

Summary of Selected Articles

R.A. El-Haj, "Capital Formation in Iraq—1922-57," *Economic Development and Cultural Change*, July 1961.

Within the limitations of the data common to most colonial territories, the author has estimated the annual capital investment in Iraq during the period 1922-57. The estimates pertain to gross investment as well as net investment. Lack of detailed information restricted the estimates of net capital investment to the period since 1933.

The estimates of gross capital investment indicated a steady annual increase with the exception of war years. Over the period as a whole gross investment showed an annual average increase of 14 per cent. During 1933-57 both gross and net investment increased at 16 per cent per annum. The period 1951-57 recorded a continuous rise in investment due mainly to a sharp increase in public investment. A large part of this increase, however, reflected higher prices. The following figures indicate annual growth rates of capital investment during the different periods.

| Period | Gross Investment (per cent per annum) | Net Investment (per cent per annum) |
|---------------|---|---|
| 1922-30 | 6 | — |
| 1930-39 | 11 | 11 (1933-39) |
| 1945-50 | 22 | 19 |
| 1950-57 | 25 | 27 |

As a percentage of national income, rough estimates of which are available for the years 1949 and 1956, gross capital investment increased from 10-15 per cent to 27 per cent respectively. The high percentage of capital investment to national income however is not a prerequisite for fast economic growth. While the supply of cultivable land and capital funds is relatively high, technical and managerial skill is lacking.

Transport and communications accounted for the largest share of total investment. This is explained partly by the need for adequate and low cost transport and communications system as a prerequisite to economic development. The share, however, declined steadily from 55 per cent of total investment in 1933-39 to 36 per cent in 1951-57, reflecting modernization of transport and communications system.

Investment in agriculture rose from 22 per cent of the total in 1933-39 to 25 per cent in 1951-57. Large supply of cultivable land in Iraq, higher marginal propensity to consume in the subsistence sector and the international markets for low priced agricultural commodities were the factors responsible for a high share of total investment in agriculture.

The industrial sector had the lowest share in total investment. It, however, increased to 11 per cent in 1951-57 from 5 per cent in the periods 1933-39 and 1946-50. The main factors responsible for the low investment in industry

were the limited demand for industrial products in the local market and the lack of resources, on the part of government, to implement a policy of industrialisation. In the period 1951-57, government had enough funds and foreign exchange to effect the policy of industrialisation mainly through its own agencies.

Investment in construction (both private and public) in the periods 1946-50 and 1951-57 accounted for 23 per cent and 14 per cent of total capital investment respectively. A rough estimate of investments in this sector during 1933-39 placed the share at 30 per cent during that period suggesting a decline in the share of total investment subsequently. The high level of investment in building is attributable to the rapid increase in population, particularly in urban areas. Major share of investment in this sector was contributed by private investors.

(S.U.K.)

W.M. Corden, "A Brief Review of Some Theories of Economic Growth",
The Malayan Economic Review, April 1961.

This article is an attempt at consolidating and exposing the main features of certain growth models. The author classifies the models of economic growth into two broad categories: first, the neoclassical models which assume full employment and substitution between factors of production; and second, the Keynesian models presenting the problems of investment incentive and demand.

The neoclassical models of economic growth start with the assumption of a linear homogenous production function with labour and capital as the only factors of production. This implies that if labour and capital grow at unequal rates, output will increase by some intermediary rate (the exact rate depending on the relative weights of labour and capital in the production function). The models also assume that the rate of growth of labour is constant and that the growth rate of capital $\left(\frac{dk}{k}\right)$ is equal to the propensity to invest $\left(\frac{i}{y} = \frac{dk}{y}\right)$ times the average output-capital ratio $\left(\frac{y}{k}\right)$. The models further assume that the average propensity to invest is the same as average propensity to save which is constant. The only variable in the model, the output-capital ratio is determined by the relative growth rates of output and capital. Under the assumption of a linear homogenous production function, these two rates can be different only if the growth rates of labour and capital are different. The system tends to the equilibrium level where the rate of capital growth is the same as the rate of labour growth (at this level the growth rate of output will also be the same). If output grows beyond this level, its growth rate will fall below the growth rate of capital (because the assumption of the linear homogenous production function implies that if capital grows at a rate higher than that of labour, output will grow at an intermediary rate which is lower than capital growth rate). This will result in a reduction of the output-capital ratio which will restore the system to the original equilibrium through its chain reaction on capital growth and output. Similarly, the

output-capital ratio will rise if it is lower than the level of equality of the rates of growth of labour and capital.

