

Summary of Selected Articles

R. Harrod, "Dynamic Theory and Planning," *Kyklos*, Fasc. 1, 1962.

The theory of *laissez faire* has been closely allied with the findings of static theory. It is held that private enterprise without any guidance will tend to allocate available resources into channels that will yield optimum economic results. Since additional resources would be similarly allocated, the maximum possible rate of growth would be obtained. The driving force towards growth is thrift, as a result of which capital is built up and put to productive use. A sufficient amount of enterprise is presupposed. Classical thinkers would attribute the failure of many countries to develop to a lack of thrift and enterprise, but it is possible that there may be other reasons which explain their failure to develop.

The failure of Say's law which Keynes postulated in his static system may also apply to a growing economy, and growth may fail to take place because entrepreneurs will not expand their output if they do not expect demand to grow.

The potential growth rate of an economy depends upon technological progress and an increase in the number of qualified personnel. Both of these depend upon past experience and present needs. If growth does not take place during a certain period, then technological progress and increase of skilled personnel will also not take place. These years of possible progress will, therefore, be lost to the economy in question. By contrast if, in static economics, demand is underestimated and production is below the level required, then it can be expanded to bring supply and demand into equilibrium.

The rate of interest cannot play a central role in dynamics. The equilibrium rate of interest is indeterminate unless the equilibrium rate of growth is specified. If an economy's propensity to save is lower than that needed to obtain the equilibrium rate of growth, then this growth rate will not be realized if the rate of interest is low, because production techniques will tend to be excessively capital intensive and there will not be enough saving to finance a 'widening' of production. A high rate of interest may encourage labour-intensive production techniques and so release capital to finance a 'widening' of production, but such a high rate of interest may divert an economy from the optimum growth path by discouraging investment in social overheads from which substantial quantities of external economies can be expected. Hence, in underdeveloped countries, the optimum growth rate will not be achieved without some compulsory saving. This may sometimes be true in mature economies, but since consumption is the prime mover in inducing private investment, a clamping down on consumption may discourage entrepreneurs if they are not initially sufficiently optimistic. In fact in mature economies it is possible for private saving plus public (i.e., compulsory) saving to be less than if there were no compulsory saving at all.

And so we come to the *raison d'être* of planning. It may be desirable to have some kind of plan in order to give the necessary assurance to enterprise in various fields that its markets will, in fact, increase over a period of years. This is more important now than in the earlier stages of capitalism

since now more investment can be justified only if investors see a rising market over a period of years. The time horizon for profitable investment is now lengthening. This increases uncertainty and, hence, in determining investment it becomes more important to know whether the economy will in fact continue to grow.

It is inadmissible to assert that there is some mechanism in a completely free private enterprise system which guarantees the growth of demand at a rate commensurate with the potential growth of output.

In dynamic economics it is essential to distinguish between demand and cost inflations. Cost inflation occurs when a fairly high demand (even if this falls short of demand required for full growth) causes a rise in wage rates in excess of productivity increases leading to a price inflation. If price inflation is to be avoided there is a case for some kind of wage planning. The older doctrine that, if the authorities keep the quantity of money constant or prevent its increasing by more than a certain amount, wages will be automatically held at a given level or at a given rate of increase, is no longer acceptable. It is not suggested that a proper regulation of the supply of money is not of supreme importance, but only that it cannot be relied upon to solve this particular problem.

There is no need to disparage what was true in the old static system of thought. The need to avoid doing this makes it necessary to sharpen the concepts and propositions of dynamic economies to a greater extent than has yet been achieved.

(S. Q.)

W. W. Singer, "Trends in Economic Thought on Underdevelopment," *Social Research*, Winter 1961.

This paper, after making a brief survey of the earlier economic thoughts on growth prospects in underdeveloped countries, discusses current thinking on the problem.

From Smith and Ricardo to Keynes, all great economists believed that economic growth was self-limiting in character. They were, therefore, pessimistic about the future growth prospect of developed economies, and optimistic about countries where development had not yet started.

In the decade after World War II, this attitude was exactly reversed by the widely prevailing belief that while developed countries could continue an indefinite self-sustaining growth, formidable obstacles stood in the way of underdeveloped countries. This pessimism regarding underdeveloped countries is particularly clear in Rostow's theory with its formidable requirements for a take-off. It can be deduced also from the Harrod-Domar model if the rate of population growth is high and the rate of saving is low. The same pessimism is evident in the so-called "back-wash" theories.

In this post-war pessimism, the situation in underdeveloped countries was increasingly described as a system of 'vicious circles'. The general belief

was that some kind of obstacle makes modest initial growth self-cancelling and can be overcome only by some kind of 'big push'. All varieties of the 'big push' (overhead capital construction, balanced growth on a wide front, etc.) required tremendous efforts and heavy capital resources which could hardly be generated by underdeveloped countries with their low-savings capacities, bad savings and entrepreneurial habits. The prospect seemed bleak.

A readjustment in thinking is now taking place. The existence of difficulties pointed out by the pessimistic theorists are not denied, but these are regarded as less formidable. Whereas the pessimistic post-war decade put stress on the need for growth by sacrifice and on the small capacity of underdeveloped countries for the big sacrifices required, the new, pragmatic approach emphasizes possibilities of growth by a sort of pump-priming process—the creation of a new dynamic setting in which by good strategy, resource availabilities can be improved, difficulties temporarily by-passed or softened, and a broadening forward movement initiated.

It is maintained that the great problem in these countries lies deeper—in an inadequate inducement to invest and an inadequate efficiency of investment. But both of these can be changed. Through pre-investment activities (provision of training and skill, the collection of necessary data, the promotion of a technology suited to these countries, etc.) there can be a much more extensive and more systematic exploration of investment opportunities. A great deal has been learned about rational approaches to the productive use of scarce resources, whereby capital requirements can be minimized through strategic timing, selective economies, and the dynamics of mutual stimulation (linkages). The provision of public aid by the developed countries is increasing in forms and under conditions in which it can really be helpful to the underdeveloped countries.

