Summaries of Selected Articles

B. Berelson. "On Family Planning Communication", *Demography*, Vol. 1, No. 1, 1964.

The author's views on family planning communication can be condensed into ten points from this article.

1. The preconditions (*i.e.*, basic elements of modernization) are not necessary for family planning success, because the components of any society are uneven and do not progress in any set form (a ten per cent improvement in education does not mean a ten per cent improvement in agriculture). So, with the nature of the society given, with contraceptives available and given reasonable systems of information and services, family planning can indeed be effective even in "traditional societies"—well in the lead of the modernizing movement.

2. Let us not feel that we can have a full understanding of all the cultural, personal, social, situational and economic factors in the case of a short period (*i.e.*, 5 to 10 years). We can do a lot without having a complete understanding. In the short span the best we can do is to exploit the existing market instead of trying to expand the market. This would mean "skimming the cream", in a motivational sense, *i.e.*, intentionally planning a communication programme that will influence only 20 to 30 per cent of the society within a reasonably short period.

3. For implementation of a family planning programme, more emphasis needs to be placed on the administrative and organizational aspects of family planning services.

4. Real support, as against verbal expression, at governmental levels, especially at the highest level, is most essential. Very prominent among those who need persuasion is the medical profession. They should be involved in these programmes from the outset and thoroughly.

5. The very massiveness of the mass media can promote the image of social acceptibility. The job of the media, then, is not simply to spread information but to spread a sense of social rightness, even righteousness, of the practice.

The mass media can combat "pluralistic ignorance", a situation where people favour an idea but think everyone else is against it.

6. One does not need a highly refined and advanced presentation of the case for family planning. Once we have told the basic story of "what", "how", and "why" with some personalizing humour and have repeated it ingeniously, then we have just about done what we can so far as the sheer communication context is concerned. Of course, we also must do what we can to build the message into the social framework over the long span.

7. We should not expect success in family planning in an entire community in the short period. One per cent initial success would not be unrealistic; this would have a built-in chain reaction of its own. From the author's point of view, this chain reaction is not only quite effective but also free of cost. Less than complete success, then, may be cause for regret but certainly not for despair or disillusionment.

8. About the slogan "we can do it but it costs too much": persistent efforts in the search for new contraceptive methods and effective mass media can reasonably reduce the cost.

9. Basic research even if short run may not pay off with results in time to be useful. Applied research would be of much help. The research needed is primarily in the evaluational role, appraising the results. It would eliminate needlessly futile efforts.

10. The best thing to do is to move into a situation. Get the implementational machinery and start. Experiment as much as you can; see what works and what does not. Hope that the bio-medical people will produce an ideal contraceptive before you are very far down the road, and evaluate the results continually as you go.

(A. D. BHATTI)

E.K. Fisk, "Planning in a Primitive Economy: From Pure Subsistence to the Production of a Market Surplus", *Economic Record*, June 1964.

This paper is a continuation of an earlier article in which the author examined the factors determining the level of production in a pure subsistence sector, entirely isolated from the advanced sector. That study revealed that there were development potentialities concealed within the subsistence unit in the form of surplus, unused productive capacity, which could be harnessed, if the necessary incentives were provided.

In this paper, the study is extended to the next stage of development, in which the subsistence sector ceases to be entirely isolated and begins to participate in the monetized transactions of the advanced sector. In this stage, the surplus productive capacity of the subsistence sector is utilized for additional production. However, the activities for monetary reward are considered as only a supplement to the subsistence production.

When the subsistence group comes into contact with the advanced sector it is subject to influence by two factors, an incentive factor and response factor, each of which is the resultant of many components. These components can be classified as either internal or external.

For the incentive factor the internal components are the usual market forces while the external components are non-market forces which can modify the framework in which the market forces operate. For the response factor, the internal components are the given cultural, political, physical and economic characteristics of the subsistence group; the external components are those forces such as education and health services, public works, and the demonstration effect of a higher standard of living through which the internal characteristics of the group are influenced and modified.

The strength of the incentive factor depends, primarily upon the comparison by the subsistence producer of the utility of additional labour necessary to earn money with the utility of goods and services, which an extra unit of money will buy. In other words, the comparison depends on the cash return per unit of labour and the utility of money.

In the initial stage of linkage with the advanced sector, the cash return per unit of labour for the subsistence producer is very low due to processing, transport and marketing difficulties. But, because of economies of scale, increases in the total production of the subsistence area will lead to increases in the cash return per unit of labour. However, increases in labour productivity come in sudden discontinuous jumps, primarily because the size of the economy

is small relative to certain "scale-economizing services", which are indivisible (*i.e.*, they are either provided or not provided) and become profitable only at specific levels of output.

