Summary of Selected Articles

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

Japan has been for nearly a century the unique success story of economic development along capitalist lines in a non-Caucasian country. Her development proceeded into, rather than away from, the international economy based on multilateral trade. At the same time, Japan was in no important way dependent upon financial assistance from abroad as the development was apparently financed by domestic saving. It moved in accordance with the "natural" pattern—from agriculture and handicrafts through light industry to heavy industry.

During the period 1853 to 1938, Japan rose from an extreme economic backwardness to the status of a first-class (or at least second-class) economic and political power. The most revolutionary changes were concentrated in the reign of Mutsuhito, the Meiji Emperor (1867-1912). The factor most directly responsible for the change was probably Japan's wholesale adoption of innovations based on Western technology, especially in manufacturing and transport. In agriculture equivalent increases in productivity were achieved, but largely through domestic methods. The rise of export industries is a secondary cause of Japanese development. However, Japan's high rates of saving and investment are not fundamentally responsible for the economic progress as these high ratios were not new to the economy.

Over the sixty years (1878-1938), the real national income increased thirteenfold, the median annual increase being 4 per cent in the aggregate and approximately 3.5 per cent per capita. Population rose from 34.8 million (1872) to 50.6 million (1912) during the Meiji Era; it had reached 70.5 million by 1938. The increase of population went entirely into industry and services; the agricultural population in 1938 was below that of 1878.

In foreign assistance, Japan received far less than did China during the same period. The Japanese economy remained purely Japanese, as it developed, foreign controlled enterprises were always marginal. Foreign technicians and experts were kept "on tap but not on top". Japan's natural resource position is also inferior to China, India, Indonesia or Burma. Her major resources were skilled manpower, waterpower, and (in the 20th century) electricity.

Japan had in 1853 an advantage over nearly all other Asian countries of having had 250 years under the Tokugawa Shogunate. Japan's roads and harbours were among the best in Asia. Urbanization had also developed; Yedo, Osaka, and Kyoto were among the largest cities in the world. Education and public health were highly developed along Western (Dutch) and indigenous lines. Japan had in addition to its social overhead capital a substantial "economising minority" among its chonin merchants and moneylenders. However, they were outstripped in the Meiji Period by rival entrepreneurs of Samurai origin. In addition to her merchant, Japan had by 1850 a substantial skilled labour force in both the cities and the countryside. During the Tokugawa era, agricultural technique improved

steadily, especially, irrigation methods for paddy rice culture. There was simultaneously a substantial rise in peasant handicrafts or "cottage industries" as supplements to agriculture. Despite the rise of population in the early Meiji era, Japan remained a net agricultural exporter until the 1890's.

Japan's tradition of cultural receptivity, despite some suppression under the Tokugawa regime, helped in economic development. Japan's final advantage was the availability of a potential export, silk, which had a readily available foreign market.

Perhaps the most significant contribution of the Japanese State was the encouragement and even subsidization of the "Leading Sectors" of industry by the socialization of risk and provision of markets. On the side of social overhead capital, the Government provided the nucleus of the best railroad system in Asia; public utility services were also provided by the governmental agencies. A public education system based on European models was set up. About 55 per cent of total Japanese capital formation over the period as a whole was contributed by governmental units.

The government also imposed restraint on consumption, largely by a tax on land-owning peasantry.

On the ideological front, Japan was quite successfully insulated from "demonstration effects" in pursuance of the doctrine that Japan's strength lay in her poverty and the ability to endure hardships.

A final element of restraint on mass living standard was the population increase. The increasing population lowered wage rates and permitted the substitution of cheap labour for expensive capital.

The answer to the question that Japan was forced into the imperialistic ventures culminating in the debacle of 1945 is found in two arguments. First Japan's population outstripped the agricultural productivity of the economy. Secondly, the international struggle for markets is cited as the connecting link between Japanese economic development and Japanese imperialism. A subsidiary economic reason in the 1930's is the fact that Japan's earlier military venture had paid off handsomely.

The relevancy of Japanese experience for other developing countries in Asia is severely limited for the following four reasons: (1) Japan's Tokugawa tradition of law, order, and internal tranquillity, (2) Japan's reservoir of labour, primarily agricultural that was amenable to change in industrial technique, (3) Japan's opportunity to finance its industrial capital imports largely by the export of agricultural products with a minimum of foreign assistance, (4) the gap separating Japanese and Western levels of living in the Meiji era was substantially less than the present gap between most of Asia and the West.

(A. Y. S.)

S. Chandrasekhar, "Population Growth and Economic Development in India," *Population Review,* Vol. 5, No. 1, January 1961.

The citizens and the government of India are becoming conscious of the problems caused by the alarming population growth in India in the social and economic development of the country. Although the changes are not significant as regards the age at which marriage occurs and the number of children to be produced, an examination of the available data on the pattern of marriage and size of family reflect the beginning of certain changes.

In the early centuries the increase in population was low because high birth rates were matched by high death rates. In later years death rates decreased more rapidly than birth rates resulting in a higher rate of population increase. Between 1871 and 1951, the rate of increase varied between 1.0 and 1.5 per cent per annum. This meant roughly an addition of 50 million every decade. The present annual rate of population growth ranges between 1.8 and 2.0 per cent and, according to certain projections based on current data, the population of India (now 425 million) will about double by 1985.

The death rate during the last three decades fluctuated between 26-36 per thousand. This rate is declining gradually and is expected to decline to about 21 in 1961 to 12.5 in 1971 because of increasing health and medical services carried out by the government with the help of foreign governments and agencies. The birth rate, however, fluctuated between 40-45 per thousand. The factors contributing to a high birth rate are ' university of the married state", early marriage, increased number of widow marriages and absence of the family planning habit among large segments of the rural population.

The crux of the population problem is how can India achieve higher levels of living despite a population growth of about eight millions every year. The problems created by the massive growth of population in India are as follows: (i) although there has been a considerable increase in the agricultural and industrial output of the economy, this has been swamped by the increases in population, (ii) economic and social stress on the relatively small proportion of the gainfully employed persons who have to rear and care for a disproportionately large percentage of the young people for a number of years; and (iii) the problem of providing employment for a large number of new entrants to the labour force every year.

