Summaries of Selected Articles

Y. Itaqaki, "Criticism of Rostow's Stage Approach: The Concepts of Stage System and Type", *Developing Economies*, January-June 1963.

In his analysis of the economic development of the modern world, W. W. Rostow, in *The Stages of Economic Growth: A Non-Communist Manifesto*, regards economic growth not as a continuum with only quantitative changes but as a discontinuous process involving qualitative changes. He generalizes this historical process by identifying a sequence of stages where 'stage' is defined as the discontinuous aspect of growth. Rostow argues that, rather than being a way of generalizing certain factual observations, these stages have an inner logic rooted in a dynamic theory of production where the rapid rate of expansion of particular sectors plays an essential role in maintaining the growth momentum of the economy. By analyzing the nature and role of these 'leading sectors', he lays the technical foundation for his analysis of the sequence of stages of growth or the "continuity of discontinuity".

Rostow's 'stage' theory of economic growth has been criticized on a variety of grounds, many of which may be attributed to his failure to elaborate the concept of 'stage' and 'sequence of stages'. Some of the critics question whether there is a genuine discontinuity rather than a simple acceleration of growth. Others criticize the concept of a 'sequence' of stages on the ground that Rostow did not put forward any model of the interaction of variables at each stage.

The question whether the sequential process of growth should be interpreted as 'historical inevitability' or 'choice of policy' has been another focus of critical discussion. According to some, there is an inner contradiction in Rostow's model when he determines the 'uniformities in the sequence of modernization' and at the same time admits the possibility of choice among alternative policies, even at the same stage.

It is interesting to note that the 'stage of development' controversy between the German historical school and a number of other writers resulted in a transition from the 'stage' to the 'type' approach. The stage concept was progressively emptied of its theoretical character which attempted to explain uniformities of historical phenomena or the regularities of successive shifts. Rostow has attempted to bring back the analytic 'stage' approach, though not in its original form.

The lack of methodology in Rostow's theory of stages leads to much confusion and provokes many abuses. If economic growth involves changes in

political institutions, social structures and value systems, then the stages should be distinguished on the basis of socio-economic systems involved. The shift from one stage to another in the process of development must be identified with the shift from one system to another. But here the difficulty is whether the shift should be regarded as an 'historical inevitability' or a 'policy choice'.

Rostow did not clarify the conceptual distinction between 'stage' and 'phase' as well as between 'policy' and 'strategy'. The 'policy choice' concerns the stage. Strategy choice concerns the phase within a given stage. That is, 'strategy' is a programme of action for the most effective shift within the framework of a certain system whereas 'policy choices' involve shifts changing the system itself. The sequence of 'five stages' is not based on any strict conceptual definition but seems to be a combination of stages and phases. The dynamic theory of production represents a problem of strategy which is concerned only with the discontinuity of phases in a given system. Viewed in this light, Rostow's stages of take-off, maturity and high mass-consumption are not 'stages' but 'phases'.

But while there are a number of defects in Rostow's approach it would be mere evasion to deny any significance to the stage approach. A fresh approach to the theory of stages is needed, carefully distinguishing and relating to the key concepts.

(ABDUL GHAFUR)

V. V. Bhatt, "Aggregate Capital-Output Ratio: Some Conceptual Issues", *Indian Economic Journal,* April 1963.

The significance of aggregate capital-output ratio, as a useful analytical tool in dynamic theories, depends, to a large extent, on the way it is defined and measured. This paper discusses some of the problems in this context.

For analytical purposes, what is relevant is the functional relationship between capital and output during a given period of time, which implies that no item should be included in the term capital unless the functionally related output is also included in the output. For example, the stocks of consumer durables should not be included in capital if the services rendered by these durables are excluded from output. However, difficulty arises in the case of public-owned capital like public highways which are included in capital but whose services to consumers are not counted as a part of the output. Problems also arise regarding the inclusion of nonphysical capital, like the stock of knowledge and skill, in the term capital especially because it is not possible to measure the stock of accumulated knowledge and skill as well as the resulting output.