The utility of money will depend largely on the range of goods and services offered for money and the facility of availability, when and where they are wanted. On the other hand, the supply of such goods and services depends upon entrepreneurship and supply of capital. These factors will be forthcoming for any specific good or service only if a certain minimum turnover can be achieved. The potential turnover in turn depends upon amount of spending money available which ultimately is directly related to income. Hence, the utility of money will be a function of total spendable income in the area. Furthermore, the change from one level of utility of money to the next higher level will also tend to take place discontinuously since each new good or service introduced will represent a relatively large proportionate increase in the total range of goods and services offered.

It is a usual phenomenon with most primitive economies that the response and incentive factors become inadequate for sustaining economic growth. Because of the discontinuities in both increases in cash return per unit of labour and in the utility of money, vicious circles are formed where total income cannot rise because larger inputs of labour are not forthcoming. The quantity of labour supplied does not increase because the utility of money has not increased. Finally, increases in the utility of money are dependent on increases in income.

To prevent stagnation external non-market influences must be applied when these vicious circles are formed, to produce the following effects:

i) an artificial increase in the cash return per unit of labour by temporarily subsidizing the development of marketing, transport and processing facilities.

ii) an artificial increase in the utility of money by subsidizing temporarily the provisions of goods and services offered for money in the area.

Intervention is, therefore, necessary on a scale sufficient to enable the subsistence unit to maintain growth.

(GHAZI MUMTAZ FAROOQ)

Michael Freeberne, "Birth Control in China", *Population Studies,* July 1964.

In the recent past China's population, 700 million people, comprising one quarter of the world's population with a rate of increase of over two per cent, has emerged as an acute problem. It was felt most acutely during 1960-62 when China's agriculture sector suffered setbacks.

Birth control programmes in China initially had to face conflicting opinions and a shortage of funds during the reconstruction period (1949-1952). This programme was adopted in the First Five Year Plan (1953-57) but it started only late in 1956. At the National Peoples Congress in 1954 the introduction of contraceptives was urged. In early 1957 late marriage was also recommended—25 years of age for women and 30 years for men. In 1957, China's Health Minister warned that unplanned population growth at high rates would eliminate any per capita benefits of planned projects.

A New Theory of Population was propounded by Dr. Ma Yin-Chu in 1957. He also thought that a check on the country's population was necessary if economic development was not to be prevented by the increasing rate of population growth. A controversy started between other Marxists and Dr. Ma. Strict Marxists attacked Dr. Ma for supporting the Malthusian theory of population. Dr. Ma defended himself, insisting that his contentions were unshakeable. The controversy resulted in Dr. Ma's removal from his post of President of Peking University. He reappeared in public only in 1961.

In 1958, when the commune system started, the population problem was ignored and the birth control campaign was discontinued. It was argued that the high rate of growth of population could be reduced with the social change accompanying economic development. The communes were to provide not only economical sources for development but also short term solutions for over-population with the introduction of labour-intensive projects in various development schemes. During 1958-61 however, efforts were made to introduce birth control methods in rural areas through the communes. The National Peoples Congress then demanded that Family Planning should be developed in almost all densely populated areas. In 1962 the birth control movement was revived. It was evident that articles and letters appearing in magazines stressing the protection of health of mothers and children urging the use of contraception and the spacing of births, kept the movement alive. The revived movement included two major approaches:

i) propaganda against early marriage, and
ii) expansion of the family planning campaign.

The campaign against early marriage started with publicity of its adverse effects on otherwise active and prosperous people. The beneficial effects of late marriage were publicised. It was stressed that those who avoid early marriage get better education, better work opportunities, enjoy better health and that their children enjoy robust health, more comforts and luxuries. There have been many opinions about the right age for marriage but in all cases early marriages were opposed. The legal minimum age for marriage has considerably increased from 13 for girls and 15 for boys to 18 for girls and 20 for boys, according to 1950 Marriage Law. But the optimum age for marriage recommended by different sources varies from 25 to 30 for women and 28 to 32 for men.

It was urged in 1962, when contraceptives and medicines were (among other things) exempted from high taxes, that birth control was an effective measure to reduce family size and bring happiness; emphasis was also laid on spacing of births. Dr. Elizabeth Comber, giving her impression about China, said that families with two to three children in urban areas, and six children in rural areas, were considered ideal.