There are, however, two solutions. One is to bring about such a massive economic development so that India's level of living can be raised despite the rate of her population growth. But the possibility of such a rate of economic development is remote inspite of substantial help from advanced friendly countries. The other and only feasible solution is to bring about a significant reduction in the birth rate. Studies reveal that the progress in spreading family planning methods has not achieved positive results. This is because present family planning methods are expensive and are not suitable to the taste, culture and level of living of the Indian people. Considering safety, cheapness, effectiveness and simplicity, sterilization as a method of permanent conception control is the best for us of all known methods. An important objection about sterilization is that it is irreversible.

But it is hoped that in years to come it may be possible to evolve a reversible operation.

(M. R. K.)

S. V. Ciriacy-Wantrup, "Conservation and Resource Programming", *Land Economics*, May, 1961.

This article deals with three broad interrelated problems—valuation, institutional constraints and uncertainty—which are present in the programming of all natural resources. Quantitative optimizing requires that the physical inputs and outputs of resources be expressed in terms of values. Although market prices help in valuation, social benefits and costs do not allow valuation through the market and their neglect introduce a systematic bias into quantitative optimizing. Apart from extra-market goods, the valuation problem involves the question of the extent of the validity and relevancy of the present and projected market prices as indicators for public policy. Further, prices are profoundly affected by income distribution, market structure and many public policies. These influences are considered, in formal programming, as institutional conditions which along with the technological conditions, are introduced into the optimizing calculus as constraints. This procedure, however, imposes severe limitations on the validity and relevance of quantitative optimizing if the results are used as a basis for public policy decisions.

The problem of institutional constraint arises when social institutions are used as constraints. They become conceptually indistinguishable from social objective and are, in this respect, different from technological constraints. Further, in a quantitative optimizing calculus, a new optimum must be calculated for each combination of constraints that is considered. Even if one strives for bold changes in the combination of constraints it is difficult to be sure that quantitative optima are comparable in a meaningful way. Moreover, such changes might affect some structural elements of the optimizing calculus, particularly preferences, technology, and the motivation of human agents in their various functions in the economy. In policy investigations, therefore, special care is needed to decide whether social institutions should be treated as constraints.

Uncertainty is important in connection with decisions involving time. The most important uncertainties, those created by changes of technology, of preferences and of institutions increase with time. The probability of such changes cannot be measured quantitatively. Other uncertainties *e.g.*, occurrence of drought, floods and hailstorms, do not increase with time and their probability can be measured quantitatively. Techniques to allow for uncertainties of the latter kind are being developed in formal programming; the former kind of uncertainty imposes severe limitation on the relevance of quantitative optimizing for policy decisions. In the economics of conservation, allowance for uncertainty is best made through the formulation of the policy objective itself. The author calls such a formulation *safe minimum standard of conservation*. One rationale of the safe minimum standard of

14 years of age and over will increase by some 24 million in the current decade. The teen-age population (ages 13-19) now about 20 million will increase by about one-third in this decade. The college and university age group, 18 to 24 years of age, will grow by an average of about one-half million a year in the early 1960's and by about a million a year in the second half of the decade. The figure for 1970 for this age group will be 25 million as compared to 15 million in 1957.

The population aged 25-44 will increase from 46.8 million in 1960 to 48.2 million in 1970 *i.e.* by only 3 per cent. The proportion of the population in the most productive age group, 20-64 which declined from 59.5 per cent in 1945 to 52.5 in 1960 will further decline to about 50.5 per cent in 1970. This would mean a rise in the dependency ratio.

There will be a marked increase in workers under age 25 and the median age of the labour force will begin to fall in the 1960's. The tendency of participation of more married women over 35 years of age in the labour force will continue to increase and by 1970 there will be about 30 million women workers *i.e.* 25 per cent more than in 1960.

The median age of the population which reached the peak of 30.2 years in the 1950's will decline in this decade. Life expectancy at birth is likely to rise for females from 72.9 years in 1955 to 76.0 in 1975-1980 and to 77.1 in the year 2,000. The proportion of non-white population rose from 10.3 per cent to 11.0 in the 1950's and it will continue to rise in the current decade because of much higher fertility of non-white women and the more marked improvement in life expectancy of non-whites.

This prospective United States population growth will lead to several social and economic implications. The aggregate demand for consumption goods and services in the 1960's will rise significantly as compared to the 1950's. For instance the demand for more educational facilities, recreational facilities, cars, housing and more qualified men will be much pronounced. The problems such as traffic congestion, automobiles accidents, juvenile delinquency and of economic and social progress of non-whites are also likely to increase significantly.

(S. S. H.)

D. R. Gadgil, "The Problem of Agricultural Labour", *Artha Vijnana*, Vol. 3, No. 2, June 1961.

In this article, the author discusses the problem of agricultural under-employment and unemployment in the Indian state of Maharashtra.

He points out the fact that rural unemployment does not have the same intensity throughout Maharashtra state and that there is no uniformity in the problems of rural artisans and of the scheduled castes or of aborigines. The author urges special measures to meet the problem in these diverse aspects. He also argues that surplus land generated by a ceiling on land-holding may give partial employment in agriculture to a small additional

number of persons, and an increase in the intensity of land-exploitation will reduce under-employment in the particular area.

In tackling the problem, decentralised industrialisation should be aimed at. The general approach towards the problem has to be that of evolving a programme of continuous action whose constituent elements mutually support each other and which meets both the short and long-term requirements. The immediate requirement is to afford, through additional employment, the much-needed additional income to agricultural labour families. But the immediate employment programme must be so framed as to subserve long-term needs—the ultimate need to industrialize the rural area. This can be done only if a wide resource base is built up in the countryside. Therefore, the employment programme should be directed towards the objective of conserving and developing, as rapidly and as intensely as possible, natural resources of each area and region.

