneous erosion of influence of organizations such as the International Labor Organization (ILO), the United Nations Development Programme (UNDP), and the United Nations Conference on Trade and Development (UNCTAD), which more fully represent the views of delegates from developing countries, it was inevitable that the neoconservative, free-market challenge to the interventionist arguments of dependence theorists would gather momentum.

The central argument of the neoclassical counterrevolution is that underdevelopment results from poor resource allocation due to incorrect pricing policies and too much state intervention by overly active developing-nation governments. Rather, the leading writers of the counterrevolution school, including Lord Peter Bauer, Deepak Lal, Ian Little, Harry Johnson, Bela Balassa, Jagdish Bhagwati, and Anne Krueger, argued that it is this very state intervention in economic activity that slows the pace of economic growth. The neoliberals argue that by permitting competitive **free markets** to flourish, privatizing state-owned enterprises, promoting free trade and export expansion, welcoming investors from developed countries, and eliminating the plethora of government regulations and price distortions in factor, product, and financial markets, both economic efficiency and economic growth will be stimulated. Contrary to the claims of the dependence theorists, the neoclassical counterrevolutionaries argue that the developing world is underdeveloped, not because of the predatory activities of the developed world and the international agencies that it controls, but rather because of the heavy hand of the state and the corruption, inefficiency, and lack of economic incentives that permeate the economies of developing nations. What is needed, therefore, is not a reform of the international economic system, a restructuring of dualistic developing economies, an increase in foreign aid, attempts to control population growth, or a more effective development planning system. Rather, it is simply a matter of promoting free markets and laissez-faire economics within the context of permissive governments that allow the "magic of the marketplace" and the "invisible hand" of market prices to guide resource allocation and stimulate economic development. They point both to the success of economies like South Korea, Taiwan, and Singapore as "free-market" examples (although, as we shall see later, these Asian Tigers are far from the laissez-faire neoconservative prototype) and to the failures of the public-interventionist economies of Africa and Latin America.[13]

Free markets The system whereby prices of commodities or services freely rise or fall when the buyer's demand for them rises or falls or the seller's supply of them decreases or increases.

The neoclassical counterrevolution can be divided into three component approaches: the free-market approach, the public-choice (or "new political economy") approach, and the "market-friendly" approach. **Free-market analysis** argues that markets alone are efficient—product markets provide the best signals for investments in new activities; labor markets respond to these new industries in appropriate ways; producers know best what to produce and how to produce it efficiently; and product and factor prices reflect accurate scarcity values of goods and resources now and in the future. Competition is effective, if not perfect; technology is freely available and nearly costless to absorb; information

Free-market analysis Theoretical analysis of the properties of an economic system operating with free markets, often under the assumption that an unregulated market performs better than one with government regulation.

is also perfect and nearly costless to obtain. Under these circumstances, any government intervention in the economy is by definition distortionary and counterproductive. Free-market development economists have tended to assume that developing-world markets are efficient and that whatever imperfections exist are of little consequence.

Public-choice theory, also known as the **new political economy approach**, goes even further to argue that governments can do (virtually) nothing right. This is because public-choice theory assumes that politicians, bureaucrats, citizens, and states act solely from a self-interested perspective, using their power and the authority of government for their own selfish ends. Citizens use political influence to obtain special benefits (called "rents") from government policies (e.g., import licenses or rationed foreign exchange) that restrict access to important resources. Politicians use government resources to consolidate and maintain positions of power and authority. Bureaucrats and public officials use their positions to extract bribes from rent-seeking citizens and to operate protected businesses on the side. Finally, states use their power to confiscate private property from individuals. The net result is not only a misallocation of resources but also a general reduction in individual freedoms. The conclusion, therefore, is that minimal government is the best government.[14]

Public-choice theory (new political economy approach) The theory that self-interest guides all individual behavior and that governments are inefficient and corrupt because people use government to pursue their own agendas.

The **market-friendly approach** is a variant on the neoclassical counterrevolution associated principally with the 1990s writings of the World Bank and its economists, many of whom were more in the free-market and public-choice camps during the 1980s.[15] This approach recognizes that there are many imperfections in developing-country product and factor markets and that governments do have a key role to play in facilitating the operation of markets through "nonselective" (market-friendly) interventions—for example, by investing in physical and social infrastructure, health care facilities, and educational institutions, and by providing a suitable climate for private enterprise. The market-friendly approach also differs from the free-market and public-choice schools of thought by accepting the notion that **market failures** (see Chapters 4 and 11) are more widespread in developing countries in areas such as investment coordination and environmental outcomes. Moreover, phenomena such as missing and incomplete information, externalities in skill creation and learning, and economies of scale in production are also endemic to markets in developing countries. In fact, the recognition of these last three phenomena gives rise to newer schools of development theory, the endogenous growth approach, to which we turn in Appendix 3.3 at the end of this chapter, and the coordination failure approach, discussed in Chapter 4.

Market-friendly approach The notion historically promulgated by the World Bank that successful development policy requires governments to create an environment in which markets can operate efficiently and to intervene only selectively in the economy in areas where the market is inefficient.

Market failure A market's inability to deliver its theoretical benefits due to the existence of market imperfections such as monopoly power, lack of factor mobility, significant externalities, or lack of knowledge. Market failure often provides the justification for government intervention to alter the working of the free market.

Traditional Neoclassical Growth Theory

Another cornerstone of the neoclassical free-market argument is the assertion that liberalization (opening up) of national markets draws additional domestic and foreign investment and thus increases the rate of capital accumulation. In terms of GDP growth, this is equivalent to raising domestic savings rates, which enhances **capital-labor ratios** and per capita incomes in capital-poor developing countries.