The neo-Malthusian variant of the neo-classical growth model releases the assumption of constant rate of growth of labour. It makes growth rate of labour a function of standard of living or output-labour ratio. As this ratio increases, the growth rate of labour increases at first (due to the reduction in death rate) but at a later stage it falls (due to decline in birth rate). As output-labour ratio rises, output-capital ratio falls and since the propensity to save is still assumed constant, the growth-rate of capital declines. Output grows at an intermediary rate being equal to the rates of growth of labour and capital at the levels where the two latter rates are equal to each other (*i.e.* the three growth rate curves intersect each other at some level because linear homogenous production function is assumed). All these points indicate equilibrium (a stable equilibrium being a point where output growth curve intersects the labour growth curve from below).

Neo-Malthusian models have also been constructed without the assumption of a constant saving (or investment) propensity. Such models assume that as output-labour ratio rises, saving propensity rises resulting in an increase in the growth rate of capital at the initial stage. Capital growth rate declines at a later stage due to the decline in output-capital ratio.

The other type of growth theory is the Keynesian models. Harrod-Domar model of growth is the only one in this category that the author considers. The main difference between the neo-classical model and the Harrod-Domar model is that the latter assumes the proportion between labour and capital to be fixed, unless there is technological progress. The simplest version of the Harrod-Domar model assumes the constancy of labour growth rate, the constancy of saving propensity and (unless there is technological change) the constancy of output-capital ratio. There is then really nothing to bring the model into equilibrium. If capital grows at a slower rate than labour there will be more unemployment of labour, unless technical change is labour-using. The model does not allow the supply of new labour to contract as a result of this. On the other hand when capital grows at a faster rate than labour, at first stocks of capital-goods might accumulate but eventually investment declines. With falling investment, demand declines and there is a downward spiral of income, the creation of unutilized capital being avoided by creating unemployment of labour—unemployment which is due this time to lack of demand, not lack of capital. Thus employment is really the variable in this model, just as output-capital and output-labour ratios are the variables of the earlier models.

Growth models, however, have many limitations:

The first limitation is the meaning and measurement of "capital". As presented in these models, capital is a physical concept; but with changes in techniques, tastes and relative prices it is difficult to aggregate different types of capital. The second limitation is that the models abstract from a number of very important factors—economies of scale, external economies and social environment. The third important limitation is the assumption that the economy consists of only one sector.

Maurice Dobb, "Some Problems in the Theory of Growth and Planning Policy", *Kyklos*, Fasc. 2, 1961.

The choice of technique in relation to economic growth has had a central place in the discussion of planning problems. A distinct question associated with the choice of technique is the distribution of investment between production of capital goods and production of consumer goods.

Until quite recently it was supposed by economists that the relative marginal productivity of the factors would determine the comparative cost of different products and would allocate investment among industries. According to this marginal productivity theory, in a situation where capital is scarce and labour plentiful, highly labour-intensive methods of production should be used.

Challenging this traditional doctrine the author suggests that investment policy should try to maximise the rate of growth. This requires a higher degree of capital intensity of investment and needs the allocation of a large proportion of investment to the capital goods sector of the economy.

The essential difference between the two lies in the objective of planning policy. The objective may be employment, increased consumption or increase of investment potential. This conflict, however, holds within a certain time horizon. In the long run what maximises the rate of increase of investment will also maximise the rate of growth of both employment and of consumption.

A policy that maximises the rate of increase of investment will soon maximise the rate of increase both of employment and output of consumption goods. But this may not be true if consumption per head rises proportionately with the rise of productivity due to more capital intensive technique.

In a private enterprise economy there is no certainty that this will not occur because higher productivity may lead to higher consumption through higher incomes.

The principle of 'maximum economy of labour' is the guiding principle of rationality in the social accounting of a planned economy. It implies minimising the quantity of labour required to produce a given quantity of output in each sector without adversely affecting output and employment in the other sectors. What matters from the standpoint of policy is not so much what the rate of investment happens to be at any initial date, but how the volume of investment is utilised and the difference which the mode of utilising makes to the rate at which the volume of investment can change.

Rules for optimum allocation have to be cast not in terms of static welfare equations but in terms of the rate of change.

There are two factors which determine investment. First, the surplus of production over consumption in the wage-goods industries to meet the consumption needs of workers employed in the investment sector of the economy; and second, the productive capacity of the industries producing capital goods.

The available supply of wage-goods is the dominant effective limit upon investment. This requires expansion of productive capacity in the consumer goods industries as a prior condition for an expansion of investment. Investment can be increased if planning is extended to a wide time horizon instead of concentrating attention on maxima of consumption or of employment viewed within a narrow time horizon.

(A.I.)

W.H. Locke Anderson and John Cornwall, "Problems of Growth Policy",
The Review of Economics and Statistics, May 1961.