Without returning to the romantic optimism of the earlier economists, one can be moderately optimistic about economic growth in underdeveloped countries as a whole over the generation or so to come.

However, there is only hope in the picture but no certainty.

(S.R.B.)

G. Jaszi, "The Measurement of Aggregate Economic Growth: A Review of Key Conceptual and Statistical Issues as Suggested by United States Experience," *The Review of Economics and Statistics*, November 1961.

The definition and measurement of aggregate economic growth raises many questions to which there are no general answers. The author reviews the main issues involved in defining and measuring aggregate economic growth on the basis of United States' experience.

While there is no agreement on whether total output, productivity, output per consumer unit, or potential output should be regarded as an appropriate yardstick to measure economic growth, the central focus seems to be on output, which is thought to be somehow related to growth. The

author contends that since it is difficult to resolve such disagreements, it would be proper to agree first upon some basic measure of output as indicator of aggregate economic growth. The interpretation of the total output measure might then be supplemented with such other indicators as the productivity of inputs and per caput output.

With respect to the characteristics of available output measures a number of conceptual and statistical problems are involved. In any case, there is no universal agreement regarding the definition of production. The questions of imputation of value for services and a proper delimitation of the area of imputation are to be adequately answered. Again, it is also necessary to specify the goods that are to be included in final products. In order to arrive at an adequate evaluation of output trends, it is necessary to have information relating to the uses to which output is put. Finally, questions relating to method of valuation of output, the selection of the valuation base, and changes in the quality of the products are some of the other issues involved in measuring national output and its trends.

Furthermore, the margin of error in the measures of economic growth is of importance. Inasmuch as the bulk of the data underlying output calculations are collected primarily for other purposes, they must be adjusted, supplemented, and pieced together by detailed and elaborate techniques to yield the required measures of the national output. Even though the statistical errors involved in national output measures cannot be easily quantified, a detailed study of the underlying methodology and estimating techniques does permit one to arrive at a qualitative evaluation of the reliability of the data.

Once the selection of an indicator of economic growth is made, it becomes necessary to define the growth that it exhibits. The concept of growth is essentially the same as that of "secular trend". Quantification of the trend concept is made possible by the techniques of time series decomposition.

In the isolation and measurement of secular trend, seasonal and random fluctuations do not create difficulties, since they can be eliminated by the simple device of dealing with annual data. In the elimination of cyclical fluctuations and also random fluctuations, the purpose is to isolate the growth that would have occurred in their absence.

In this paper, it is contended that these conceptual and statistical problems should not block the pursuit of fruitful studies of economic growth. Any appropriate 'cause-and-effect approach' to the study of the past is likely to improve one's capacity to foresee the probable course of future events and to guide economic forces in directions that are beneficial.

(A.I.A.I)

R. Bicanic "The Threshold of Economic Growth", *Kyklos*, Fasc. 1, 1962.

The crucial factor in the process of economic growth is the change in the productivity of capital which can be measured by the change in the aggregate

capital coefficient. There are three ways of looking at the capital coefficient. One is the theory of constancy of the capital coefficient, which has been used by Cassel, Harrod, Domar, Leontief, Solow and Samuelson in their economic analysis. The second is the theory of a constantly diminishing capital coefficient (a steady increase in the productivity of capital), which was empirically observed by Raymond Goldsmith who calculated the capital coefficient of the United States for the period 1897-1950 and found a decreasing trend from 3.5 to 2.5. The third school represented by Kuznets, Colin Clark, Spengler, Bombach and others, found a regular pattern of changes in the capital coefficient, i.e., starting from a first phase of low coefficient there is a movement toward a second phase showing a rise followed by a third phase showing a decrease.

The capital coefficient is a complex aggregate and there are three main elements that are connected with the change in the aggregate. These are: 1) change in the longevity of capital goods; 2) change in the capital mix; 3) change in technical progress. If goods of longer durability are produced, the capital coefficient naturally increases. Changes in the capital mix by making capital coefficients heavier in some industries can greatly increase the aggregate capital coefficient and vice versa. Technical progress increases production and thus lowers the capital coefficient.

The author presents a theory of economic growth in terms of three stages of changes in the capital coefficient. He says that, in the first stage, that of a stagnating economy, there is a comparatively small capital coefficient because of small production, abundant and cheap but not very productive labour, and smaller capital. The capital coefficient moves between 2 and 2.5. In the second stage, the capital coefficient increases and capital becomes less productive although more abundant. The capital coefficient changes primarily due to changes in the capital mix as the bulk of the investment goes to capital-intensive projects like railways, roads, ports, mines, canals, land reclamation, etc., along with expenditure for defence, prestige or political reasons and investment for conspicuous production. The rate of saving has now to be considerably increased to provide investment for further stages of growth. Hence, the second stage is a painful process of creeping over the threshold of economic growth. In this stage, the infrastructure of the national economy is built and the opening-up of the country takes place and the capital coefficient increases from 2 or 2.5 to 4 or even 6. The third stage is marked by a decrease in the capital coefficient to 3 or even less. This happens when the basic infrastructure has been built, the ratio of durable producers' and consumers' goods to non-durables has improved, and technical progress has been more firmly introduced. Capital has become productive and the same income effect, which was being obtained in the second stage, is achieved with a smaller rate of investment; more attention is paid to the production of consumers' goods instead of capital goods. The socialist law that production of capital goods ought to be increased at a higher rate than production of consumers' goods if economic growth is to be achieved, is valid in a period of rising capital coefficient. In the period of its decrease the opposite is true and if there is a constantly decreasing trend in the capital coefficient, a steady increase in consumers' goods is possible because of constant technical progress. This third stage usually brings an improvement in the economy and also new problems of economic policy.