So far as the coverage of output is concerned, the current practice is to include only output net of inputs. In a closed economy it does not make much difference whether gross or net is used. But in an open economy the behaviour of the two ratios may be quite different, hence gross output should be used. In the term capital, domestic capital should be used, because capital invested abroad is functionally related to output originating abroad, hence it should be excluded. The receipt from such capital cannot be included in output as they do not represent the value of total output. As regards the question of using the average or the marginal ratio, the relevant ratio is the marginal one, since the analytical purpose is to observe the behaviour of capital-output ratio over time.

The problem of measurement of capital and output is more serious, as overtime composition of both capital and output as well as their relative prices change. The index-number problem involved in measuring the stock of capital accumulation is very serious due to change in the composition of capital and lack of market price for some items. The conventional method of using constant prices is not proper as we are interested in the changing functional relationships between capital and output and this relationship is operationally meaningful only at the relative prices during a period of time.

Another problem is that in theoretical writings the ratio used is that of net capital, stock to net output, on the assumptions that *i*) productive capacity of capital declines with age, *ii*) replacement investment is equal to the accounting depreciation provision, and *iii*) such replacement investment does not add to productive capacity. All these assumptions can be questioned on the ground that assets may be discarded before showing any decline in their productive capacity, that depreciation provisions are not in exact proportions to the head for replacement and that with technical change an asset is replaced by a superior asset with greater capacity. Therefore, the gross ratio is preferable to the net ratios.

The source of data for estimating output is the source as used for the estimation of gross and net national income. However, for the net ratio the estimates of total capital stock are necessary. For measuring capital stock four sets of data are used: *i*) Census data as given in the annual accounts of various sectors; *ii*) Data on annual capital expenditures; *iii*) Sample surveys of statistical data; and *iv*) Sample surveys of engineering data.

(GHULAM MOHAMMAD)

S. Posthuma, "The International Monetary System", *Banca Nazionale del Lavoro Quarterly Review*, September 1963.

Possession of adequate reserves is a necessity for individual countries to tide over periods of balance-of-payments difficulties, for promoting free international trade with fixed exchange rates and for achieving internal objectives like full employment, a satisfactory growth rate, *etc.* Technically, official reserves consist of three components: *i*) gold; *ii*) foreign exchange, almost exclusively key currencies and in Western Europe mostly dollars; *iii*) credits actually granted or potentially available by international agreement.

The desirability of a certain composition of reserves may differ according to whether they are interpreted strictly as bankers' assets or as means to more general economic ends. From the banking point of view gold is desirable as an asset because the holder can use it freely but it bears no interest and even carries some cost. The foreign currency is desirable because it is transferable and may bear interest; but it has the risk of being devalued in terms of gold. They are 'genuine reserves' insofar as the holder can use them freely but as there is some element of uncertainty regarding their exchange value, they may better be termed 'fiduciary reserves'. Credits, *i.e.*, drawing rights and standby agreements, cannot be used freely and, therefore, have the character of conditional reserves. Central banks may change the components of foreign-exchange reserves according to traditional-banking principles, but such a change may conflict with the general economic functions and purposes of reserves.

With a fixed price of gold, the volume of this part of reserves is technically given. Increases in the other components of reserves, *i.e.*, foreign-exchange holdings and standby credits, should be judged with regard to their socio-economic function. It should neither be so small as to produce unwarranted deflationary policy by debtors nor so big as to induce inflationary spending. The policy question is whether a contraction or expansion of reserves or a change from foreign-currency holdings to medium-term credits or from temporarily restricted credits to some permanent reserve medium is desirable from the point of view of international position of the debtors, creditors and the world as a whole.

For all practical purposes, only non-key-currency countries hold foreign currency. This enables the USA either to be more inflationary than other countries or to act as a banker extending long-term credit while attracting short-term capital. It is in the interest of both the USA and other countries that the latter function should be performed by the former as allowed by its international liquidity position. US's recent large deficits have thrown into doubt her inter-

national competitiveness and her soundness as a world banker. Conversion of dollar holdings into gold may be a sound banking-policy and the pressure put on the US economy may be good for restoring equilibrium in its balance of payments. But the actual conversion into gold may be harmful both for the USA and the rest of the world.