The Chinese have stressed planned parenthood more than birth prevention. Their stated purpose is to ensure family happiness. For this purpose contraceptives were popularised. Sterilization was recommended comparatively little. The movement of planned parenthood in different provinces and cities was given wide publicity through courses in planned child-bearing, pictures, models, samples, *etc.* The clinics and hospitals also displayed the assistance they could render for planned child-bearing. But there were some evidences of supply problems of contraceptive drugs in municipal and city dispensaries. In cities, trade unions and social organizations worked to help carry out the campaign through lectures and mobile clinics for the planned parenthood movement. The campaign has been successful in cities, but no concrete results for rural areas are evident, and it can not yet be predicted whether the Chinese people will give this movement any real support.

(D. M. FAROOQ)

H. Freudenberger and F. Redlich, "The Industrial Development of Europe—Reality, Symbols, Images", *Kyklos*, Vol. XVII, Fasc. 3, 1964.

The purpose of the present paper is to replace the generally known Marx-Sombart *schema* of industrial development or traditional theory of industrial stages by a better model derived from the criteria of capital and control. As a matter of fact traditional industrial stage theory related primarily to the condi-

tions prevailing in a few trades and was inapplicable in others, although it claimed general validity. In constructing a new model it is recognised that from medieval times on there were two kinds of industries: "capital-intensive" and "capital-extensive". The distinction is further to be made between export and domestic consumption industries within "capital-extensive" industries.

A thorough review of the literature on industrial development indicates that stages in industrial development could only be discovered for the "capital-extensive" industries working for export trade. But doubts arise about the *chronological sequence* of stages due to the complexity of reality. Studies reveal that stages reached in the export-"capital-extensive" industries, in the eighteenth century brought them organizationally close to the older "capital-intensive" industries and thus, during this period, both could be grouped under the head of *protofactory*. The opinion of the authors was divided on the question whether the *protofactory* was the prototype of the modern full-fledged factory or in its form was a consolidated centralized workshop (*putting out system*), representing an intermediary type which was later supplanted by the *factory*. However, it is agreed upon that *protofactory* of the present model (which is based on capital and control) shows the essential features of *factory*, although in reality there are some elements which can be used to distinguish it from a full-fledged factory.

The second section of the study focuses on the detailed description of organizational features of a *protofactory* and attempts to clear up the etymological confusion. It maintains that present terminology sufficiently supports the view that Marx's technological explanation of the factory system is questionable. While turning to the problem of control it is considered that control was desired in order to increase profit, which, in turn, led also to the introduction of labour-saving machines. By thus lowering production costs entrepreneurs were able to cater to a mass market.

The final section of the paper points out that neither entrepreneurs and businessmen (progressing from *putting out system* to the *protofactory* and on to the *factory*), nor the classical economists understood the essential changes which were taking place before their very eyes. It took decades before the industrialists discovered the need for a regular depreciation allowance. Moreover, the classical economists presented the inverse correlation of wages and profit and the shiftability of funds from industry to industry long after both of these features had come to an end with the appearance of the *protofactory*. Thus, the conclusion emerges that the generally known theories of the classical economists and their disciple, Karl Marx, are quite unsatisfactory by contemporary standards.

(M. AHMAD ZIA)

Harry G. Johnson, "Fiscal Policy and The Balance of Payments of Developing Countries", *Development Research Digest,* July 1964.

The underdeveloped countries undertaking programmes of planned economic development generally face a chronic balance of payments deficit due either to excess demand or to over-valued exchange rates. Planned development implies not only an increase in aggregate demand for imports and a possible reduction in exports but also an over-valued currency, caused by the inflation of domestic wages and prices generated by increased development expenditures. The governments of these countries, instead of adjusting the rate of exchange to correct the balance of payments deficit, resort to import restrictions and exchange control, *etc.*, and justify these policies by reference to social priorities. Such actions constitute a tax on the real income in the export sector and a subsidy to the import substitution sector, resulting in a shift of resources from export sector into import substitution sector, thus aggravating the balance of payments problem.

Further, the criteria of saving and earning foreign exchange are likely to dictate a different choice of international sector industries for development promotion than would a calculation of comparative advantage based on relative real costs. A floating exchange rate policy can save a country from falling into the balance of payments trap without seriously interfering with the allocation of resources according to comparative advantage.

However, if a country adhers to a fixed exchange rate policy, it should adopt a policy of subsidising exports and taxing imports to offset the effects of overvaluation, and should increase the incentives for both exporting and import substitution proportionally instead of concentrating on increasing the incentives for import substitution alone. Another feature of the development planning of underdeveloped countries is that the countries attempt to keep the composition of imports in conformity with the requirements of economic development by rationing their scarce supply of foreign exchange to favour imports of "essentials" and inhibit imports of "non-essentials". The first disadvantage of such a policy is that it misses the opportunity to appropriate the scarcity value of the non-essential imports created by exchange control, and the benefit goes to the recipients of import licences. If exchange control is replaced by tariffs or exchange auctioning, the government can raise substantial revenue while securing the desired composition of imports.