In a spontaneous process of growth, the changes in the capital coefficient are slow. A deliberate development policy makes the upward swing of the capital coefficient steeper but the downward swing is not so regular as many factors of economic policy may cause a lag in the switch from the second stage to the third stage. The stages of the upward and the downward trends of capital coefficient are sometimes blurred by a geographical difference in the phases of economic growth especially in large countries.

The above theory is supported by empirical data from the United Kingdom, Belgium, the United States, West Germany, Norway, Japan, Argentina, India, and Mexico.

Whenever there is a heavy investment in infrastructure an increase in capital coefficient occurs. After the benefits of such an investment are reaped, the capital coefficient decreases. Such periods of heavy capital investment might be identified with the three industrial revolutions. The first industrial revolution based on steam, coal and steel, railways and steamers started towards the end of eighteenth century and was carried out until the middle of the nineteenth century. The second increase in capital investment, based on internal combustion engines, electric power, oil, metalled roads and the electric grid took place in the most advanced countries at the beginning of the twentieth century. The third industrial revolution is now taking place, based on automation, nuclear energy, chemical industries and rockets.

The developed countries had, after every period of increase in the capital coefficient, a period of halt when they reaped the fruits of increased productivity of capital and gathered strength to carry on a new drive for an even higher level of economic development. But the present underdeveloped countries have to undergo all the three industrial revolutions in one time period and economic growth becomes a burden that they are not able to carry on their own strength. Foreign aid, therefore, becomes an economic necessity.

(M.I.K.)

D. Seers, "A Model of Comparative Rates of Growth in the World Economy," *The Economic Journal*, March 1962.

Many explanations have been offered for the slow rate of economic growth in regions exporting primary products. This paper provides an analytical system covering the main influences on international differences in rates of growth and uses this system to throw some light on the relation between the industrial countries and the primary producing countries, and on the relative importance of these various influences.

First, a hypothetical model is set up on rather rigorous assumptions. The model is further developed, by removing and relaxing these assumptions, to show in a single function the main influences on the relation between the rates of growth of countries exporting manufactures and those exporting primary products. An indication of the possible future course of the main influences and their implications for policy is also given.

The main assumptions of the model are: population is constant; the economy produces only consumer goods; expenditure on each commodity is a linear function of total income; import content for each commodity is constant; there are no international flows of profits and interests; trade is balanced between the areas; income in countries exporting manufactures grows exponentially.

The import of each area as a function of its income is determined by its income elasticities of demand for commodities and their import content. Equalizing the two functions (on the basis of the assumption of balanced trade between the regions) and rearranging terms we get the determinants of the ratio of income of the primary exporting countries to that of the industrial countries. When this ratio is differentiated with respect to time, it is seen that the income of the area exporting primary products will grow more slowly than the income of the area exporting secondary products. This follows from the high import content of commodities which have high income elasticity of demand in the former, and, low import content of commodities which have high income elasticity of demand in the latter. This conclusion may not hold good for some countries exporting primary products, such as petroleum, which have a very favourable export market.

Next, the simple model is modified by relaxing each of the assumptions except the last. The last assumption (income in countries exporting manufactures grows exponentially), being realistic, is retained. The effects of relaxing the assumptions do not alter the overall conclusion; the relaxing of some of the assumptions makes the conclusion even more firm. For instance, if the higher rate of growth in population and the higher import content for other goods and services in primary exporting countries are taken into account their growth rate will be still slower.

The decline in the relative income of the primary producing countries can be prevented in three ways; by influencing the growth rate of population; by import substitution; and, by a large enough inflow of capital. The prospect for the first is dim, since the tendency towards disparity in the rate of growth was found even under the assumption of constant population and it is not expected that growth in population can be markedly slowed down, in view of the age structure and the rigidity of social habits. The process of import substitution is almost the only way by which the primary producing countries can prevent themselves from falling further behind the industrial countries. But it will be an extremely difficult task to equalize rates of growth simply by import substitution. Import substitution, on the scale necessary to do this, will require political, social, administrative and economic changes within the area which would be out of question. Moreover, the process of import substitution involves in itself no net saving of foreign exchange and import requirements are more likely to rise than to fall. Thus, an increasing inflow of capital is the only really practicable means of avoiding a further deterioration in the relative income of the primary exporting area.

The main causes for the disparity in growth rates of primary exporting countries and industrial countries are structural—rooted in fundamental human preferences, in technical trends, in the existing world distribution of

capital and human skills and in the pattern of political power in the industrial countries. The divergence between the rates of growth can be expected to continue, unless policies are devised to stop it. The efficacy or otherwise of the proposed policies can be judged in the light of this model.

To solve the problem of disparity in rates of growth the minimum objective for the industrial countries would be that per capita commodity supplies should at least not fall in primary producing countries as a whole (excluding petroleum producers). Another possible target involving bigger capital flows would be to ensure that rates of growth do not continue to diverge. Providing cheap and long-term loans and facilitating the growth of import-saving industries in primary exporting areas logically follow, once the necessity of removing the inequality in the rates of growth is admitted. Doctrinaire objections to trade discrimination, tariff protection, exchange control, etc., are also unjustified when these are found necessary to realize the admitted objective.

(N.C.)

S. Chakravarty, "The Existence of An Optimum Savings Program," *Econometrica*, January 1962.

The purpose of this paper is to make a critical analysis of the solutions that are offered to the problem of optimizing the saving/consumption of a nation.

An optimum consumption (and hence saving) programme is one that makes a certain stipulated functional in utilities (of the form $f(U(C(t)))$)* as high as possible.