Capital-labor ratio The number of units of capital per unit of labor.

Solow neoclassical growth model Growth model in which there are diminishing returns to each factor of production but constant returns to scale. Exogenous technological change generates long-term economic growth.

The **Solow neoclassical growth model** in particular represented the seminal contribution to the neoclassical theory of growth and later earned Robert Solow the Nobel Prize in economics.[16] It differed from the Harrod-Domar formulation by adding a second factor, labor, and introducing a third independent variable, technology, to the growth equation. Unlike the fixed-coefficient, constant-returns-to-scale assumption of the Harrod-Domar model, Solow's neoclassical growth model exhibited diminishing returns to labor and capital separately and constant returns to both factors jointly. Technological progress became the residual factor explaining long-term growth, and its level was assumed by Solow and other neoclassical growth theorists to be determined exogenously, that is, independently of all other factors in the model.

More formally, the standard exposition of the Solow neoclassical growth model uses an aggregate production function in which

$$Y = K^{\alpha}(AL)^{1-\alpha} \tag{3.10}$$

where Y is gross domestic product, K is the stock of capital (which may include human capital as well as physical capital), L is labor, and A represents the productivity of labor, which grows at an exogenous rate. For developed countries, this rate has been estimated at about 2% per year. It may be smaller or larger for developing countries, depending on whether they are stagnating or catching up with the developed countries. Because the rate of technological progress is given exogenously (at 2% per year, say), the Solow neoclassical model is sometimes called an "exogenous" growth model, to be contrasted with the endogenous growth approach (discussed in Appendix 3.3). In Equation 3.10, α represents the elasticity of output with respect to capital (the percentage increase in GDP resulting from a 1% increase in human and physical capital). Since α is assumed to be less than 1 and private capital is assumed to be paid its marginal product so that there are no external economies, this formulation of neoclassical growth theory yields diminishing returns both to capital and to labor.

The Solow neoclassical growth model implies that economies will converge to the same level of income per worker "conditionally"—that is, other things equal, particularly savings rates, depreciation, labor force growth, and productivity. The Solow neoclassical growth model is examined in detail in Appendix 3.2.

According to traditional neoclassical growth theory, output growth results from one or more of three factors: increases in labor quantity and quality (through population growth and education), increases in capital (through saving and investment), and improvements in technology (see Appendix 3.1). **Closed economies** (those with no external activities) with lower savings rates (other things being equal) grow more slowly in the short run than those with high savings rates and tend to converge to lower per capita income levels. **Open economies** (those with trade, foreign investment, etc.), however, experience income convergence at higher levels as capital flows from rich countries to poor countries where capital-labor ratios are lower and thus returns on investments are higher. Consequently, by impeding the inflow of foreign investment, the heavy-handedness of many developing countries' governments, according to neoclassical growth theory, will retard growth

Closed economy An economy in which there are no foreign trade transactions or other economic contacts with the rest of the world.

Open economy An economy that practices foreign trade and has extensive financial and nonfinancial contacts with the rest of the world.

in the economies of the developing world. In addition, openness is said to encourage greater access to foreign production ideas that can raise the rate of technological progress.

Conclusions and Implications

Whereas dependence theorists (many, but not all, of whom were economists from developing countries) saw underdevelopment as an externally induced phenomenon, neoclassical revisionists (most, but not all, of whom were Western economists) saw the problem as an internally induced phenomenon of developing countries, caused by too much government intervention and bad economic policies. Such finger-pointing on both sides is not uncommon in issues so contentious as those that divide rich and poor nations.

But what of the neoclassical counterrevolution's contention that free markets and less government provide the basic ingredients for development? On strictly efficiency (as opposed to equity) criteria, there can be little doubt that market price allocation usually does a better job than state intervention. The problem is that many developing economies are so different in structure and organization from their Western counterparts that the behavioral assumptions and policy precepts of traditional neoclassical theory are sometimes questionable and often incorrect. Competitive free markets generally do not exist, nor, given the institutional, cultural, and historical context of many developing countries, would they necessarily be desirable from a long-term economic and social perspective (see Chapter 11). Consumers as a whole are rarely sovereign about what goods and services are to be produced, in what quantities, and for whom. Information is limited, markets are fragmented, and much of the economy in low-income countries is still nonmonetized.[17] There are widespread externalities of both production and consumption as well as discontinuities in production and indivisibilities (i.e., economies of scale) in technology. Producers, private or public, have great power in determining market prices and quantities sold. The ideal of competition is typically just that—an ideal with little substance in reality. Although monopolies of resource purchase and product sale are pervasive in the developing world, the traditional neoclassical theory of monopoly also offers little insight into the day-to-day activities of public and private corporations. Decision rules can vary widely with the social setting so that profit maximization may be a low-priority objective, especially in state-owned enterprises, in comparison with, say, the creation of jobs or the replacement of foreign managers with local personnel. Finally, the invisible hand often acts not to promote the general welfare but rather to lift up those who are already well-off while failing to offer opportunities for upward mobility for the vast majority.

Much can be learned from neoclassical theory with regard to the importance of elementary supply-and-demand analysis in arriving at "correct" product, factor, and foreign-exchange prices for efficient production and resource allocation. However, enlightened governments can also make effective use of prices as signals and incentives for influencing socially optimal resource allocations. Indeed, we will often demonstrate the usefulness of various tools of neoclassical theory in our later analysis of problems such as population growth, agricultural stagnation, unemployment and underemployment,