The second disadvantage which is common both to exchange control and tariffs is that the policy of discouraging the imports of non-essentials leads to import substitution in favour of such commcdities. Therefore, if consumption

of non-essentials is to be discouraged, taxes should be directed at the consumption of non-essential goods regardless of origin.

The policy makers of developing countries should always remain aware of the fact that import substitution is not an objective of development policy for its own sake; it is a corollary of efficient allocation of development resources. The real cost of import substitution to the economy is difficult to measure and easy to underestimate, so the policy for import substitution needs to be carefully appraised in order to avoid expensive misallocation of resources.

(GHULAM MOHAMMED RADHU)

Lee Jay Cho, "Estimated Refined Measures of Fertility for all Major Countries of the World", *Demography*, Vol. 1, No. 1, 1964.

For the countries where reliable vital statistics are lacking, demographers usually extract fertility measures from the census data. On the basis of the data taken from 49 countries having good vital statistics and censuses, Bogue and Palmore found that indirect measures based on the census data are very highly correlated with the direct measures requiring vital statistics. This paper tests the system of multiple regression analysis evolved by them to arrive at refined estimates of fertility for countries of the world where census data are available but vital statistics are lacking.

Indirect fertility measures for 136 countries are calculated on the basis of the census data and other population parameters including those published in the United Nations Demographic Yearbook to be used as independent variables for obtaining direct fertility measures.

Keeping in view the differences in the degree of reliability of data, these countries are grouped into four classes; namely, countries with good census data and vital statistics (class I), countries with relatively accurate census data but poor vital registration (class II), countries having poor or incomplete census statistics and no vital statistics (class III), and countries for which neither census figures nor vital data exist (class IV).

The total fertility rate is estimated by using the child-woman ratio, the infant mortality rate, the median age at first marriage, the index of fertility age composition (as defined by Bogue and Palmore) and the proportion of women aged 45-49 who had ever been married as independent variables in a regression equation. This total fertility rate then is used as one of the several independent variables to obtain the general fertility rate.

Using these two measures thus obtained along with other independent variables, the other basic fertility measures are estimated as suggested by Bogue and Palmore. In this way, refined estimates of fertility for almost all major countries of the world have been obtained, even for those countries where census and other relevant information is still lacking.

The author believes that the refined estimates of fertility are sufficiently accurate in classifying countries according to the level of their fertility. They are not better than the measures of fertility obtained from accurate vital registration, if available. But when such reliable statistics are lacking, these measures can be considered fairly dependable alternatives.

This system has strong merits in its ability to generate age-specific fertility rates which are reasonably close to the pattern of age fertility that would be shown if reliable data are available. However, when compared with the United Nations reverse survival method, it can be said only for the 49 class-I countries that this method gives better results for ages 0-4 than for ages 5-9, whereas in age-groups 15-19 and above 40, it gives greatest percentage error.

This method of estimating fertility is based on a vast and complex set of variables interacting at a particular instant of time. But as these relationships would not remain stationary over a passage of time, it is possible to get invalid estimates for particular places, if the conditions there are changing rapidly.

(ABDUL RAZZAQUE RUKNUDDIN)

Dwight H. Perkins, "Price Stability and Development in Mainland China, (1951-63)", *Journal of Political Economy*, August 1964.

In a developing country where emphasis is on rapid industrialisation, control of inflation is never easy. Policies for inflation control almost invariably affects a country's rate of growth. The Chinese communists were able to maintain a high degree of price stability in the face of a development strategy that relied on overfull utilization of resources and emphasis on producers' goods. Moreover, China was involved in a major war effort during the first three years of the regime. Under similar, if not less, severe conditions, Russia in the 1930's had to allow substantial inflation in prices.

The official price index of China and the refugee interviews, *etc.*, show an average annual rate of increase in prices (since 1951) of barely one per cent with the largest rises being three per cent and two per cent in 1953 and 1957, respectively. The official indexes cover a few dozen major consumers' items

that were formally rationed at a price much below free market rate. The excluded items constituted some thirty per cent of total retail sales in the free market, which almost always existed in China, and which soaked up the excess purchasing power as here there was no price control. True, the official index had a downward bias during inflation, but it never exceeded three per cent to four per cent except during 1960-62. Moreover, sometimes the official index even overstates the price increase, due to its inflexibility downward as well as upward. None of the qualifications, therefore, negates the basic contention that price increases in China have been quite modest.