Two distinct approaches to the problem can be discerned from available literature.

a) The first is to define the functions $C(t)$ on a finite time interval which makes the domain of the functions closed and bounded. Together with the assumption of continuity of the various functions, this is in principle enough to solve the problem of the optimal consumption/saving programme over the relevant time horizon.

b) The second approach is to define the function as having infinite time horizon (i.e., $t \geq 0$). To choose the optimal programme in this case, it is necessary to formulate the problem in such a way that an ordering is introduced on the functions characterizing alternative policies with regard to consumption. Without this the optimum programme cannot be defined and determined.

There are critics who try to dismiss the problem of infinite programmes as being an intellectual exercise with no significance for theory and policy-making. Such a contention is utterly inadmissible. Merely to say that the

* U = utility, C = consumption, and t = time.

problem is settled in practice by a political decision is not to say that the problem does not exist. Again, the problem is also important from the policy point of view especially in a centrally planned economy.

Main contributions in this field consist of the works of Ramsey (subsequently extended by Samuelson and Solow) Tinbergen, Meade and Stone, and Malinvaud and Koopmans. The optimum infinite saving/consumption programmes formulated in their works suffer from either of two defects: The Tinbergen criterion (of the form $\text{Max} \int_0^{\infty} U \, dt$) does not impose any systematic ordering on the policy space. The Ramsey criterion (of the form $\text{Min} \int_0^{\infty} (B-U) \, dt$, where B, the Bliss point, is attained for a finite consumption) does impose some ordering which is completely arbitrary. Although such ordering ensures mathematical solvability of the function, it is operationally meaningless.

(A.R.K.)

R. Goode, "Taxation of Saving and Consumption in Underdeveloped Countries,"
National Tax Journal, December 1961.

This paper considers the question whether the underdeveloped countries can devise and administer tax systems that will raise adequate amounts of revenue in socially and politically acceptable ways and at the same time allow or encourage desired increases in private saving. The paper examines some of the economic issues and problems that are met in efforts to draw up such a revenue system.

It is usually contended that tax methods with complete or partial exemption for personal saving will promote private saving. An exemption for saving is tantamount to an increase in the net rate of return on saving, which is believed to encourage saving. Such a belief, however, is not fully warranted because of the uncertain nature of the influence of the rate of return on the volume of saving. Even the capacity-to-save argument that exempting the savers and taxing the non-savers will increase aggregate saving, although plausible, is also not conclusive. The underlying assumption of the argument is that there is a certain continuity of behaviour with respect to the saving propensities—an assumption which may not be valid.

The argument that regressive taxation is more favourable to private saving than is progressive taxation is also not well-founded. The basic assumption used is that the marginal propensity to save rises with income size. But, for some important reasons (such as the extravagant standards of personal consumption and hospitality of the rich in pre-industrial societies), it seems naive to suppose that saving habits are predictably related to size of income.

None of the above approaches can confidently be expected to bring about a significant increase in private saving. All rest on questionable assumptions. Proposals for concentrating taxes on consumption and exempting saving or taxing it lightly are perhaps more firmly based than suggestions

for preferential taxation of interest and profits and the avoidance of progressivity.

There are objections to efforts to promote saving by tax means, some of which are unconvincing, such as revenue and market demand considerations. The market demand consideration may, however, be important for certain sectors which are likely to be the leading sectors in economic development. But real limitations are posed by considerations with respect to the distribution of income and with respect to consumption which contributes to productive efficiency.

Methods of taxing consumption further examined in this paper are: 1) an income tax with saving partially or wholly exempt; 2) a personal expenditure tax or spendings tax; and, 3) indirect taxes in the form of excises, sales or turnover taxes and customs duties. An income tax which exempts all saving is unselective regarding forms of saving, just as the expenditure tax in pure form. Some differentiation between desirable and undesirable forms of saving/consumption is possible through modification of each of the taxes but the modified methods have limited flexibility as means of differential taxation of saving/consumption. The expenditure tax has a broader coverage than a modified income tax insofar as the former touches consumption financed by disposal of wealth, while the latter may not reach this part of consumption. Indirect taxes are necessarily selective or discriminatory regarding forms of consumption and non-selective regarding means of finance. Selectivity with respect to both items of consumption and forms of saving can be attained by combining indirect taxes with exemptions for enumerated forms of saving under the income tax. While much of the appeal of the expenditure tax and of the income tax derives from their capacity to incorporate a high degree of progressivity, the expenditure tax can be made more progressive than the income tax. It is possible to devise indirect tax systems which are not highly regressive but somewhat progressive.

The method of income tax with saving partially or wholly exempt, though seemingly simple, entails complications. It would not be easy to define and measure saving, to prevent tax evasion, and to assure equitable treatment of persons who save in some years and dissave in other years. The expenditure tax would be administered in almost the same way as an income tax with all saving exempt and similar problems would be encountered. Indirect taxes can easily remedy some of these problems, while the others are difficult to deal with.

Governments that wish to foster private saving may consider it advisable to concentrate on consumption and to tax saving lightly. Economists can agree that this policy is likely to work in the desired direction, but, in the present state of knowledge, they have little basis for advising the authorities regarding the extent of the results to be expected. As means of taxing consumption in the less developed countries, excises and customs duties seem more practical than an income tax with saving exempt or an expenditure tax.

H. Pilvin, "Recent Flows of United States Funds to Underdeveloped Countries,"
The Southern Economic Journal, January 1962.

This paper examines certain aspects of the allocation of United States funds to underdeveloped countries during the period 1952-58. The funds are of two types: 1) private funds which include direct private investment; 2) funds of the United States government including net non-military grants and long-term credits. The study covers thirty countries having a population of 874 million in 1957—about 66 per cent of all non-USSR oriented underdeveloped peoples.

During the period 1952-58, the outflow of United States total net capital and grants to the countries under consideration amounted to \$8.25 billion. About three-fifths of this was accounted for by direct private investments, and the remaining two-fifths represented official loans and grants. The relative share of private flows was greater in recent years. It rose from 55 per cent of total outflows in 1952-55 to 63 per cent in 1956-58.