The recent US proposal to convert dollar holdings of Western Europe into medium-term bonds in the currency of the holder is acceptable to creditor countries because it removes exchange risks and relieves the pressure of continuing conversion of dollar reserves into gold. Such arrangements between the USA and the Western Europe are of temporary character. This removes immediate threat to US gold reserves; but her long-term necessity to restore equilibrium remains. Should she achieve an equilibrium or a balance-of-payments surplus, this would endanger both the reserves and the employment situation of the Western Europe. However, when an equilibrium is reached the creditors may renew the bonds. Consequently, when the present US disequilibrium is removed, a permanent institutional change in her monetary system might be indicated.

It seems reasonable to suppose that the rise in monetary gold will not in itself be sufficient to provide the world with adequate reserves. Some rise of 'fiduciary reserves' will be permanently necessary. Since such increases in 'fiduciary reserves' entail the possibility of an oversupply of liquidity, there should either be some automatic brake or the expansion and allocation of reserves should be under firm international control. The latter entails a transfer of sovereignty which countries are not yet willing to accept. The question then becomes one of designing a system which provides for an automatic brake. It is proposed that a part of any deficit should be met by providing the creditor with the currency of the deficit country, the rest of the deficit, the greater part, should be met by payments in gold by the deficit country. The ideal solution would be to fix this percentage in such a way as to attain the desired growth of world reserves, not provided by gold production and dishoarding.

(N. I. CHOUDHURI)

H. G. Johnson, "International Trade and Economic Growth; A Supplementary Analysis", *Arthaniti*, July 1962.

The main purpose of this article is to show the effects of biased technical progress on the nature of international trade of a country. Biased progress may be defined as that type of technological change or innovation which has both

cost-reducing and factor-saving effects. For analytical and graphical simplicity, a competitive two-country, two-commodity and two-factor model is used. One of the commodities is assumed to be labour intensive and the other capital intensive; and their prices are assumed such that one unit of either good exchanges for one unit of the other. If then there is a rise in the relative availability of capital, it will require the use of more labour in the expanding capital-intensive industry to fulfill equilibrium condition that the average of the capital-labour ratios in the two industries, weighted by the proportion of the labour supplies employed in each, is equal to the given capital-labour endowment ratio of the economy. Again, if neutral technical progress occurs in the capital-intensive industry, its per-unit cost of production will fall; to maintain the one-to-one price ratio between the two goods, the relative price of capital must rise which will lead to a substitution of capital by labour in both the industries. In such a situation, more labour would be engaged in the expanding capital-intensive industry and the absolute level of output in the labour-intensive industry will decline. If the capital-intensive good is assumed to be exportable and the other importable (and if neither of them is considered to be an inferior good) the result of biased (capital-saving) progress will be to increase both exports and the demand for imports. This is the core of Johnson's analysis in this paper, which holds true both under conditions of constant and (with renewed force) increasing returns to scale; but if there is decreasing returns to scale in the innovating capital-intensive industry, it is not necessary that the absolute level of output of the labour-intensive industry must fall. Since the decreasing-returns condition demands a fall in the relative price of capital for maintaining the one-to-one exchange rate between the two goods, there shall be a rise in the capital-labour ratio in both the industries; and labour, when used with more capital in the labour-intensive industry, becomes now more productive. In addition to this decreasing-returns condition, the effects of biased progress on the output of the two industries shall also be uncertain if the bias is towards saving the factor which is used relatively more intensively not in the innovating but in the other industry; because in that situation the cost-reducing and factor-saving effects work in opposite directions. In an extreme case if the factor-saving effect overrides the cost-reducing effect, there may be a fall in the absolute level of output in the industry where the technical progress is taking place.