The main aim of this article is to explore the problems and possibilities of growth policy. The authors have built a model in order to provide consistent and quantitative estimates of the fiscal requirements of full employment.

The model can be divided into two parts. One dealing with the supply side and the other with the demand side. The supply side determines the allocation of output in three sectors *e.g.* business, household and government for the purposes of investment, private consumption, and government consumption, respectively. The demand side determines the saving and the tax structure which will induce investors and consumers to want just what they are allowed.

In this model the rate of growth, full employment and government expenditure are considered as targets and are predetermined. Labour supply is also considered independent of current personal income. Hence the share of income going to investment, private consumption and public consumption is determined by the targets that have been set and the supply relationships. Labour supply and targets determine capital requirements, capital requirements determine allocation, allocation determines necessary demand and necessary demand determines the fiscal policy.

The authors then proceed to find out the fiscal implications of the targets. This means the deriving of a tax policy necessary for full employment growth—the policy that will assure that consumers and investors will buy up the shares allocated to them.

It has been found by the help of various target and parameter combinations that the taxes on investors fall as the rate of growth rises. This is necessary to induce investment to buy up the increased share which must be devoted to capital formation at higher growth rates. Net tax yields as a share of income increase as the growth rate is increased. This must always be true if net investment as a share increases by more than retained profits as a share.

This raises two interesting problems regarding the yield and equity aspects of growth policy. A fiscal policy which implies either a drastic increase or a drastic decrease of the national debt would have many undesirable consequences on the financial markets. A considerable debt reduction,

although it would be non-deflationary and would make debt management easier, could have a serious impact on those financial institutions which rely on government debt for a large share of their liquid asset holding.

Besides the yield problem there also remains the equity problem. Political forces in the country would not tolerate a fiscal policy which would tax the consumers and subsidise the investors. The authors have set a table indicating that there are many combinations of targets and parameters which imply a subsidy for one class and heavy taxation for another. The authors then discuss the effect of parameter changes on yield and equity.

Yield and equity problems are problems of demand. If yield and equity problems exist at a particular growth target, additional instruments will be needed to attack parameters of the system in order to rectify the intolerable situations. An attack may be made on demand parameters such as spending propensities, or supply parameters or else it may be necessary to alter the target rate of government expenditure in order to alleviate an intolerable yield problem.

As long as marginal propensity to consume is less than one, a dollar's increase in government expenditure will require more than a dollar's worth of increased consumer taxes. This must be so in order to ensure that consumers will not attempt to buy more consumer goods than are available after the increased government expenditure has reduced the available supply of those goods. Hence any redistribution of goods from private consumption to public consumption will do more than finance itself if the government is committed to maintaining equality between aggregate demand and aggregate supply. Any attempt to correct social imbalance through increases in government expenditures and decreases in consumption will either help to eliminate the national debt or at least slow down its growth.

Although many economists consider the government as an agency for damping fluctuations and to take the economy towards full employment, it is not an easy job. But they believe that if any desired growth goal is to be achieved, then the market forces have to be manipulated accordingly.

(A.N.M.A.R.)

R.J. Ball, "Credit Restriction and the Supply of Exports", *The Manchester School of Economic and Social Studies*, May 1961.

The paper examines the notion that a direct restriction of home demand induces an increase in the supply of exports. Two models are presented to provide a framework for discussion and to bring out the main points at issue. The credit squeeze is considered at the level of the individual firm. It is assumed that the firm produces a more or less homogenous product part of which is exported and the remainder sold in the home market, and that production is not allowed to exceed overall demand. It is also assumed that the firm is interested in maximising profits in the short run. This assumption, however, is relaxed in the second model.

The first model is that of price discrimination. The firm is faced with negatively sloped demand curves in each market. The level of incomes is constant so that foreign demand depends only on price and domestic demand depends on price and also on the degree of credit restriction.

If the degree of restriction is increased, domestic demand is reduced at the ruling price and the firm is faced with the possibility of reducing export price. If marginal costs are rising in the neighbourhood of the original equilibrium, domestic price will rise and sales fall while foreign price will fall and sales rise. In the reverse case, exports will decline. If marginal costs are constant, the volume exported will not change. The volume of exports in this model thus depends on the nature of the cost curves.

However, profit maximisation in the short run and price discrimination may not characterise the behaviour of British producers. In the second model, therefore, prices are fixed at the 'normal' level and firms act as quantity takers. Output produced equals quantity demanded. Since prices are fixed, reduction in home demand will not increase exports.

Three factors emerge from the analysis as important:

1. The market structure that exists, *i.e.*, whether the firm sells in perfectly competitive or imperfectly competitive conditions or adopts some version of full cost pricing.
2. Cost conditions in the neighbourhood of current working.
3. The extent to which the demand for exports can be increased by other than price changes, *i.e.*, by an expansion of selling services.