The author, therefore, suggests a total reorientation of the planning efforts to solve the problem of agricultural labour. All existing programmes of development in respect of transport, power, water supply, credit, marketing, education, public health etc. should be re-examined towards the objective of decentralised industrialisation. Also, the plans of conservation and development of natural resources and of plans for reorganisation of village industry, of animal husbandry and of rural construction industries, should be so organised as to widen the base of rural industrialisation. He further urges the utilization of the existing public expenditure in a manner that will provide maximum employment to agricultural labour.

(M. Z.)

C. Issawi, "Egypt Since 1800; A Study in Lop-Sided Development", *The Journal of Economic History*, Vol. XXI, No. 1, March 1961.

The author suggests that foreign trade can substantially help the economic development of the underdeveloped countries, if the export sector is closely linked to the rest of the economy. A rise in exports can then lead to a general and diffused expansion. From this it follows that insufficient expansion of exports or isolation of the export sector can retard economic growth.

Economic development is characterized by three stages: transition from a subsistence economy to an export-oriented economy, and to a complex economy (characterized by the development of manufacturing and tertiary industries). The transition from one stage to the next must be accompanied by appropriate social and political changes. The economic history of Egypt since 1800, conforms to this general pattern of change, and shows how in spite of sufficient expansion of exports the economy tended to a lop-sided development because of the isolation of the export sector from the rest of the economy.

Until the 1820's Egypt had a subsistence economy in which exports were very small. Then during the reign of Mohammad Ali attempts were

made to build up the export sector and to create a mechanism for transmitting the expansion generated by exports to other sectors of the economy. The revolution in the system of land tenure, the extension of irrigation works, the planting of long staple cotton on a commercial scale, the development of communication facilities and the monopolization of trade—all these were done with this end in view. Hand in hand with these, programmes of forced industrialization were simultaneously carried out. Consequent upon the defeat of Egypt at the hands of the Great Powers in 1841, the industries were deprived of the protection and encouragement which they received previously. Thus, the withdrawal of political autonomy and the exposure of the nascent industries to foreign competition foiled the early attempts of Egypt's industrialization.

Upon the failure of this attempt to transform from a subsistence to a complex economy, Egypt entered the phase of an export-oriented economy, which prevailed until the 1930's. During most of that period exports grew fairly rapidly, but this did not lead to a parallel growth in other sectors because of insufficient investment in them. The large increase in production and exports of cotton achieved during this period was absorbed partly by the population growth and partly by a rise in the level of living of the people. Furthermore, the hostile attitude of the government to industrialization and the propensity of the richer people of Egypt to spend abroad also explain why little of the spectacular rise in export income resulted in investment in the other sectors.

The First World War marks the end of the period of rapid export expansion. The cost of extending agriculture was sharply rising. Simultaneously, cotton yields had also begun to decline. Attempts to diversify agriculture failed, and in foreign trade Egypt remained as heavily as ever dependent on its cotton crop.

The buying power of exports failed to increase after 1941. This may be explained by the small rise in output, the sharp increase in domestic consumption, and the competition of other producers and of synthetics which prevented cotton prices in terms of other goods from rising.

Since the 1930's, and more particularly during the last few years, Egypt has been trying to develop a complex economy, by large scale investment in manufacturing, mining, power and other sectors. The productivity of Egyptian industry, though rising rapidly in some sectors, is still very low relative to the advanced countries. Moreover, the labour-absorptive power of industry is low compared with Egypt's needs. The combined effect of slow economic growth and rapid population increase have been disastrous; it adversely affected the standard of living and the balance of payments position. Furthermore, since Egyptian industries are heavily dependent on imports of raw materials, it seems plausible that further industrialization will result in greatly increased dependence on imports. Moreover, the greater part of the growth of Egyptian industry is likely to aim at import substitution rather than export promotion and hence the prospects for increasing exports are poor.

From these considerations, two conclusions follow: first, that industrialization will not greatly raise the per capita income from its present level

of slightly over $100 per annum; second, that industrialization may, in the short run, present Egypt with a major foreign-exchange problem.

There are, of course, some "extra-economic" possibilities which may help solve these problems. The prospects of technical advance, large-scale foreign assistance, leadership of the Arab countries and forced mobilization of surplus resources and labour force may help Egypt in accelerating economic growth. To what extent these possibilities are likely to materialise is, however, beyond the scope of this paper. They have been mentioned only to illustrate that overspecialization and exclusive reliance on the world market have presented Egypt with problems which are well-nigh insoluble by ordinary economic means.

(A. I.)

E. J. Long, "The Economic Basis of Land Reform in Underdeveloped Economies", *Land Economics,* May 1961.

Land reform is one of the cornerstones of agricultural policy in most underdeveloped countries. These reform programmes have three basic objectives: (1) investing ownership and management in the cultivator, (2) equitable division of land holding and (3) consolidation of smaller holdings. These objectives are, however, conflicting with each other. Local protagonists of "land reform" usually support all the three objectives, while opponents resist all three. Besides all the political discussion of land reform, there is a desire for (1) a much more productive agriculture as a base for national economic development, and (2) a sense of security (and participation) among the peasantry as a basis for needed political stability. These are also inconsistent ends; economic progress itself is frequently a powerful catalyst of social and political instability.

The uncertain nature of social responses to a given stimulus makes it difficult to ascertain the effects of various land reform measures on social stability. On the other hand the social sciences have seriously failed in analysing their effects upon agricultural productivity. In consequence land reform legislation operates largely in an informational vacuum regarding its economic efforts. The current political reasoning assumes a highly positive relationship between size of farm operations and agricultural productivity. But this is by no means an established fact. The assumption is based upon a misinterpretation of the economics of so called "Western" agriculture and American farm management studies. The measures of agricultural efficiency appropriate to the developed countries are inappropriate to most of the underdeveloped countries. In developed countries the large farms are considered more efficient than small farms because the larger farms normally have correspondingly higher operator income *i.e.* higher returns to the managerial and labour contributions of the farm operator and his family. It means that large farms are efficient with reference to returns to the human agent, which from a social point of view is the most scarce factor of production in such countries. These farms are not necessarily the most "efficient" in the use of other (non-human) resources. In India and similar underdeveloped countries the relative efficiency of farms of different sizes must be in terms of returns to non-human resources.