Leaving out these exceptions, the result of the analysis is very similar to the Hackscher-Ohlin model of international trade which places major reliance on differences in factor endowments in explaining the imports and exports of a country.

(S. A. LATIFUR REZA)

K. Anantaram, "India's Trade with the Regimented Economies; Its Scope and Stability", *Asian Economic Review*, November 1963.

This paper analyses the problems and prospects of Indian trade with Eastern Europe during 1954-62; and examines in particular the bilateral non-convertible rupee-payment arrangements.

Both Indian imports from and exports to these countries increased during this period from Rs. 570 lakhs to Rs. 8,079 lakhs and from Rs. 512 lakhs to Rs. 6,370 lakhs respectively. The annual rate of growth of imports is 46.1 per cent whereas for exports it is 43.1 per cent. Indian imports of raw materials and capital goods from these countries constituted over 90 per cent of the country's total imports from them. Exports to these countries consisted of traditional items and some manufactured articles.

Soviet-Indian trade expanded rapidly during 1952-60. It was greatly facilitated by several trade agreements. During this period, India imported primarily machinery and petroleum products, and exported in turn agricultural products. Indian imports from the Union of Soviet Socialist Republic during 1962/63 rose by 40 per cent over the previous year; but its exports to the USSR increased by 20 per cent only, which resulted in a deficit of Rs. 1700 lakhs. The Indo-Soviet trade agreement, signed in 1963 and covering the period 1964-68, provides wide scope for commercial relations and progressive expansion in imports and exports. The agreement provides that goods shall be traded at specified international prices; and in consequence, it shall prevent unfavourable terms of trade for India.

Expansion in trade has been made possible due to growing share of centrally planned economies in world trade. The foreign-trade turnover of socialist countries increased by more than three times from 1950 to 1960. Economies of Eastern Europe have been growing during the post-War period at an impressive rate of 10 per cent per year. Industrial production rose by about 13 per cent, thereby facilitating expansion in foreign trade.

Although bilateral arrangements have considerably facilitated trade in the past, certain problems inhibit the diversification of foreign trade with socialist countries. Foremost, the socialist pricing system differs from the capitalist pricing system. Price-cost ratios of both the systems do not conform to each other due to divergence between internal and external prices and artificial exchange rates. This phenomenon makes the price comparisons very difficult. Again foreign trade in regimented economies is a state monopoly and not merely a commercial undertaking. On the other hand, it is subject to bilateral arrangements and

special circumstances including politics. Lastly, their export efforts are concentrated on a narrow range of commodities dictated by their planning strategy while the range of import commodities is also limited due to impracticability of commercial publicity.

The increasing productivity and technological development in socialist countries present good prospects for expansion in international trade, yet trade with them cannot be limitless. For, socialist trade policies are oriented towards trade with one another due to ideological affinity. The growing complementarity of Indian economy with these countries presents the scope for continuous expansion of mutual trade, however.

(MUSHTAQ AHMAD MEHR)

A. N. Rajamani, "Agricultural-Nonagricultural Relative Tax Burden", *Asian Economic Review,* November 1963.

The prevailing notion about agricultural taxation in India is that the agricultural sector is relatively undertaxed. Consequently, various proposals for additional taxes and levies have been put forward. This paper seeks to examine the validity of such proposals by estimating the intersectoral tax-burden.

The given data show that as a percentage of the total tax revenue for the states, direct taxes on agriculture contributed, on an average, some 32 per cent during the first-plan period, 31 per cent during the second-plan period, and 26 per cent during the period 1961/62—1963/64. The data for indirect taxation, on the other hand, show that the contributions by agriculture and nonagriculture have remained roughly the same during the last decade, each contributing some 50 per cent of the total. The sectoral burden of indirect taxation was obtained on the basis of the data for the incidence of indirect taxes as a per cent of rural consumption expenditure, per caput rural consumption expenditure, the total number of agriculturists, and the total amount paid in indirect taxation by the economy. In addition to these two forms of taxation by the state and central governments, certain taxes on agriculture are also imposed by the rural self-governing bodies. The income of the urban self-governing bodies is somewhat higher than that of their rural counterparts. Consolidating the above three forms of taxations it seems that, of the total tax burden, some 35 per cent is presently borne by the agricultural sector and the rest by the nonagricultural sector.