British industry tends to be faced with negatively sloped demand curves both at home and abroad. If there is profit maximisation, it would dictate the practice of price discrimination. In this case it would not be possible to rule out the conclusions of the price discrimination model.

However, profit maximisation in the short run is not likely to take place. Prices may tend to be adjusted to the long run 'normal' level rather than altered in response to short run output changes. With the fixed price model, excess demand must exist abroad for the restrictive policy to lead to a rise in exports. There is little likelihood that excess demand for British products has existed over the last five years. It seems fair to conclude that the argument that restricting credit will have a direct effect on the expansion of exports in the short run is highly dubious.

(N.S.)

Surendra Dave, "India's Trade Relations with East European Countries: 1952/53—1959/60—A Study in Bilateralism", *Indian Economic Journal*, July 1961.

This study is based on India's bilateral trade relations during 1952/53—

1959/60 with East European countries. Most of the agreements were signed during 1953 and 1954 and aimed at raising trade to a higher level on the principle of balanced trade. All payments were made through the rupee account, and the balance was convertible in pound sterling either on demand or on the expiry of the agreement.

A strict form of bilateralism has emerged since 1958. Since then all payments are made in non-convertible Indian rupee and the balance is settled by movements of commodities within a period varying from six months to one year and failing that, in a mutually accepted way. In these agreements no explicit mention has been made of swing credit. Balance is allowed to accumulate till the termination of the agreement and the deficit country receives an automatic credit. However, this unlimited credit provision is compromised by the efforts to achieve as far as possible balanced trade every year. Commodity schedules are not restrictive. They are indicative lists, and trade in commodities other than those mentioned in the schedules is allowed. The tenure of agreements is normally three years. With few exceptions these agreements also provide for the promotion of mutual shipping, technical cooperation and assistance. The encouragement of triangular re-exports and multi-lateral transfer of balance is also envisaged in one case.

There has been a rapid increase in India's trade with Eastern European countries during the period 1952/53—1959/60. Index numbers show that trade with these countries was extraordinarily high but this is largely a statistical illusion arising from the low level of the initial trade. Exports have been predominantly confined to traditional commodities. Non-traditional goods have failed so far to benefit from trade with these countries. Among export commodities, hides and skins, mica, iron, ore, spices, tea, and jute manufactures have benefitted the most. Export of twelve major commodities including those mentioned above account for more than 65 per cent of India's exports to these countries. Their share in total exports to East Europe was very high in 1954-55, but subsequently as trade became diversified their share declined. In the overall total exports of these commodities the share of exports to Eastern Europe has been continuously rising. Increased trade with Eastern Europe has helped India not only by increasing her exports but also by improving her terms of trade or at least by not allowing the terms of trade to deteriorate any further.

Imports from these countries have remained more or less stationary in the last four years under study. This has been in tune with India's overall imports during the period. Imports have been practically confined to manufactured commodities such as base metals, manufactures of metals, machinery and transport equipment. The share of imports of capital goods is much larger in the case of Eastern Europe than it has been in India's imports from other countries.

The trade conducted under bilateral payments arrangements has shown no indication of having an annual balance with individual countries. However, the total trade with Eastern Europe has balanced during the period under the Second Five-Year Plan. Failure to obtain an annual balance has benefited India by allowing her to import a larger volume of goods than she could pay for. Besides, shipping agreements have enabled India to save considerable amounts of foreign exchange on freight and have also encourag-

ed Indian shipping. A part of this phenomenal rise in India's trade may be attributed to the unavoidable statistical bias reinforced by the short period that is studied and the rapid growth of output with relatively higher income elasticity to import for primary commodities. Trade normally seems to have taken place at world prices and the direct differences in prices are of much less consequence in trade with these countries. The major source of discrimination under the bilateral agreements arises from payments terms. Since India has to pay in terms of non-convertible rupees (after 1958) trade with these countries involves no payments of convertible currency. Had there been no agreement India would not have imported such large volume from these countries. Similarly if India were not to import from these countries, her exports to these countries would have been less. India as well as Eastern Europe, therefore has gained by the emergence of the agreement.

The expansion of trade with East Europe was not at the cost of reduction in trade with the rest of the world. India has also gained by obtaining more favourable prices than she could have had otherwise. Besides, the trade with East European countries helped India to stabilize her exports in her otherwise sagging third markets and benefited her not only by the amount of additional trade with them but also by higher prices on each unit of trade with the rest of the countries.

A high degree of complementarity exists between India and East European countries. Therefore, considerable scope exists for an even greater expansion of trade.

(M.H.)