Labour is the only all productive factor in excess supply and from the aggregate social view point the marginal cost of labour approaches zero. Therefore, probably the measure of agricultural efficiency relevant for public policy in underdeveloped countries is gross value productivity per acre above variable capital costs. More simply, returns to the non-labour resources is directly related to the economics of farm size and land reform policy.

Studies in the United States have shown that although operator-income is directly related to size of farm, productivity per acre of land is inversely related to size of farm. In India also crude observation does not suggest better performance on larger than on smaller farms. Information collected by the Farm Management Research Centres in India from some of the provinces suggests a very decided inverse relationship between the size of the farm and value of output per acre. Additional evidence yielded by a study of 225 arms also corroborates the above results. The Indian data merely prove that the general presumption of a highly positive relationship is extremely suspected. More and better research is required to substantiate this relationship.

The relation of farm size to productivity in its dynamic dimensions is not shown by the foregoing relationships obtained from static analysis. In fact it is in dynamic context that the presumption of a positive relationship between size and productivity had its origin. Therefore, an examination of American and Japanese data from this point of view will be helpful. If negative relationship is found then the presupposition of most economic reform discussions and also of much technical assistance work needs intense re-examination.

The agricultural productivity problem of under-developed economies is closely related to the allocation of capital. From the economic standpoint the greatest disadvantage of any kind of shift to large scale farming would be that it would tie up in relatively unproductive uses capital which would otherwise be highly productive. Since land in such countries is extremely poorly used. small amounts of capital invested in minor irrigation and soil building systems and properly mixed with large amounts of human efforts would far outweigh any improvements in productivity which might be achieved through land reform measures.

From the standpoint of land reform policy the most important type of very large scale farm is the cooperative farm. The principal advantages claimed for it are doubtful. However, group farming might best be considered as an alternative. More effective extension techniques applicable under an owner-operator mode of farm organisation would be able to accomplish even more than group farming on the productivity front without the serious long range economic inefficiency implications.

Finally peasant people, at least in India, are extremely responsive to suggestions which will improve their economic lot and do not require a shock treatment which massive land reforms are supposed to entail.

To conclude, much, careful research is needed on the relation of farm size to productivity in both its static and dynamic dimensions and in terms truly relevant to underdeveloped over-populated societies. Research is

also needed into the most effective means of introducing technological changes which will capitalize on abundant labour. To the writer the weight of the evidence thus far is in favour of an effective research extension programme supplemented by a set of government or cooperative services in support of a flexible system of small scale owner-operated farms as the proper goal of land reform policy.

(M. H.)

B. K. Madan, "The Role of Monetary Policy in a Developing Economy", *Reserve Bank of India Bulletin*, Vol. XI, No. 4, April 1961.

The draft Third Plan of India sets as a target an increase of 5 per cent per annum in national income. This compares with 3½ per cent increases during the First and, most probably, the Second Plans. That a number of projects started during Second Plan will come into productive operation during the Third Plan may help, but the outcome will hinge on securing a sizeable increase in agricultural output. This will require both favourable swings in agricultural fortunes and a tremendous organizational effort to improve agricultural efficiency.

The Third Plan target for savings of 11 per cent of the national income as against 8.5 per cent during the Second Plan may be very difficult to attain unless the national income increase of 5 per cent does materialise. This ratio changed little during the Second Plan, though investment rose from 8 to 11 per cent of national income.

The envisaged foreign exchange gap during the Third Plan is placed at Rs. 3,200 crores. India can turn its internal resources into foreign exchange through restricting consumption. This could, in the future, make India independent of foreign assistance but, in the process, emphasis should be on larger exports rather than import reduction.

These internal resources must be raised without any appreciable rise in the price level. Indirect taxation must be preferred to deficit financing because, under the former, the transference from private incomes to public revenues can be carried out with a much smaller net rise in prices. Furthermore, deficit financing will not allow the cost of development projects to be rationally budgeted.

Price stability is of crucial importance to export promotion which offers the only chance of doing away with foreign assistance. But inflationary methods of financing the Plan are likely in particular to thwart policies both of 'import-saving' and of 'export promotion'. Moreover post-war international experience suggests that economic development responds more readily to comparative stability than to persistent inflationary conditions.

An effective increase in investment can come from hoarded gold. The task must centre round restricting demand, preventing additions to the present stocks, tapping the existing hoards for development purposes, and placing a ceiling on individual holdings.

A proper balance must be maintained between the rates of sectoral growth of production and the policies adopted to attain these targets. For example, agricultural production is estimated to increase by about double the rate it has been increasing during the Second Plan; this seems to be on the high side. Besides, the import of 17 million tons of foodgrains during the Plan period may create a disequilibrium between the prices of foodgrains and other agricultural crops, and might prove a disincentive to foodgrain production.

As for employment, a preference for labour-intensive techniques is indicated as desirable over the entire range of the economy. This preference should, however, be encouraged only after consideration of the country's limited capacity to subsidise techniques which provide larger employment at the cost of higher production and efficiency.

Control of investment and consumption has to be achieved through a collection of different tools. Often, physical controls will be employed to supplement fiscal and monetary controls because they are more specific in their impact. Generally, the role of monetary policy is recognised as subsidiary or subordinate to fiscal policy. But the scope for fiscal policy is also restricted in India because of the very low proportion (9%) of taxation to national income, and the presence of a large non-monetized sector. The existence of non-monetized and unorganized sectors reduces, somewhat, the effectiveness of both monetary and fiscal policy in India. On the other hand, there has been a phenomenal increase in bank deposits recently; total bank deposits are now about the same level as currency (*c.f.* 1953-54 when currency was much larger). Similarly, the greater dependence of commercial banks upon central bank borrowing in India, unlike in the U.K. and the U.S.A., and the large expansion of bank credit during the busy season enhance the ability of the Reserve Bank to influence the credit policies of banks.