The distribution of the funds as a whole was characterized by a high degree of concentration. The lowest 60 per cent of the people receiving the funds obtained only about 10 per cent of the total United States flows to these countries. The highest 10 per cent received about 54 per cent. The heavy concentration in the latter group was due to large private investments in Liberia, Venezuela, and Panama, whereas the meagre flows to the former was due to the relatively low levels of both private and public flows to countries like India and Indonesia.

The degree of concentration was, however, less in the case of United States' official funds than in the case of private funds. The relative evenness of the flow of government funds compensated to a great extent the degree of unevenness of private funds. Nevertheless, the flow of official funds was also considerably concentrated. The lowest 60 per cent of the people of the countries considered received about one-sixth and the highest 10 per cent received about 36 per cent of the public funds. The concentration of both private and public outlay was considerably greater in recent years than in earlier years. In 1956-58 the share of the lowest 60 per cent amounted to about 7 per cent, while the proportion received by the highest 10 per cent was 63 per cent. This was largely due to an increased volume of private investments in the Venezuelan petroleum industry.

The question whether the per caput outflow of funds had any relationship with per caput income of the receiving countries is examined next. The data reveal that, although there is no clear evidence of a tendency for the countries with relatively high incomes to receive relatively high per caput United States funds, there is, on balance, a moderately positive relation. Such a positive relation was largely due to the influence of private capital flows. There is virtually no tendency for such a relationship in the flow of public funds.

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

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

Land reform programmes in underdeveloped countries have three objectives: 1) investing the tiller of the soil with the ownership and management of land; 2) breaking up larger holdings into smaller even units; and, 3) consolidation of smaller units into bigger ones. These conflicting objectives are simultaneously proposed by the local protagonists, while all three are resisted by the opponents.

Behind the political discussions of land reforms is a search to satisfy two basic needs: 1) a much more productive agriculture as a base for national economic development; and, 2) a sense of security among the peasantry as a basis for needed political stability. Often, these are also inconsistent ends. However, there is little evidence regarding the effects of land reform proposals on social and political stability. Social responses to a given stimuli are very uncertain and do not provide a guide for policy. Even on the first issue—the effects of land reform on agricultural productivity—the social scientists have failed in their responsibilities. As a result, land reform legislation operates in an informational vacuum. The agricultural economist is, however, sufficiently equipped with analytical tools and can throw light on the implications of various aspects of this problem.

Behind the political reasoning of land reforms in these countries is a presumption that there is a positive relationship between the size of farm and productivity. This is largely based on the misinterpretation of the economics of "western" agriculture. The problem there is vastly different from that which the underdeveloped countries face, and so the analysis of "western" agriculture cannot be applied to agriculture in underdeveloped countries.

American farm studies confirm that larger farms normally have correspondingly higher operator incomes. It does not mean that larger farms are more "efficient" than smaller farms, as is erroneously understood. It only implies "efficiency" with reference to the human agent which is a scarce factor of production there. The situation in India and similar countries is very different; labour in these countries is, socially, a non-cost element while other production factors are scarce. Therefore, in contradistinction to net operator income criteria under American conditions, the measure of relative efficiency in agriculture most relevant to Indian conditions is *gross value productivity per acre above variable capital costs*. The measure of efficiency in these countries should be with reference to returns to non-labour resources.

A study of American farms indicates a negative correlation between productivity per acre of land and size of farm. The data available from the Farm Management Centre in India also suggest the same conclusion. These data are based on samples taken from selected areas and are analysed separately for each individual state. When these data were combined and classified into four groups according to the size of the farm, they revealed the same negative correlation. Additional data collected on the basis of a study of 225 farms further corroborate this relationship.

Although the analysis outlined here is static, it is the end-product of such dynamics which have long existed in society. An examination of the

Japanese and American agriculture would be particularly useful. If these also revealed the same relationship, an intense re-examination of land reform discussions would become necessary.

The problem of agricultural productivity in underdeveloped economies is closely tied to the use of capital. A shift to large-scale farming would divert the capital to relatively unproductive uses. Small amounts of capital combined with improved practices and a large amount of human effort will together achieve much more productivity than land reform measures.

The most important type of large-scale farm as recommended by the land reform policy is the cooperative farm. In view of the advantages claimed for it, it might best be considered as an alternative to other "extension" techniques. If this is so, the application of more effective extension techniques under the owner-operator of a farm might accomplish even more than group farming on the productivity front, without incurring the long-range economic inefficiency implications.

Careful research on the relationship of farm size to productivity, both in static and dynamic dimensions, is needed. Research is also required to find the most effective means of introducing technological changes which will capitalize on abundant labour. The author suggests an effective research-extension programme, supplemented by government or cooperative services, in support of a flexible system of small-scale, owner-operated farms as the proper goal of land reforms policy.

(I.A.)

D. Kux, "Growth and Characteristics of Pakistan's Population," *Population Review*, January 1962.

The first census of Pakistan was taken in February 1951, when the population was 75.8 million of which 43.1 million lived in East and 33.7 million in West Pakistan. In 1961 the population increased to 93.8 million, the percentage increase being 23.7 against 7.9 per cent during 1941-51 and 18.8 during 1931-41. The large increase during the last decades confirms Kingsley Davis's conclusion: "Population of Indo-Pakistan sub-continent is in what appears to be a period of rapid and gigantic expansion."

Over the past ten years, the density of population has risen from 208 to 257 per square mile in Pakistan. The rise was from 777 to 922 in East Pakistan and 108 to 136 in West Pakistan. The bulk of the population is concentrated in a very small part of the area. West Pakistan which has 85.2 per cent of the total area of Pakistan contains 44.5 per cent of its population.