Holland Hunter, "Optimum Tautness in Development Planning, *Economic Development and Cultural Change*, July 1961.

This paper discusses the problem of choosing and deciding upon the optimum degree of ambitiousness in the development programme of a poor country trying to catch up rapidly with the advanced economies. The theoretical issues involved are: the nature of the desirable equilibrium characterising the country's growth process; and the degree of ambitiousness to be built into its development programme.

Until recently the analytical literature on central planning assumed constant technology and viewed the Central Planning Board as an agency allocating resources in much the same way as the market mechanism would do. Growth emerges merely as a by-product. But since development planning centres precisely on the introduction of improved technology, such analysis throws little light on the problem. The traditional Western theory passively explains the economic environment. The problem of the poorer countries is to change the economic environment. Because of this fundamental change in emphasis, development planning needs a 'modified body of theory'.

A development plan involves the decision not only regarding the consumption-investment ratio but also regarding the introduction of technological and structural changes in the economy.

The plan must have three interdependent sets of targets for inputs, production coefficients, and outputs. Successful planning will stretch the current production-possibility frontier from year to year. How ambitious each individual target should be, is a crucial decision. If the target is set only as high as the slowest-moving element in the system will allow, the plan would reflect passive fatalism. But a hortatory approach would set ambitious targets, make determined campaigns and provide for the flexible use of 'reserves' to overcome bottlenecks (slow-moving elements). Such 'taut' planning bears very little resemblance to the usual notion of balanced organisation of economic activity, but has a positive role in stimulating progress. In planning to catch up, the Central Planning Board must find out the optimum degree of tautness in its plans.

Tautness always generates dysfunctional forces reducing operating effectiveness. Upto a point these forces are counter-balanced by favourable effects of tautness. On balance the result is higher output. Therefore, an important operating principle is that plan targets should be increased upto the point at which losses from overtautness exactly match the estimated gains from ambitious target increases. When the society ceases to respond favourably to such hortatory planning, the end of the take-off period is indicated.

The Soviet record since 1928 is an example of taut planning with its positive and negative features. There are three conceptual stages in developing and administering a taut current-planning system (as in U.S.S.R.). In the first stage, targets for production increases of various outputs are provisionally set down, on the principle of priority; in the second stage the principle of output maximisation leads to equimarginal input allocations, and a certain fraction of current output is set aside (as reserves) in advance, for subsequent emergency allocations. In the third stage, when a number of targets are found to show shortfalls, reserves are doled out to industries on a priority basis. High priority targets may thus be overfulfilled, while low priority ones may show large shortfalls.

In terms of the concepts of linear economics this three-stage model is 'a consistent set of material balances'. Anticipated supply and anticipated use-allocations are balanced for each and every item. The great practical question is to find out methods to approximate such overall consistency. Since planning to catch up involves introducing a host of changes in the economy, planners seek a flexible consistency, involving a number of 'loose ends.'

One way of achieving this is to state many major commodity targets in total terms (covering intermediate use and final demand) and to treat the achieved availability of the commodity as a flexible residual, determined during the plan period by the successes and failures of the changing technology and other factors. This concentration on expansion of intermediate output, with next year's final-good output to some extent a "loose end", appears to be a logical and inevitable element of planning to catch.

The Soviet practice of providing for 'operating reserves' (for subsequent emergency allocations) on the uses side of the material balances is another device for obtaining flexible tautness. The higher the ratio of 'operating

reserve' to gross output of a commodity the smaller is the quantity available as input to fulfill the target, and the higher is the degree of tautness. While a 50 per cent 'reserve' is fantastic, a 10 per cent reserve may bring pressure on all participants in a 'taut' way.

Optimum tautness and flexible equilibrium are modifications and extensions of the recent concepts of efficiency and consistency in a development programme. In the determination of the optimum degree of tautness, politics and psychology weigh as heavily as strictly economic considerations. Except for the opening year of the plan, recent experience would be the best guide, supplemented by lessons from other countries. Where the employment of input-output techniques is feasible, use of a column vector for 'operating reserves' would provide a means for feeling out more precisely each year's optimum degree of tautness.

(S.R.B.)

Padma Desai, "Short Term Planning Model for the Indian Economy", *Review of Economics and Statistics*, May 1961.

This is an input-output model closed to all household consumption except that originating from government employees. Each of the endogenous sectors (agriculture, services, manufacturing, trade and transport) of the model has an associated household sector whose income originates in the processing sector by selling primary products to it. The exogenous sectors (exports, gross capital formation, government outlay and consumption expenditure of government employees) do not play a functional part in the model.

Then a table of intersectoral flows of intermediate and final goods and services is drawn up. A second table shows the manner in which the disposable income of each household sector is distributed among different commodities and services.