However, stringent use of monetary policy may check growth in the private sector without affecting the tempo of investment in the public sector, though even this latter is not wholly immune to the influence of monetary policy. Another characteristic of monetary policy in contrast to fiscal policy is its general applicability at any time of the year as against budgetary policy which can be applied only at intervals. In conclusion fiscal policy may be a more potent instrument for direction of the economy than monetary policy. However, the significant thing at any time is not the overall relative importance, but the *marginal* importance, that is, the efficiency of a *change* in either policy.

Monetary policy in India seeks to regulate the cost, the quantity and the use of credit; the first two through the discount rate, open market operations and variable reserve requirements and the third through selective measures. The best results have been obtained when the selective and general credit controls have been employed in combination. Of the general controls, the scope for open market operations is limited by the capacity of the market to absorb any large stream of Government securities. Varying the reserve requirement has become more effective in situations where banks are acquiring excess reserves.

The use of the discount rate (bank rate) has not been frequent in India.

It remained practically unchanged between 1935 and November 1951, when it was raised to 3½ per cent because of Korean boom pressures. In 1956 and 1957, the rate was raised to 4.2 per cent against bills and 4 per cent against Government securities. In September 1960, a system of graded lending rates, and a 1/2 per cent increase in the average lending rates of scheduled banks, was introduced.

Implicit in these measures is a certain upward shift in the interest rate pattern which serves the requirements of monetary control as well as adequate and efficient financing of planned development. Central bank policy in India, indeed, has a promotional and developmental role more important than its regulatory role.

(M. Z.)

R. L. Major, "Aid to Underdeveloped Countries", *National Institute Economic Review,* May 1961.

This paper presents data and discusses the changing pattern of international grants and long-term public and private investment during the postwar period.

During the early postwar period (1946-52) the United States was the source of almost all government aid. Western Europe was the chief recipient with Britain the largest single beneficiary. The meagre share of primary producing countries came more from private sources than from public.

After a big drop in 1953-55 with the end of the Marshall Plan United States government aid again increased mainly in favour of the underdeveloped countries of Asia. Latin America received the bulk of the increased United States private investment during this period.

In the period 1956-59 the pattern of international flows of long-term capital and aid changed considerably. First the magnitude of grants and loans from the United States government was far less than it was in 1946-52 period, but United States private industry was lending abroad on a far larger scale. Second, other countries, mainly the Western European countries, emerged as donors and contributed fifty per cent of total international grants and loans. Third the U.S.S.R. also became a small contributor to countries outside Communist Bloc and her contribution was important as a stimulus to other countries. Fourth, the total outflow of funds from Britain and France was a larger fraction of their national income than was the case for the United States. However, a high proportion of British funds went to investments in the oil companies abroad, and the French figures include administrative expenditures in overseas territories.

The distribution of international flow of funds to underdeveloped countries is underlined by two main characteristics. Oil producing countries attracted most of the private investment in Middle East and Latin America and countries subject to communist pressure received a very big share of public aid. In 1957-59, for instance, Government aid per head to South Korea was about twenty times as high as that to India.

Contributions of international organizations remained small over the whole period. Bilateral government aid, granted on a variety of motives did not tend to go to countries in proportion to their economic need or to those countries which had difficulty attracting private capital. Finally, the current inflow of aid of around $6\frac{1}{2}$ billion is not adequate to meet the need of developing countries estimated to be 12 to 13 billion dollars annually for a 2 per cent increase in their national incomes.

(N. C.)

E. Marcus, "Labour Resources As a Factor in International Competition", *Social Research,* Spring 1961.

The author examines the effects of foreign investment by a capital-exporting country in a country where there is a high rate of population growth, low wage rates and a labour force as skilled as in the capital-exporting economy.

In the absence of any hindrance the entrepreneurs in the high-wage (capital-exporting) country would like to establish identical plants in the low-wage country to reap the advantages of low labour cost. It would pay the entrepreneurs to stop all identical plants in the parent country and replace the high-priced home manufactured goods by importing its output from the low-wage country.

This will, however, create a pressure on the balance of payments of the high-wage country. Any receipt of interest of dividends will be too insignificant to offset such a pressure. Hence a permanent solution is required.

Among many other solutions, such as ending capital exports to low-wage country, devaluation etc., the most practicable one would be to use either tariffs or direct controls against low-wage countries. This will no doubt have some additional consequences in the economy, but will, at least, reduce current-account deficits. If, however, all the high-wage countries follow the same policy, then the high-wage and low-wage countries will be turned into two blocks trading only among themselves. Any area in between these two blocks would be captured by the low-wage countries.

Trade restrictions are likely to have some adverse effects on the high-wage country. Production and consumption levels would go below the current levels. There would also be loss of jobs in those sectors which had been exporting previously to the low-wage and neutral areas. The cost of living would also rise due to the loss of cheap imports from low-wage countries. But trade restrictions would mitigate deflation, and, high and full employment can till be maintained within the high-wage area in the long-run.

If, on the other hand, the high-wage countries still intended to pursue a free-trade policy, then there would be mounting unemployment and deterioration in the currency values. This would worsen as more factories move to low-wage areas. The deflationary process can only stop if money and real wages in high-wage area are brought to the level of low-wage area.

Under free trade the cost of living would be lower in high-wage area but real income would be depressed below the level it would have been under trade restrictions. The depressing effect is due to the competitive superiority enjoyed by the low wage country arising out of its low wage and high productivity. The low wage and high productivity ensures a greater margin of profit in the low-wage countries, and hence, manufacturers in those countries can follow a flexible price policy.

The competitive wage advantage of low-wage countries can be offset if capital costs form a high percentage of selling price. This may happen if the inflow of capital does not bring down interest rates. If, however, this does not take place, the only alternative for high-wage country, under free trade, would be to bring down its standard of living to the level of low-wage countries.

(M. A. R.)

G. M. Meier, "Export Stimulation, Import Substitution, and Latin American Development", *Social and Economic Studies,* March 1961.

This paper examines some relationships between export stimulation, import substitution and economic development in the Latin American context. It questions the views of the United Nations Economic Commission for Latin America that historically the 'gains from trade' went exclusively to the richer countries and that the developing countries should now concentrate on industrialization and import substitution.