This stability was achieved by a combination of efforts designed to restrain increases in purchasing power and to fill any gap which did appear. Consumers' goods market in China have two distinct parts, one in urban areas and the other in rural areas. Purchasing power in the former came mainly from wages; and seventy per cent of total commodity outlay of workers was spent on agricultural products. Purchasing power in the latter came from sale of farm and handicraft products. To restrain increases in purchasing power, a tight rein was maintained on the growth of the wage bill and on the rise in agricultural purchase prices and funds. Both the number of workers and the total wage bill were determined by the Central Planning Authority. But there was considerable evasion, as in Russia. Agricultural Purchase Funds had to be increased to meet increasing urban demand for food and industrial raw materials, to export to the Soviet bloc to pay for imports of vital industrial goods. Incentive and other development considerations made some increases in wages and prices necessary. The largest reduction in purchasing power that could be culled from the minor sources such as a cut in collective expenditure and agricultural credit, and an adjustment in the level of advance purchase of farm crops was less than two billion yun, equivalent to only a ten per cent increase in farm purchase prices. The long-run problem of discrepancy between total purchasing power and value of available consumers' goods was solved primarily by the introduction of taxes that can be grouped as sales taxes. These taxes had the advantage of obscuring the true burden of development efforts with little foreign assistance. Sales taxes could not stop an initial rise in prices, but could only prevent excess demand from increased profits spilling over into the labour market thereby increasing inflationary pressure.

The inflexibility of sales taxes and the erratic rates of increases in purchasing power meant that short-run inflationary gaps were continually reappearing. For political reasons, these gaps could not be closed by temporary price increases. These short-run gaps were filled by bond sales and saving deposits. Interest was given on saving deposits for boosting such deposits. But much of the success

of this bond sales and savings deposit programme was due to enormous pressure exerted by Party Cadres.

Holding down prices in this manner was in conformity with the basic goals of the regime. Although they did not have any "automatic stabiliser" and had to rely mainly on timely administrative actions—like direct adjustment of the purchasing power or an intensified savings deposits drive—they were quite efficient in handling inflationary pressure under the circumstances. Moreover, insofar as the price control was exercised indirectly rather than by administratively freezing prices, it was undoubtedly a good thing.

The *de facto* rationing in the form of long queues was, no doubt, inefficient and inequitable and it was in this respect that the system was in excess. But the gains from rigid price control were increased equity in the distribution of some major consumers' goods and minimisation of political dissatisfaction arising from price increases in basic consumers' goods. The latter was not an insignificant factor in a country where the bulk of population is not far above subsistance level.

(AZIZUL HAQUE CHAUDHURY)

R. G. Potter and M. P. Parker, "Predicting the Time Required to Conceive", *Population Studies*, Vol. XVIII, No. 1, July 1964.

For the interest of couples who want to plan their birth intervals, a waiting-time model is used to estimate *i*) the expected time to conception after stopping the use of contraception, *i.e.*; how much time it will take for a female to become pregnant after stopping the use of contraception (knowing the period of use), and what is the likelihood of being sterile, knowing the period of infertility? *ii*) whether the next conceptive delay will last as long as the previous one? *iii*) in what manner does a previous history of abortion modify a mother's expectation concerning the time required for a live birth after contraception?

The model, which is only applicable to couples who have not yet sought medical advice, is based on four assumptions, namely: *i*) the fecundibility of each couple remains constant from month to month until pregnancy; *ii*) among couples fecundibility is distributed as a Type I curve; *iii*) conception is a random event; *iv*) the number of couples is large.

The model, which must be viewed as a very approximate representation of conceptive delays, helps to determine the theoretical proportions conceiving

during any set of sub-intervals measured from the interruption of contraception. These proportions when compared with corresponding observed proportions show us the goodness of fit of the model. To do this, data are taken from the Princeton Fertility Study and the observations are compared with the corresponding distributions derived from a Type I geometric model.

Average reported months to conception, following discontinuation of contraception, as reported by the sample of wives, were a little more than 5. On the other hand the period from marriage to first conception averages 10 months. These intervals, however, include an appreciable amount of suspected contraceptive exposure. A comparison of the above mentioned two distributions with those derived from the Type I geometric model shows that neither fit is very good but of the two, the one relating to conception months following deliberate interruption of contraception is better. An application of this theoretical distribution of the model shows that with the increase in the duration of infertility, the likelihood of sterility also increases. For the couples who are not sterile, with each extra month of conceptive delay there is an increase of almost six-tenths of a month in anticipated future delay.