The inter-sectoral transfers of the first table are incorporated in a system of linear equations. If there are 'm' processing sectors, then there are 'm' households and the output of each sector is distributed among 'm' processing sectors, 'm' households and exogenous demand.

If domestic inputs are combined in fixed proportions for the production of each processed output and if each household sector distributes its consumption expenditure in a certain fixed proportion of its earnings, then from the system of linear equations, we have input and consumption coefficients respectively.

A matrix of input and consumption coefficients is then prepared. The inverted matrix $(1-A)^{-1}$ (when the matrix is defined as A) is then used to calculate the values of processed outputs and household incomes for a given set of exogenous variables.

The inverted matrix $(1-A)^{-1}$ gives the output and income requirements

for any number of alternative exogenous sectors. Exogenous demand for each sector is given by total output *minus* inputs supplied to all sectors *minus* non-government household consumption.

This model suggests the possibility of meeting the problems of the allocation of scarce resources in an underdeveloped economy. In this model the allocating authority can fix the levels of these exogenous variables—exports, government expenditure and gross capital formation—together with the distribution of each among the four sectors. For a given level of exogenous variables, the system of linear equations gives the gross value of required domestic output in each sector, while the input and consumption coefficients distribute sectoral outputs among all sectors. Fixed import coefficients can be used to determine associated import requirements, and a comparison with export plans will show expected surpluses or deficits. Similarly the composition of consumption depends on the earnings of the different household groups. Given the necessary structural information, shifts in the composition of consumption may be effected by changing an exogenous variable.

(S.Q.)

G. Maynard, "Inflation and Growth: Some Lessons to be Drawn from Latin-American Experience", *Oxford Economic Papers*, June 1961.

The author endeavours to establish the connection between inflation and growth in underdeveloped regions by considering mainly the post-war experiences of Argentina and Chile. It is contended that though many factors, like worsening terms of trade, may contribute towards inflation in underdeveloped countries, the most fundamental cause is the imbalance in the production structure.

Both Argentina and Chile experienced an export boom in the early post-war years. But the improvement in their terms of trade was short-lived. Worsening terms of trade accelerated the rate of inflation in both the countries and also checked growth. Argentina and Chile both enforced anti-inflationary measures. The rate of inflation was successfully arrested in Argentina but it again became serious when these restrictive policies were relaxed because of their heavy costs. In Chile, the restrictive steps worked but not satisfactorily.

The anti-inflationary policies could not bring health to the economies because of only partial elimination of the symptoms of inflation. The real malady lay in the slower agricultural development of the two countries. With the help of an arithmetical model it is shown that with the rise of real income per capita demand for food would also increase. The rise in the demand for food would depend upon its income elasticity. The greater the income elasticity of demand for food and higher the proportionate rise in the supply of industrial consumers goods, the greater is the possibility for upward movement of food prices relatively to others. Besides, relatively higher prices for food are needed to ensure a larger food production to match the increased demand for food. But if relatively higher food prices involve an

absolute increase in these prices, inflationary pressure would appear and set off a wage-price spiral.

The above analysis throws some light on the causes of inflation in Argentina and Chile and in other Latin American countries as well. In Argentina disposable income per capita increased by about 21 per cent whereas supply of food per capita registered a fall of 7 per cent from 1930's to 1950's. Measures, such as devaluation and standardization of exchange rates, raising the minimum guaranteed prices and starting a fund for promoting technological progress in agriculture, were adopted and proved successful in improving the terms of exchange of agricultural goods against industrial goods. This was, however, followed by greater inflation because given the need to raise agricultural prices relatively to industrial prices and the fact that the latter could not be forced down without dislocation of industry, the general price level had to rise.

In Chile not only did agricultural development lag behind, but there was also a rapid growth of the service sector reflecting a growing inequality of income. Real income of labourers did not rise after the war years. When the government tried to redistribute income in favour of working classes in a bid to maintain their real income in the face of a falling total real income, food and other prices moved upward. But relatively higher food prices did not alter the pattern of production as speculative investment kept growing. Even when the policy to hold the real income of the poorer classes was abandoned later, demand for food did not decline proportionately and food prices went on soaring.

The arguments discussed above have a wider application and are particularly true of the Latin-American region as a whole. Food prices led the way in the inflation experienced by Latin-American countries. Slower development of the agricultural sector was a vital factor in the situation.

(R.A.K.)

M. Bronfenbrenner, "Some Lessons of Japan's Economic Development, 1853-1938", *Pacific Affairs*, Spring 1961.

The chief concern of this paper is to outline the pattern as well as the extent of economic development that occurred in Japan during the period 1853-1938, with the objective of analysing the process of this development and examining its relevance to other developing economies in modern times.