Statistical data are presented to show that efforts towards industrialization in the recent decades have raised the share of manufacturing in national income and significantly changed the composition of imports. However, import substitution has not reduced the absolute volume of Latin American imports, and over the long run the export sector has been the most rapidly growing sector in the Latin American economies. But this secular increase in exports did not start the development process in Latin America as it did in Britain or Japan.

The ECIA would attribute this failure to (1) the biased effects of foreign investment directed to export production and building of economic enclaves and (2) a secular deterioration of the terms of trade.

This paper holds that the export bias of foreign investment does not explain this failure, but only states the problem. Foreign capital turned away from the domestic sector towards exports because of the smallness of the domestic market and lack of complementary factors. The secular deterioration of the commodity terms of trade is considered to be an extremely doubtful proposition. Moreover it is contended that the 'income' terms of trade (a more relevant measure—commodity terms multiplied by the volume of exports) have gone up, indicating the increase in Latin America's import capacity.

The explanation of the failure of the growth of exports to carry the rest of the economy forward is sought in certain limiting conditions, like rigidities,

inflexibilities, imperfections and fragmentation within the domestic economy, rather than in the disequilibrating international forces. It is argued that if these conditions were less pervasive there would have been larger carryover from exports to the domestic sector "in such forms as a more extensive use of advanced production techniques, the stimulation of entrepreneurial activities, a higher rate of plough-back of foreign exchange proceeds into productive investment, an expansion of export-supporting industries, and an increase in the economy's capacity to absorb capital". In contrast to the ECIA prescription of industrialization and import substitution, it is asserted that primary production and export stimulation will bring home the 'gains from trade' and if the domestic impediments are removed "the 'gains from growth' can emerge from the 'gains from trade' ".

The ECIA view further contends that industrialization is needed to absorb surplus labour, and that import substitution is necessary to avoid chronic balance of payments disequilibrium.

The existence of surplus labour in Latin America is considered very doubtful. The remedy for surplus labour, even if it exists, is capital formation and not industrialization as such. For, while in the labour market the ratio of social cost to private cost is lower in industry than in primary production, the opposite might be true in the capital market. 'Investible' surplus labour, if available, might better be employed in construction of social overhead capital, and in export-supporting and processing activities.

The balance of payments argument for import substitution is based on the contention that for Latin American exports as a whole have a lower income elasticity than imports. But even if the income elasticity of primary exports as a whole is less than one, the individual elasticities are not likely to be so. The case for import substitution is stronger in food-exporting countries, but a general case for all Latin American countries is most unlikely to be valid. The more important cause of the balance of payments disequilibrium is the inelasticity of domestic supply and the continued inflation. It is contended that the post war experience of Latin America reveals the wastes and excessive costs of import substitution in practice. While it is recognised that industrialization depends on greater productivity in agriculture, the per capita agricultural production has remained below the pre-war level. This results in a substantial increase in food imports and a restraint on the expansion of some exports. Misguided policy of overemphasising industrialization and its inflationary consequences have slowed down the post war expansion of Latin American exports. In conclusion it is argued that post war Latin American experience as well as consideration of general principles suggest that the development of primary production and the promotion of exports should have a higher priority than import substitution. Under certain conditions import substitution is justified, but its role is limited. Import substitution through industrialization failed to generate any significant net saving of imports because of the high import requirements of finishing industries, nor could the capital-intensive industries absorb much labour. For a higher rate of development it would be more desirable to replace imports of food-stuffs and raw materials, increase and diversify primary production, and achieve the highest possible rate of export growth.

(S. R. B.)

S. J. Patel, "Rates of Industrial Growth in the Last Century, 1860-1958", *Economic Development and Cultural Change,* April 1961.

Over the last century industrial output in the world increased thirty-to-forty fold. Since world population doubled, per capita industrial output rose some fifteen-to-twenty times. The rate at which output increased was relatively constant for the whole century; it was 3.6 per cent per annum for the whole period and 3.5 per cent per annum for the forty five years between 1913 and 1958.

Broadly speaking, industrial output grew rather slowly in the countries where industrialisation started earlier. On the other hand, the rate of growth of industrial output attained by each new entrant in the field of industrialisation has tended to be successively higher. For the 33 year period from 1880 to 1913 the annual rate of growth of industrial output was 2 per cent for the United Kingdom, 3 per cent for France, 5 per cent for Germany, the United States and Italy and about 6 per cent for Sweden and Russia. For the 45-year period from 1913 to 1958 the rates rise from about 2 per cent for the United Kingdom and France, to 2.4 per cent for Germany, over 3 per cent for the United States, Italy and Sweden, 5.4 per cent for Japan and over 8 per cent for the U.S.S.R. One explanation for this rise in the rate of industrial growth for each successive new entrant might be the fact that the volume of its industrial output in the initial stage was so small that relatively limited additions to it would appear large in percentage terms. Perhaps a more valid explanation lies in the opportunity of benefitting from accumulated technological advance. The later a country entered the field of industrialisation, the larger was the fund of technological advance upon which it could draw, and hence the faster its possible rate of growth.

In all the major industrial countries for which data are available, there was a continuous decline over time in the share of consumer goods in total industrial output. In a broad historical sense, there is nothing surprising in such a development. It is only a common sense proposition that since output of producers goods is the least developed segment in the early phase of industrialisation, it should expand much faster than the consumer goods sector.

Differences in the rates of growth of industrial output have led to important changes in the relative position of various countries. In a world in which the growth of output in relation to population was almost stagnant, Great Britain attained a decisive superiority by realising rates of growth of 2 to 3 per cent per year. The growth of industrial output in other European countries and in the United States at rates twice as high as in Great Britain had started making inroads into British industrial supremacy during the second half of the nineteenth century. Since the first World War the United States has remained the centre of the industrial world, accounting for nearly 40 per cent of its output. By the middle of the twentieth century, the division of the world into two zones was a fairly settled affair: the private enterprise economies and the centrally planned socialist economies. The precise measurement of the rates of growth which the latter group has attained remains a subject of controversy among Western scholars, but there is general agreement that these rates have been high—they are usually placed in the range of 8 to 10 per cent per year, or more than twice as high as in the

United States. Once the continuation of the differential in the growth rates is assumed, the closing of the gap between the industrial output of the two zones is an arithmetically inevitable consequence.