According to the 1951 census, 28.3 per cent of the population was under 10 years of age, 66.8 per cent between 10 and 59 years and 5 per cent over 60 years of age. Over 14,000 persons claim to be centenarians. Over the last 30 years, the percentage of people aged 40 and over has increased. This is indicative of the improvement in health and longevity. Indian and Pakistani age patterns seem to be about the same. The preponderance of young and the

scarcity of old age population highlights both distributions. Pakistan's age composition is the same as was that of the United States in 1880.

The masculinity ratio in Pakistan declined from 112.8 in 1951 to 110.8 in 1961. There was a decline of 2.7 and 2.2 per cent in the masculinity ratio of East and West Pakistan respectively during this period. The 1961 census results showed a reversal of the long standing trend of increasing masculinity ratio from 1901 to 1951. West Pakistan recorded as high a masculinity ratio as 121.5 in 1921-31. Males in West Pakistan exceed by 114.2 for 100 females, while in East Pakistan, they exceed by 107.3 for 1000 females. The reasons for the excess of males is the paying of less attention to girls, early marriages, *purdah* system and underenumeration of females. These factors result in higher mortality among females at younger and adult ages.

The 1951 census indicates that 41.1 per cent males and 45.1 per cent females were married; 55.2 per cent males and 45.0 per cent females were single and 13 per cent of both sexes were widowed. The interesting thing is that 1 per cent of those under 10 years of age were married. In the 10-39 age group the proportion of married females (65.9 per cent) exceeds that of married males (45.7 per cent). In the 40-59 age group the proportion of married males (88.2 per cent) exceeds that of females (65.0 per cent). Among those 60 years and over, the proportion of married males (72.0 per cent) far exceeds that of women (36.1 per cent). "Peoples of both sexes and communities are marrying at older ages". Polygamy has been "very rare" and divorce "quite unusual".

According to the 1951 census, 89.6 per cent of Pakistan's population was rural. However, East Pakistan is more rural than West Pakistan. There were 16 cities in 1961 and 11 in 1951 with a population exceeding 100,000. Karachi's population increased from one million in 1951 to 1.9 million in 1961. Compared to India, Pakistan is less urbanized. In India urbanites constitute 17.3 per cent of the population while in Pakistan they constitute 10.4 per cent of the population. The rapid growth of urbanization in Pakistan is attributed to "refugee movements" during 1941-51 and to industrialization during 1951-61.

There are 32 mother tongues spoken in Pakistan: 54.4 per cent of the total population speak Bengali; 27.5 per cent speak Punjabi. Other important mother tongues are Pushto, Sindhi, Urdu and Baluchi. Speakers of Indo-European languages made up 99 per cent of the population in 1951. "Pakistan is a more homogeneous linguistic entity than India."

About 19 per cent of the people were literate in 1951 and 15.3 per cent in 1961. This should not give the idea that literacy has come down because the change of definition for 'literacy to read' in 1951 to 'ability to read and understand' in 1960 complicates the comparability. East Pakistanis are more literate than West Pakistanis, although the latter claim a higher proportion of advanced degree holders. There appeared to be a considerable rise in literacy from 1931 to 1951. It was found that Bengali, Urdu and English are the chief written languages of Pakistan. As regards educational composition, 5.6 per cent of the people completed primary, 2.9 per cent secondary and 0.73 per cent college and advanced education, with Karachi claiming the highest educational level.

Muslims predominate in Pakistan (85.9 per cent). Among the minorities, Hindus are the most numerous (12.9 per cent). Christians, Buddhists and others form 1.2 per cent of the total population. West Pakistan has a higher proportion of Muslims than does East Pakistan. Everywhere, particularly in West Pakistan, the population of the Muslims to the total has increased due to emmigration of Muslims from India and that of Hindus from Pakistan.

Thirty per cent of Pakistani population was in the labour force in 1951. Agricultural activity claimed 3 out of 4 Pakistani workers. Indians and West Pakistanis have similar occupational composition. East Pakistan depends more on agriculture than does West Pakistan. The ratio of agricultural to non-agricultural workers in East Pakistan was 5:1 and in West Pakistan 2:1. Out of the 14 occupational categories of non-agricultural labour force, 2 predominate—manufacturing and unskilled labour—each being 22.4 per cent of the total. In both categories West Pakistan claims more people than does East Pakistan. The occupation of non-agricultural labour force underlines the greater economic diversification in West Pakistan.

(S.A.A.B.R.)

R. S. Smith, "Population and Economic Growth in Central America," *Economic Development and Cultural Change*, January 1962.

Formation of a common market or a customs union among the countries of Central America is urged by the United States as an instrument for fostering a growing, viable economy for the whole region. But, to a large extent, the viability of national as well as regional development hinges on the area's demographic structure and growth.

Population of Central America recorded an increase of 40 per cent in the decade 1950-60. In the absence of any symptoms of a drop in the birth rates and a further decline in death rates practically assured, the rate of population growth is not likely to fall below three per cent annually. This will double the population every 25 years. Falling death rates have been achieved by broad and continuous attack upon the problems of sanitation, nutrition, and medical care. This trend is likely to continue. On the other hand, no trustworthy evidence of a retreat from high Central American fertility has been discovered. Without a higher level of literacy, the prospect for official sanction of planned parenthood is remote. Besides, in other parts of the world, the small family pattern was adopted first by the higher socio-economic group in the major urban areas and then spread to small towns and cities, the lower income groups and finally to the rural sector. Such a transformation is not yet visible in Central America.

Thus, the main problem of Central America is to ensure an expansion in the real gross national product at a rate faster than the rate of increase of population. During 1946-56, the rate of increase of real gross national product was greater than the rate of population growth in the whole region except in Honduras. But, the drastic fall in the prices of the region's main exports, causing a decline in foreign exchange earnings, have cramped national plans

for economic development. The rate of growth of real gross national product has fallen off, and, in some cases, per capita income has dropped.