Japanese development followed along capitalist lines with an ever growing international trade and with foreign assistance playing a very minor role. It followed a "natural" pattern—from agriculture and handicrafts through high industry to heavy industry. The price level showed a general upward trend throughout the period with some exceptions. The development pattern was also characterized by Japan's eventual involvement in military imperialism and by the relatively depressed living standards of the working masses.

During the period 1853 to 1938 Japan emerged from a very backward economy to a highly developed one. Probably the most direct factor behind this phenomenal change was Japan's wholesale adoption of Western technology in manufacturing and transport. Coupled with this were increases in agricultural productivity through domestic methods, rise of Japan's exports of raw silk and silk fabrics to pay for the foreign exchange component of the development efforts and the high rates of domestic savings.

Statistics show phenomenal increases in real national income and in per capita income during the period under study. The extent of development, however, should not be exaggerated, because more than half the labour force is self-employed and these along with most employees of small and medium-sized business have subsisted at lower standards than the permanent employees of large business firms. Japan's development came about without newly discovered resources and without major foreign loans. Her development was financed largely from domestic savings. Her major resources were her highly skilled manpower and her water power and electricity.

About 1850, Japan enjoyed certain special advantages over the Asian mainland. These advantages which set the "pre-conditions" of an economic take-off were sustained peace and tranquility at home, good transport facilities, increased urbanization, improved public health and education, existence of an economizing "merchant and money-lending class", a substantially skilled labour force, improved techniques used in agriculture, cultural receptivity and "reactive nationalism" and the availability of a potential export, silk. The government provided active support to the development process by setting up pilot plants and distributing them to the Zaibatsu family at subsidized rates, providing social overhead capital, pushing up savings and holding down consumption through land taxation and regulation of trade unionism. The Japanese were insulated from the "demonstration effects" of Western habits of consumption. Population increase also helped to put a restraint on mass living standards.

This is Japanese experience. This experience is, however, largely irrelevant so far as the problems of present-day developing economies, especially those located on the Asian mainland, are concerned. First, because few countries still underdeveloped could now start with all the advantages Japan had during the third quarter of the 19th century. Second, the take-off process took for Japan about half a century—the period which may look too long for others to wait for. Third, the income-distribution implications of Japanese development are unlikely to be accepted by the developing countries for long periods. Finally, Japanese development has become much less impressive after the Russian and Chinese revolutions have taken place.

(A.R.)

D.C. Paige; F.T. Blackaby, and S. Freund, "Economic Growth: The Last Hundred Years", *National Institute Economic Review*, July 1961.

This study appraises the growth rates in several countries during the last 50-100 years. The countries studied include Italy, Germany, France.

Netherlands, Norway, Sweden, Denmark, United Kingdom, Japan, United States and Canada. The measurement of growth used is the rate of increase in real national product per head of the employed labour force.

It is the rise in output per man year, much more than any increase in population, which has accounted for the increase in the national product of these countries over the last 50-100 years. There is no evidence to support the belief that a stable population is an important obstacle to growth. There is also no conclusive association between rate of growth of output per head and that of population of working age. The analysis, however, does not exclude the possibility that a rapid rise in population may stimulate output per man in certain circumstances, but it certainly does not suggest that this has been a major determining factor in the last hundred years.

Since 1913, normal economic development has been affected by the two world wars and the great depression. The study suggests that growth is especially fast during the recovery period following a major interruption, but that, at least during the twentieth century, countries have never fully made up the ground they lost as a result of the two World Wars and the depression of the 1930's. There is a negative rank correlation of -0.6 between the peacetime and wartime growth rates. This is the main evidence for some element of catching-up in peacetime rates of growth. But the catching up was by no means complete. The analysis of the effects of the great depression also suggests that there was some catching up afterward but that it was not complete. The ground lost in the great depression was in general not made up. The experience of the period 1913-1959 can tell us very little about normal growth rates because of the three major cataclysms mentioned.

In the period before 1913, the problems of comparison are more acute because the margin of error in the figures is much higher and because many of the countries studied were still in an early stage of industrialisation.

Hence the usefulness of past growth rates to predict the future is limited. Nevertheless, this study does suggest that: there is no direct connection between the increase in output per man and the increase in population; there is no constancy or normality in the international pattern of growth rates; there is no correlation between those countries which had the fastest spurts in the nineteenth century and those which have grown fastest since the Second World War; it is not safe to say that growth rates are slowing down secularly; there is no long term inevitability about growth rates; growth rates of over 3 per cent a year for more than eight years have always been in periods when there was some special explanation, such as political integration or recovery from a war.

(A.Y.S.)