The arithematical pre-condition for narrowing and finally closing the gap in standards of living between the industrial and pre-industrial countries is that the rate of growth in the pre-industrial countries should be higher. If a newly industrialising country can attain 8 to 10 per cent annual growth rate, and can maintain this for 3 to 5 decades, the task of narrowing the gap will be accomplished. This is because of the relentless force of growth at compound rates. The expansion in 50 years at 2 per cent will be 2.7 fold, at 4 per cent 7 fold; but at 8 per cent it will be 47 fold and at 10 per cent 120 fold. A few more decades and it assumes staggering proportions.

(A. R. K.)

T. W. Schultz, "Investment in Human Capital", *American Economic Review,* Volume II, March 1961.

This article examines problems connected with investment in human capital; whether the useful skills and knowledge acquired by people are a form of capital, whether it is substantially a product of deliberate investment and how much such investment has contributed to increased output. A substantial portion of consumption constitutes investment in human capital, *e.g.* direct expenditures on education, health, and internal migration for better job opportunities, workers engaging in on-the-job training. Such expenditures however do not enter into the national accounts as capital outlays.

There are many problems connected with a dynamic, growing economy which are affected by human investment. For instance, the farm people, when they take up non-farm jobs, cannot earn as much as the industrial workers of the same race, age and sex. In the same way non-white urban males earn much less than white males even after allowance is made for age, city size and region. These large differences in earnings seem to reflect mainly the differences in health and education.

Economic growth requires also much internal migration of workers to adjust to changing job opportunities. Young men and women move more readily than older workers, and the costs of such migration are a form of human investment.

There are some major perlexing questions closely connected with the riddle of economic growth. The first is regarding the long-period behaviour of the capital-income ratio. It was considered that a country which amassed more reproducible capital relative to its land and labour would employ more of such capital because of its growing abundance and cheapness. The estimates that are available however indicate that less of such capital tends to be employed relative to income as economic growth proceeds. These estimates of capital-income-ratios, however, refer to only a part of all capital. In particular they exclude the human capital. Human capital has been

increasing at a greater rate than reproducible capital. It cannot, therefore, be inferred that the stock of all capital has been decreasing relative to income. Other estimates show that national income increases faster than national resources and this raises another puzzle. If these estimates are accepted, the connections between national resources and national income become loose and theory of production applied to inputs and outputs as currently measured becomes meaningless for the study of economic growth. Two sets of forces account for the problem: returns to scale and the large improvements in the quality of inputs that have occurred but have been omitted from the input estimates. Another puzzle is the unexplained large increase in real earnings of workers. A reasonable hypothesis is that it is the result of investment in human beings.

The magnitude of human investment can be estimated in the same way as the magnitude of capital formation (physical capital goods) is done by expenditures incurred to produce the capital goods. Human investment can roughly be measured through activities such as health facilities, on the job training, formally organised education, study programmes for adults and migration of individuals to adjust to changing job opportunities.

There are some social and policy implications which reflect upon human investment. Tax laws often discriminate against human capital, although, it also deteriorates when it is idle. Free choice of professions is also difficult due to racial and religious discrimination. Obstacles come in the way of internal migration of farm people because it is not possible for them to cover up the costs of such migration.

The most distinctive feature, however, of our economic system is the growth in human capital without which there would be nothing but hard manual work and poverty except for those who have income from property.

(N. H. N.)

J. J. Spengler, "Population Change: Cause, Effect, Indicator", *Economic Development and Cultural Change*, April 1961.

Population dynamics and economic changes are inextricably linked with each other. In the process of economic growth of a country population change may function as a cause, or an effect, and also may serve as an indicator of economic change.

The population dynamics exhibit themselves in three main forms: (i) change in an area's population arising out of births, deaths and net migration; (ii) change in spatial distribution of population due to movements of population in and out of an area; (iii) and change in the distribution of population in the social and demographic categories caused by both migration and reproduction.

The change in age composition is of most concern in this article. The phenomenon of a significant change in age composition is found only in modern populations. Before 1800 both fertility and mortality had been

quite high and more or less stable which resulted in comparative stability in age structure. A measure of effect of fertility and mortality on age composition can be given in quantitative terms; the ratio of persons aged 15-59 to all persons in a stable population would increase by about 5 per cent due to the gross reproduction rate declining from 3 to 2.5 and also due to expectation of life at birth increasing from 20-25 years to 30-35 years, other things remaining same.

Macro-Economic Environment

Population change functions as a cause of economic growth in so far as it affects the macro-economic environment which in turn induces three sets of decision makers (households, firms and government agencies) to act.

About ten dimensions of a modern macro-economic environment can be distinguished, which are sensitive to population changes. Empirical study of the interactions between population dynamics and changes in various dimensions of the macro-economic environment is difficult due to lack of quantitative data that exactly fit the analytical categories employed by the economists and to the fact that the relationships between the population dynamics and the various dimensions are space and time-bound. Due to changes in technology and resource endowment over time, comparative significance of the functional relationships of the various dimensions with the population dynamics has also changed.

1. *Producer-Population ratio.*—The ratio of persons in the productive age groups of 15-59 is determined by the age composition of a population which in its turn is determined by fertility, mortality and migration. During the past one and a half centuries the opposite effects of decline in fertility and mortality on age composition maintained more or less a stability in the producer-population ratio. The economic significance of the producer-population ratio lies in the fact that it affects the supply of labour force in an economy.

2. *Dependency ratio.*—The dependency ratio, the ratio of persons less than 15 and over 65 to those in the age group of 15-64, was reduced much in developed countries during 1800 to 1950. In 1950 it was 0.54 as against the underdeveloped countries' dependency ratio of .81. Eventually, declining mortality counterbalances improvements occasioned by declining fertility; *e.g.*, in a stable population with a gross reproduction rate of 1.5 and a life expectancy of 72.2 the ratio differs little from that found in a stable population with a gross reproduction rate of 2.5 and life expectancy of 30 years.