The principle, that the time required for the next conception will be about as long as that required for the first, seems to be applicable only when the initial delay is less than a year. Also, previous history of abortion does not seem to have any relevance with regard to expectation as to the time required for a live birth after discontinuing contraception.

(MOHAMMAD AFZAL)

Philip M. Raup, "The Contribution of Land Reforms to Agricultural Development: An Analytical Framework", *Economic Development and Cultural Change,* Vol. XII, No. I, October 1963.

In this paper the author argues that land reform involves the formation and reshaping of attitudes and motivations which constitute the very basis of economic behaviour. The concept of land reform refers to the measures that should be adopted for the improvement of the structure of relations among the people with regard to their rights in land. Agriculture plays a significant role in providing employment for a large number of people in the underdeveloped countries and this fact has a direct bearing on their systems of land reforms.

The interest of the agriculturists in land reforms is derived from their desire for the achievement of full operational and managerial potentials. The economist's interest in land reforms, however, is focussed on the issue of capital

formation. Capital in farming is hardly concentrated, in a spatial sense, and its formation is largely one of accretionary gains in capital stocks. The land tenure system appears to be a major force for maximization of accretionary capital formation in agriculture and insuring that surpluses above subsistence levels are reinvested in productive plant. Prospects of long and secure tenure can create conditions which offer maximum incentive for the investment of total available labour time in productive enterprises. Livestock care, repair and maintenance of structure, improving water supplies, drainage, soil improving practices are often accomplished in agriculture at the expense of what might validly be regarded as leisure time. The land reforms can also play a vital role in the generation of new attitudes towards debt and credit which significantly affect the contribution to capital formation.

In the public sector, the processes of agricultural capital formation have an importance of their own. Investment of public capital is essential in activities which appear to be out of the range of private firms, because they can rarely offer the chance of any profit to them. The tangible goods like hospitals, power dams, irrigation systems, port facilities and the entire road, air and wire system of transport and communications are the instances of the investment of public capital. The intangible forms of public capital represented by systems of public health, education, local government and community organization are also no less important. For these latter forms of public capital represented by institutions and organizations, the land tenure system of a country is of great importance.

Land reform's contribution towards creating incentives for increased agricultural output is quite significant. The examination of the course of technological development in the agricultural economies of more developed countries shows that technological development can be classified in terms of changes in production techniques that are *a*) labour saving or *b*) output increasing. In the sparsely settled underdeveloped countries—areas of Latin America, Africa, and the Middle East—the pressures are likely to be wage-induced and hence technological advancement takes the form of labour savings. Where population pressures are high, the incentives for advance arise from the compulsion to develop substitutes for land and to adopt output-increasing technologies. In these situations, the incentives needed are those leading to better seed selection, heavier rates of fertilization, improved land management and animal husbandry practices, and the selective use of agricultural chemicals. The land tenure reform that can best serve these needs is one which can give the maximum incentive for increased output to the largest percentage of agricultural labour force.

In conclusion, it can be said that this article has emphasized the view that land reforms may make a contribution to economic development not by removing the obstacles but by promoting a new climate of expectations. Emphasis is laid here on the creative act of devising new basis for the identification of reward with effort and of balancing costs against returns.

(N. H. NIZAMI)

J. K. Sengupta, "An Econometric Analysis of the Process of Growth in Relation to British Economic Development", *Economia Internazionale*, Maggio, 1964.

Very few attempts have been made at empirical application of the aggregative growth models of the Harrod-Domar type with respect to the measurement of trends and cycles in the growth process. From a purely long-run perspective of growth the protagonists of the "stage theory of growth", have, however, sought to lend some empirical content to their approach on the basis of critical ranges of investment ratios. Such an approach, however, does not identify the structural characteristics of growth since the latter is measured by changes in national income in one form or the other. One way to take account of such structural changes in an economy is to consider the changes in its Hoffmann ratio or H_t ratio defined as the ratio of net output of investment goods to consumer goods. Applying this measure to the output mix of the British economy over the period, 1700-1940, the present study seeks to explain the structural characteristics of its past growth. A further objective of this study relates to the measurement of trends and cycles in British economic growth by an empirical application of an Haavelmo-type aggregative growth model which differs from the Harrod-Domar type of aggregative growth models mainly because of the former's emphasis on the stochastic aspects of growth.