It is much more common to diagnose the problems as one of accelerating economic growth rather than of decelerating fertility. For instance, Ducoff argues that even if no change in productivity occurs in the agricultural and the industrial sectors by 1980, the transfer of labour from agriculture into industry will itself raise the gross national product in Costa Rica, for example, by 120 per cent. But, the requirements for industrial growth are sufficiently complex to rule out the certainty of raising output faster than population growth merely by increasing the population of labour force occupied in industry. Besides, industrialization as a means of coping with high fertility is not supported by the historical pattern of growth.

As matters stand, funds that might be employed to augment exports and secure capital for economic development are needed to finance imports of food. Many ways of agricultural improvement are proposed; some have already led to greater output, but the obstacles to steady growth are formidable. Shortage of fertilizer and use of primitive tools are some of the obstacles to intensive cultivation, while lack of roads and communications, health services and irrigation facilities, etc., stand in the way of extensive cultivation. Mechanization is uneconomic because of abundant labour, and agrarian reforms may not raise total output as new owners of land may not produce more due to lack of credit and other facilities formerly provided by the landlords.

The prevailing economic thinking in Central America does not consider rapid population increase an obstacle to economic growth. Foreign experts, however, privately express doubts about the effectiveness of their work in the face of a rapid increase in population.

To sum up, the presumptive gains in output from integrating the economies of the five small countries of Central America are not so great that they may be counted on to outstrip population growth at the current rate of three per cent per annum.

(R.A.K.)

M. R. Feroz, "The Reform in Family Laws in the Muslim World," *Islamic Studies*, March 1962.

The reform in family laws has continued for over thirty years in the Muslim world. The rights of Muslim women in matters of marriage and divorce have received the main emphasis in such reforms. This paper is concerned primarily with recent reforms in Islamic personal laws in Pakistan, Egypt and Tunisia which might set the pattern for other Muslim countries.

Reforms in Muslim family laws in Indo-Pakistan date back to the time of the passing of the Dissolution of Muslim Marriages Act in 1939. Under this Act, a Muslim woman could apply to a court of law for the dissolution of marriage on grounds of negligence or disability on the part of her husband

in performing matrimonial obligations. However, a few inadequacies in the act as well as in the corpus of Muslim law, in relation to the question of maintenance of wife by the husband and payment of *Mahr*, etc., gave rise to conflicting viewpoints of various high courts. Such conflicts became a great preventive and deterrent force against many Muslim women intending to get a decree for divorce on genuine grounds. To tackle this problem, the Commission on Marriage and Family Laws was appointed by the Government of Pakistan in August 1955.

To reform the existing family laws, the Commission recommended compulsory registration of marriages and adoption of a standard marriage contract, abolition of child marriage and the giving of the same right to wife to pronounce divorce (*Khula*) as exists for the husband. The Commission further recommended that the sale of daughters by parents should be made a cognizable offence. The Quranic method of pronouncement of divorce should be applied over three periods of purity. For a divorce at the wife's instance, the Dissolution of Muslim Marriages Act, 1939, should be applicable with supplementary legislation to make the *Khula* form of *Talaq* more precise. For a man intending to have a second wife, permission should be sought from family law courts. Maintenance expenses of Rs. 300 per month should be given to a wife in view of the high cost of living. The Muslim Family Laws Ordinance, promulgated by the Pakistan Government in March 1961, incorporates the above recommendations.

The Egyptian code of personal law, originally compiled in 1875, was modified in 1909-1910. It then made the registration of all marriages obligatory. The stipulation of *Mahr* is not an indispensable requirement in the contract of marriages under the Egyptian code. In Egypt, the right of a Muslim woman to demand payment of dower is frequently exercised. Under the Egyptian code, a wife is entitled to maintenance expenses except in the case of a disobedient wife. The different types of divorce under the code are the same as laid down under the *Hanafi* law. The wife's right to divorce, as delegated by the husband, is conditional and time-limited under the code.

With the promulgation of the new Egyptian constitution in 1956, a few reforms have also been introduced in the Egyptian code of personal law. Under the new reforms the wife's right to get a divorce, if her married life becomes intolerable, is without time limit. Polygamy is restricted and is allowed only by the special permission of a court.

The new Code of Personal Status of Tunisia has been effective since 1957. This is applicable to Muslims only. Under the Code, a marriage contracted by a minor before attaining puberty becomes null and void. Polygamy has been prohibited. No ceiling is put on the quantity or extent of dower. A woman enjoys full rights over her dower. A husband's obligations include benevolent treatment of his wife and children and maintenance of his family. In return, the wife is duty-bound to respect him and obey him and perform her marital obligations in accordance with customs and usages. Under the Tunisian Code, no divorce is effective except the one before a court of law.

It is concluded that the socio-economic changes seem to be at the core of these reforms. A recodification of Muslim personal law, incorporating the recent reforms, will be quite a worthwhile project. This may remove the

inadequacies of the Anglo-Muhammedan Law, and some of the redundancies of the dilatory legal procedure.

(Y.A.N)

Y. Koya, "Sterilization in Japan," *Eugenics Quarterly*, September 1961.

The attitude of the Japanese government towards sterilization differs from that towards induced abortion. Both are permitted if either the mother or father or relatives in the fourth degree of consanguinity have a hereditary disease, psychosis or leprosy, or if pregnancy threatens the life of the mother. Induced abortion is also permitted if the health of the mother may be affected seriously by delivery. Sterilization is not explicitly permitted for 'economic' reasons but the law with regard to sterilization is highly ambiguous and varying standards have arisen.

The number of sterilizations performed by designated doctors increased from 6,000 in 1949 to 44,000 in 1956 with a slight decline after that. Sterilizations performed in the black market are not represented in these figures and amount to three or four times those performed legally.