3. *Man-Land-ratio.*—The impact of population growth upon the availability of raw materials may be treated in terms of the man-land-ratio, and agricultural land may be assigned the role played by limitational factors in demographic models. This is so because population growth increases demand for agricultural production to meet higher needs for food and industrial raw materials. This was true in Malthus' days and even now in most of the densely populated countries where agriculture is the mainstay of economy and agricultural labour force has shown no decline.

4. *Structure of demand.*—Structure of demand mirrors the impact of population change along with the impact of technological, income and other related changes.

5. *The horizon of decision makers.*—Population growth tends to swell entrepreneurial estimates of future demands and tends to reduce the uncertainty of the decision makers.

6. *Ratio of ex-ante investment to ex-ante saving.*—Population growth tends to increase this ratio, because equipping the additional number of people requires investment and at the same time additional number of people in the households, income being fixed, tends to reduce its capacity to save and its actual rate of saving.

7. *Labour-supply-demand relations.*—If a population is growing appreciably its dependency rate is higher, because its relative number of people in the working age group is comparatively low.

In this situation a rightward shift in the potential demand curve for labour may take place which cannot be met by the existing labour force. The shortfall may be made up by securing extra hours of work from the existing labour force or by increasing the labour supply by bringing in women labour, by raising the retiring age and lowering the age of entry into labour force.

8. *Flexibility.*—A growing population makes for a degree of flexibility in an economy which is conducive to economic growth. Underlying this flexibility is the fact that growing population means additions to demand and supply. In short, an economy tends to be technologically more progressive if its population is growing instead of non-growing.

9. *Size of population vs. size of country.*—Increase in the size of a population, within certain limits, permits release of economies associated with increase in scale, division of labour etc. A large population, which often makes a large market, increases elasticity of demand and (probably) industrial elasticity of supply. The result is that the economy becomes more competitive and inputs are utilized under more merely optimal conditions. Population growth tends to accentuate this tendency.

10. *Population Concentration.*—Expansion of the agricultural sector is limited largely by the inelasticity of domestic demand for agricultural produce. Thus if a population is growing it creates a surplus in agricultural population and that surplus migrates to the urban centres for employment in industrial firms. These circumstances lead to lower urban wages and a slower process of increase in wages, at least in the early stage of industrial development.

Micro-Economic Response

Under the stimulant of the ten dimensional changes the three sets of decision makers in an economy (households, business firms and government agencies) decide on the course of their future actions. Particularly affected are households and business firms.

Ta-Chung Liu and Kung-Chia Yeh, "Preliminary Estimate of the National Income of the Chinese Mainland, 1952-59" Conference Proceedings, *The American Economic Review,* May 1961.

The authors present some revised results of their study (now nearing completion) of the national product of the Chinese Mainland for the years 1933 and 1952-57 and attempt a rather crude and conjectural estimate for the turbulent years 1958 and 1959.

Inspite of the poor quality of the data they find indications that a most impressive expansion was achieved in producers' goods industries although at a terrific cost in terms of the current standard of living.

Adjustments of the original Communist data are made in food crop production and industrial production. They feel that the Communist pre-1956 figures on food crop production are underestimates of the actual output while the 1958 and 1959 data are overestimates. They compare these data with calculated per capita calorie intake figures. Since the calorie intake figures imply a contrary-to-fact condition of general starvation, the production data are deemed to be faulty. They accept Communist data on food crop production for the years 1956 and 1957, as there is no convincing evidence of over or underestimation. They assume that per capita consumption of food crops remained more or less constant at the 1957 level throughout the period 1952-1957, and estimate production of food crops for the years 1952-57 on the basis of the per capita consumption figure for 1957 and data on the rate of change in population and production of food crops used for food purposes. This "backward projection" gives an output estimate for 1952 quite close to 1933 production level. Since internal fighting ceased in 1949, they think it reasonable that by 1952 agricultural production should have regained the 1933 level.

On industrial production, they find that the sum of the value of output of industrial commodities for which data are available is substantially less than the reported aggregate value of industrial production. In the case of producer's goods, the proportion of the total unaccounted for is fairly stable over time, but in the case of consumers goods, the proportion unaccounted for increases overtime. With rationing of food and clothing strictly enforced, they find it difficult to understand the reported much higher rate of increase of unidentified consumer's goods. Moreover, the big unnamed "others" category of the Communist published aggregate data on the supply of "daily consumption items" from 1952 to 1956 bears no resemblance to the 200 per cent increase reported for the unidentified portion. Since there is a strong presumption of a major exaggeration in this item, they arbitrarily assumed the same rate of (45%) increase of unidentified consumer's goods over this period as that of identified portion to estimate the contribution of manufacturing.

During 1952-57 the average annual rate of growth of net domestic output war 4.4%, 6% and 5.7% per year in constant 1953, 1952 and 1957 prices respectively. The average annual rate of growth of producer's goods industries as a whole is much higher: 24% per year in constant 1952 prices. However, per capita consumption 1957 was still 11 per cent below the meagre 1933 level.

For their conjectural estimate of domestic output for 1958-59 the principal adjustments made in Communist data are:

1. Since there have been no announced increases, in rations or significant increases in exports or additions to stock in 1958 and 1959, food crop production is assumed to have increased from 1957 to 1958 and 1959 at rates equal to those of population growth during these years.

2. Since continuous series of data is available for all the years 1952-58 for machinery produced (measured in 1952 prices) and machinery production had an almost perfect linear regression relationship with steel output during 1952-57 they estimate the production of bonafide steel in 1958 in accordance with this linear relationship and the value of machinery produced in 1958.

3. The gross output of manufacturing factories in 1958 and 1959 is estimated in the same manner as in 1952-57.

The rates of growth of the domestic product so estimated are 14% and 15% respectively for 1957-58 and 1958-59. Though much lower than the corresponding Communist figures (35% and 22% respectively), they still appear extraordinarily high. The average rate of increase of the value added in the producer's goods industries during 1957-58 and 1958-59 is 33% per year.

(M. I. K.)