The trends in investment and national income which follow from a Harrod-Domar type of aggregative growth model are exponential functions. Given that, the time-trend in H_t ratio was specified as a logistic curve with two asymptotes and one inflection point. Two methods were applied to estimate such trend equations. First, the fitting of first-order autoregressive equations over different time-periods with one equation for the whole period, 1700-1940, and three other equations for the three sub-periods, 1700-1845, 1846-1880, and 1881-1940. The classification of sub-periods was made on the basis of switch-over of autoregressive parameters on the basis of the Quandt method. The second method was to fit first-order autoregressive equations to the reciprocal of the H_t ratio for the same periods as in the first method and then derive the solution in the terms of the original variables.

The estimated equations of the first variety suggest that the process of growth involves a gradual and perhaps discrete switch-over in H_t ratio from 0.2 to 0.5 and then to 1.5 or more depending on the relative importance of the investment goods sector. Considering second-order autoregressive equations fitted to the time series of the H_t ratio, no significant change in the closeness of the fit was observed at the 5 per cent error probability level.

The second method for estimating the trend equation for H_t ratio was, as noted before, the use of first-order autoregressive equations for the reciprocal of the H_t ratio and then derive the solution in terms of the original variables.

Its results show a close agreement between the upper asymptotes as found in the two methods. Application of the modified chi-square test as devised by Neall, Bartlett, and Patankar indicates no significant statistical difference between the two methods of fitting.

As regards the empirical application of the Haavelmo-type growth model to specify the interrelationship between long-run trends and cycles, a general relation was postulated between population, capital stock, and output, assuming away the problem of any equilibrium relation between these variables, x_i. A linear differential equations system was used to postulate this general relationship wherein changes in each variable were taken as a function of the levels of all the three variables. Applying this equations system for the period 1700-1935 and solving for x_i. the cycle period was then estimated as 10.1938 years. Application of the same linear differential equations system over the three subperiods show the cycle period as varying within a range of 5.4210 and 10.1938 years. It can then be inferred that the true cycle period in the British economic growth for the relevant period was somewhere within that range.

(HASAN IMAM)

P.D. Shrimali, "Professor Rostow's Leading Ideas on Economic Growth", *Indian Economic Journal,* April-June 1964.

This paper is a critical review of Rostow's Stages based on analytical and empirical studies.

The paper begins with a suggestion that Rostow's historical approach in analysing the determinants of levels and productivity of investment, if at all legitimate, is based on too short a time. The growth analysis would be different had the period in question been stretched from 1000 A.D. onwards instead of 1700 A.D. which makes Rostow's stage theory merely a historical interpretation of the process of economic growth. The author, however, agrees with the fact that inventions accumulated in the earlier period were of use on a massive scale only during the Industrial Revolution. Further, Rostow's growth theory does not account for non-mechanistic variables, *i.e.*, the demonstration effect, desire for bigness, and historic perspective.

The study partially supports Marx's view that quantitative changes are responsible for qualitative upheavals in the economy and not the other way round. In fact, both qualitative and quantitative changes are a prerequisite for development. Further, the *take-off* phase cannot be regarded as a precondition for *self-sustained* growth because the lines between successive stages are too thin to be distinct. To support the argument, it is shown that certain preconditions for

the take-off stage may be lacking even at the phase of *self-sustained* growth. The feasibility of long term self-sustained growth may thus be doubtful because of imbalance.

Shifting away from analytical to empirical criticism, it is suggested that demarcation of stages of growth is not possible on the basis of the criterion of rate of growth in national and per capita income. On similar grounds, criteria of socio-political shift and rate of capital formation are rejected.

Rostow's leading sector idea is also refuted on the reasoning that it is perhaps a modified version of Schumpetrian growth theory, hence an inappropriate tool for analytical purpose. In analogy with growth in living organism, metabolic growth of the economy is preferable and a particular sector cannot be considered as a base for take-off, unless it markedly influences the entire economy. This is also implicit in Rostow's thesis of building up of social overhead capital as a precondition for take-off.

(M. TARIQ DURRANI)

John Spraos, "Devaluation Under a Policy of Full Employment", *Economica,* August 1964.

This paper attempts to derive a general criterion for a successful devaluation under a policy of full employment, and shows that when the saving ratio varies at different levels of real income, the usual criterion for successful devaluation (that the sum of price elasticities of import demand should exceed unity) and its Meade version, are only valid under special assumptions. The usual version of the devaluation criterion measures the price sensitivity of import demand on the assumption of constant money income, whereas the Meade version assumes constant non-compensatory money expenditure. However, the two versions are identical when money saving is a fixed proportion of the constant money income (*i.e.*, when the marginal propensity to save equals the average propensity to save).

Full employment, here, is referred to as full employment without inflation, implying compensatory action to maintain aggregate demand for a country's output when the prices of all factors and non-imported goods are constant. Money saving (S) under the policy of full employment is the difference between the national money income and the non-compensatory expenditure.