A sample survey study indicates that male sterilizations account for less than 5 per cent of the total. Although, the law does not permit sterilization for economic reasons, in reality three times as many cases were actually motivated by the desire to control family size as by medical reasons. Three-fourths of the mothers had three or more living children when sterilized. Only 3 per cent had but one child and only one person was childless. Almost half the women were 30 to 34 years old and had two or more children. Families with male children resorted to sterilization more readily than those having only female children. About two-thirds of the women and almost all of the men indicated no change in sexual feeling due to sterilization. In about 50 per cent of the cases, the initiative was taken by the wife with the consent or concomitant initiative of the husband. In 15 per cent of the cases, the wife was the initiator but had to prevail upon her husband to agree. Husbands took the initiative in 27.5 per cent of the cases, two-thirds of the time with the wife's ready agreement. The situation was somewhat different in the case of male sterilizations. In 86.3 per cent of the cases the initiative was taken by husbands with their wives readily consenting three-quarters of the time.

If people are not sterilized before they have more than three or four children, the likelihood is that future births will be avoided by induced abortion rather than by sterilization. Sterilization is often resorted to as an alternative to conception control or as a remedy for induced abortion. This suggests that if induced abortion is strongly suppressed or prohibited at a place where facilities for conception control are limited, people may be inclined to become sterilized.

(M.E.)

P. C. Sagi, P. G. Potter, Jr., and C. F. Westoff, "Contraceptive Effectiveness As a Function of Desired Family Size," *Population Studies*, March 1962.

Two hypotheses have been advanced with regard to contraceptive effectiveness as a function of desired family size. First, as the number of children a couple desires is approached or achieved in practice, the proportion of women attempting fertility control increases; and second, the effectiveness with which fertility is controlled increases as fertility approaches the desired level.

The data used to examine and test the two hypotheses are taken from the first and second phase of the longitudinal study of the future fertility of two-child couples as described in *Family Growth in Metropolitan American* by Westoff, (*et. al.*).

The first hypothesis gets corroboration from the data which show that the proportion of wives not using any contraceptives has dwindled from 31 per cent during marriage to first pregnancy to 13 per cent during first to second pregnancy and from 13 per cent to 9 per cent during the six months following the birth of their second child. This happened with wives who desired only 2 children. Similarly, the proportion of non-users of contraceptives dwindled from 41 per cent to 20 per cent and 15 per cent in the case of wives who desired 3 children, and it dwindled from 49 per cent to 20 per cent and 18 per cent in the case of wives who desired 4 children.

The second hypothesis also gets corroborated because, as the couples approach or achieve the desired number of children, there is a marked and consistent decline in the failure rate. The failure rate for 100 years exposure is given by:

$$\frac{\text{number of unplanned pregnancies}}{\text{the months of exposure}} \times 1200$$

The failure rate declines because, as the couple approaches the number of children desired, it becomes more motivated to adopt contraceptive practices and to shift to more reliable methods.

The authors have now been engaged in further enquiry into several other 'speculative notions'. Some of the points of enquiry are:

i) The maximum use-effectiveness of rhythm as well as other techniques is approached only when the couples near or achieve desired fertility.

ii) Many of the reported differences among methods are due in large measure to an association between the desired number of children and the contraceptive technique employed.

iii) Chance-taking or occasional non-use is a measure of deliberately unplanned pregnancy as well as a measure of acceptability of contraceptive methods in a population.

iv) The reason for a high rate of failure for any contraceptive method is the minor significance attached to the precise spacing of births.

(M.S.)

J. R. Rele, "Some Aspects of Family and Fertility in India," *Population Studies*, March 1962.

The data for the article have been drawn mostly from a fertility study conducted in 1956 within Banaras *Tehsil* of the State of Uttar Pradesh. In the Indian society, marriage usually occurs at an early age. The young age at marriage has given rise to ritual of consummation of marriage or return marriage before which there is no social sanction for the couple to live together. The average age at return marriage for women under study was 14.6. This figure is consistent with the National Sample Survey of India figures in pointing out the fact that Indian females start their reproductive life quite early.

An attempt is made to study fertility in relation to the age at return marriage. It is seen that the total fertility (average number of children given birth to by a woman throughout her reproductive life span) of married women declined as the age at return marriage increased. Total fertility is 7.3 for women whose age at return marriage is less than 15, 7.05 for those married at 15 or 16 and 6.8 for those who had their marriage at 17, 18 or 19. In all these three cases, the women were married before age 20. When total fertility after age 20 was considered, it showed a progressive increase with higher age at return marriage. The specific fertility rates for women married at a later age were consistently higher compared to those married earlier. This indicates that the loss of the earlier reproductive period due to the postponement of marriage to a later age is compensated for by increased fertility at higher ages.

The total fertility of married women after the age of 20 works out to be 3.5 for the United States which is a fairly low value compared to the corresponding figures of 6.2 to 6.6 in the rural Banaras *Tehsil*. Again, the total fertility for all women in the United States was 3.0 in 1950 as against 6.6 in the Banaras study.

The interval from return marriage to the first birth declines with an increase in the age at return marriage, because it is argued that women with late return marriages are immediately in the highly fecund stage of life. It was also observed that the interval between return marriage and the birth of the first child was usually long. This may be due to the usual custom that the wife comes to the place of the husband at the time of return marriage, stays with him for two or three days, and then goes back to her parents' house where she spends six to eight months before returning to her husband's place. Moreover, during the first year, the wife usually visits her parental home quite often to celebrate several festival days. The wife's absence from husband's home during the first year of her marriage may have the effect of postponing the first birth by reducing the amount of exposure to conception.

The high fertility in India along with the other characteristics of early marriages, the desire for sons and the non-use of contraceptives, the desire leads to a low incidence of childlessness as compared to the more advanced countries. The sample of women in the Banaras study revealed that the number of childless women as a percentage of total married women is quite low (2.4 per cent) when compared to Bengal, Lucknow and Mysore where the percentage of childless women is 4.8, 4.4, and 5.4 respectively.

(A.R.R.)