W. Rosenberg, "Capital Imports and Growth: The Case of New Zealand", *The Economic Journal*, March 1961.

Excessive foreign investment in a country leads to reduction of growth in that country. To support this contention the author examines four different periods of foreign investment in New Zealand.

During the first period covering 47 years (1840-86) New Zealand imported real capital from abroad and built the basis of her foreign debt. A gross debt of £71 million was incurred. By virtue of the workings of compound interest, this debt grew to a Government and private foreign debt of £225 million by 1935.

During the second period (1887-1934) in spite of an export surplus, New Zealand had to increase her debt because she would otherwise have been unable to pay her interest bill. Interest on past borrowings regularly exceeded earnings from export surpluses and borrowing became necessary year by year. An outflow of private capital further increased the need for borrowing during this period. Therefore, foreign investment in New Zealand during this period did not make available new capital funds but represented interest payments not remitted, thus increasing the debt burden.

The third period (1935-1949) is that of the first New Zealand Labour Party. During this period New Zealand reduced her debt substantially because it was realized that borrowing to pay interest would have serious repercussions.

The fourth and final period is the present one when the growth of private foreign investment, outstripping that of growing overseas Government debt, is leading to a repetition of the situation which was present during the 1886-1934 period when borrowing became necessary to find the means to remit interest on foreign investment.

In the period 1840 to 1887 foreign investment in New Zealand did help the country both to supplement local savings and to finance imports. But after 1887, it would be incorrect to say that foreign and not New Zealand real savings have rendered possible the public and private capital works which are the backbone of New Zealand's present productivity. This does not mean that New Zealand could have been developed without technical foreign assistance. But this technical assistance was paid for out of the country's own external and internal savings. New Zealand financed her capital imports out of her own earnings, requiring foreign loans only in order to meet charges on loans previously incurred.

Not only did foreign investment not contribute any net real capital resources to New Zealand's development between 1887 and 1950, it positively harmed development. If the burden of interest on foreign borrowing becomes large relative to a country's exports and imports, the necessity arises to create an export surplus larger than that which would correspond to imports at full employment. Assuming a certain marginal propensity to import, the national income has to be reduced by the multiple which the marginal propensity to import bears to marginal national income.

New Zealand's experience is by no means unique. Similar examples can be given for Canada, Burma, Indonesia, the Gold Coast and Nigeria.

The author also calls into question the principle that investment in underdeveloped countries should preferably take the form of equity capital. This policy may be justifiable if a deflation is expected, but the inflationary situation of the postwar period has reduced the weight of this principle. It

is very costly to buy out equity capital if it is so desired, specially if there is inflation. It is more advisable for a country to borrow on fixed interest rather than to allow foreign capital to take over equities as the burden of interest tends to lighten with inflation.

(M.P.)

Joseph J. Spengler, "The Population Problem—Yesterday, Today, Tomorrow",
The Southern Economic Journal, January 1961.

The paper deals with the way the population problem was envisaged in Malthus's day, the way it is envisaged today and the way it may be envisaged 50-75 years from now.

In the Maltho-Ricardian conception of man's economic universe, land set limits to population growth and dominated the way in which output tended to be distributed. Output elasticity was doomed eventually to move downward whereas population elasticity was expected to remain in the neighbourhood of unity. Thus, in Malthus's system agricultural production played the major role. Therefore, Malthus concluded that the average man's condition would get worse or improve only very slowly. He disregarded the possible implications of technical progress, capital accumulation, imports and the possible decline in the importance of agricultural production.

Malthus, therefore, emphasised checks to population growth, especially moral restraint. But Malthus's discussion of checks was defective because: firstly, he ruled out possibilities of birth control; secondly, he failed to analyze his checks into their more elementary components and specify them with care; thirdly, he failed to distinguish between checks which were closely connected with changes in real and prospective income and income components and checks which were connected only remotely with these dimensions of income; and finally, he failed to appreciate the degree to which man's values, aspirations and sensitivity to changing circumstances might reduce population elasticity.

By the 1830's Malthus's doctrine had gone into eclipse because his views regarding checks, productive capacity and prospects were subjected to effective criticism and also because the economic condition of much of the population of England and Western Europe improved.

However J.S. Mill and Alfred Marshall attached great weight to the population problem during the period of unfavourable reaction to Malthus. Mill emphasized division of labour, increasing returns and the role of international immigration and investment in reducing population pressures. A population greater than the optimum was of no advantage and a substantial improvement in standards of living was necessary to free a people from a high-fertility low-income-level Malthusian equilibrium. Mill also recognized the essentiality of birth control. Marshall remained concerned about the continuing growth of numbers ultimately checking improvement in the common man's lot.