In a two-country model, when all prices except the exchange rate are assumed to be constant, the only price on which imports (M) depend is the exchange rate (r). If r is the number of units of country One's currency required to purchase one unit of country Two's currency, a devaluation by country One would

mean a rise of r. Among other things, compensatory expenditue (E) will affect imports insofar as a fraction (m) of an increment of E leaks abroad. The import functions take the form: $M_1 (r_1, E_1)$ and $M_2 (1/r, E_2)$. From these import functions, the trade balance (B) for country One is: $B_1 = M_2 (1/r, E_2) - M_1 (r_1 - E_1)$, Assuming balanced trade initially, and differentiating this expression, The following is obtained.

$$d B_1 = -(e_1 + e_2 + 1) M_1 dr + m_2 dE_2 - m_1 dE_1$$

$$\text{Where } e_1 = \frac{r}{M_1} \times \frac{dM_1}{dr} \quad \text{and } e_2 = \frac{1/r}{M_2} \times \frac{dM_2}{d(1/r)}$$

The most important problem is that the money saving can change as a result of devaluation, because devaluation *i*) alters the distribution of income, *ii*) creates cash balance effects, and most importantly *iii*) affects the real value of a given money income. Due to reason *iii*) the ratio of money saving to constant money income will change as the real value changes with devaluation. By making allowance for changes in money saving and the compensatory expenditure to offset it, and the changes in the trade balance, the following general criterion for a successful devaluation, is derived:

$$e_1 + e_2 + 1 + \frac{m_1}{M_2} \times \frac{ds_1}{dr} + \frac{m_2}{M_2} \times \frac{ds}{d(1/r)} < 0$$

(This is stable only if $1 - m_1 - m_2 > 0$

The general criterion derived is based on the hypothesis that savings ratio is positively correlated with real income. In case the relationship between money savings and real income is a negative one (due to devaluation), for a successful devaluation, the sum of the price elasticities of import demand need not exceed unity.

The last two terms of the general criterion are unusual and if they disappear, we are left with the usual criterion (*i.e.*, $e_1 + e_2 + 1 < 0$). The usual criterion comes into being, if a special assumption is made that $m = 0$ (no import content in the increments of compensatory expenditure). m could be equal to zero, if government concentrates on changes in direct government expenditure on goods and services and makes sure that no imported goods and services are included among them.

On the other hand, Meade's version is a special case when $m = m'$ in both countries (m' being the fraction of an increment of non-compensatory expenditure spent on imports). This is possible if the compensatory action affects the non-government sector only in a way to maintain equality of the fraction of compensatory and non-compensatory expenditure spent on imports.

However, in a complex and open economy, the special conditions to validate either of the two forms of the usual criterion, may not hold. Therefore, the correct devaluation criterion would be located somewhere between the usual version and the Meade version.

(SYED MUSHTAQ HUSSAIN)

H. Yuan Tien, "The Demographic Significance of Organized Population Transfers in Communist China", *Demography*, Vol. 1, No. 1, 1964.

Communist China had a population of 583 million according to its 1953 Census. Over 95 per cent of the country's population is concentrated on about 40 per cent of its land area. This situation is "uneven" in terms of agricultural expansion.

Communist China has been working on a programme of land reclamation and organized population transfers since 1949. Between 1949 and 1955, most of the settlers in Sinkiang and other areas were military personnel and their families. After 1955, most of the settlers in the newly developed areas appear to have been *bona fide* civilians. The major occupation of these people was agriculture.

"Spontaneous" or "blind" out-migration from rural areas of China to urban centres badly affected the employment situation in rural areas and also created administrative problems in cities. To ease the situation, the government discouraged rural-urban migration, and sent out educated personnel from cities to villages. This latter step helped in reducing urban congestion and provided villages with badly needed educated persons for various jobs there.

It is estimated that China has about 70 million acres of good wasteland to be reclaimed. The potential settlers would number 14 million if each one were to get 5 acres of land for cultivation. But the problem of rapid transfer of populations is a difficult one. Many factors, like long distance, harsh climate, and lack of basic facilities are obstacles. Consequently, organized population transfer in China in connection with land reclamation have not been spectacular. For example, in 1956, only 433,000 persons were relocated from China proper to the border provinces of Manchuria, Inner Mongolia, Siankiang, *etc.* These settlers are reported to have reclaimed about one million acres of wasteland.

On the basis of the 1956 accomplishment, it is calculated that 30 million people would be able to migrate from dense areas of the country to sparsely populated areas in 70 years. However, in the absence of fertility control, 980 million people would be added to China's existing population by that time.