Another criterion applied is the ratio of total public and private sector investments in each sector to tax revenue from that sector. The government draws back from agriculture more than twice of what it draws back from non-agriculture. This criterion is unusual, as generally the criterion of tax burden is the ratio of taxes to sectoral income.

Finally, the author lists the socio-political implications of a policy of enhanced agricultural taxation. *First*, with a low and falling per-caput income in agriculture, it would seriously reduce the welfare level of the agricultural populations. *Secondly*, since the income per-caput is relatively higher in nonagriculture, such a policy could conflict with the political goal of narrowing down the gap between the income levels of the two sectors.

On the basis of the above analysis, the author stresses in conclusion the inadvisability of increased agricultural taxation.

(HASAN IMAM)

F. M. Fisher, "A Theoretical Analysis of the Impact of Food Surplus Disposal on Agricultural Production in Recipient Countries", *Journal of Farm Economics*, November 1963.

M. Purvis, "Some Observations on the Effects of P.L. 480 Wheat Sales", *Journal of Farm Economics*, November 1963.

In recent times, the problem of food surplus disposal has given rise to an inconclusive argument as to its impact on agricultural production in the recipient countries through its effects on food prices. This is largely due to the failure of economists to provide a proper theoretical framework as well as to the paucity of econometric studies about the magnitude and direction of different elasticities. In his paper, Dr. Fisher tries to give appropriate theoretical analyses regarding the possible effects of the receipts of farm surpluses on domestic farm prices and domestic farm production. He also considers the offsetting impact of the expenditures for economic development to which the receipts from surplus sales are devoted, and then stresses the need for econometric studies.

Dr. Fisher contends that, Schultz's example, which is implicitly based on the proposition that the effect of a 1-per-cent increase in food supplies on price is measured by the reciprocal of the price elasticity of demand, overstates the price effect unless the domestic supply curve is perfectly inelastic. Dr. Fisher shows that if the domestic supply is price elastic, the magnitude of the price effect is given approximately by the reciprocal of the sum of domestic demand

and supply elasticities. He further shows that the percentage effect of surplus disposal on domestic supply is given by the ratio of the price elasticity of domestic supply to the sum of domestic supply and demand price elasticities. A cutback in domestic production in response to a fall in prices due to the sale of imported surplus in an open domestic market will reduce the total supplies below the total of presurplus supplies and the amount of imported surplus. Prices will not, therefore, fall as far as suggested by Schultz.

Economists differ widely among themselves, in conclusion concerning the magnitude and direction of price elasticity of supply and the proper role of surplus sales in underdeveloped economies. Fisher is of the opinion that the additional imported surplus may provide a counter-inflationary force to keep the food prices at a reasonable level in the underdeveloped countries in the face of an otherwise inflaionary situation. However, it will offset the signal from the price mechanism calling for more resources into domestic agriculture. When surplus disposal ends, prices will rise and low food-prices now may be gained at the expense of high prices later. The price responsiveness of the farmers is unlikely to be negligible in the long run when the economies traverse some distance along the growth path.

Dr. Fisher, then, discusses the issue as to whether the effect of the surplus disposal on domestic agriculture can be offset without the use of more funds than those generated by the sale of surplus itself. He finds out the ratio of the required expenditure on development programmes to the receipt from the surplus to offset the full effects of the surplus. This ratio is determined by the reciprocal of the fraction of existing income accounted by sales of domestic and imported agricultural products and the price and income elasticities of demand and price and expenditure elasticities of supply.

Dr. Fisher concludes that if a policy of direct subsidy to domestic producers in payments per unit of output is pursued, the effect of sale surplus can be offset with no external funds on the assumption that the effects of subsidy will be no different from the effects of prices.

He compares the policy of gratis distribution with that of open sale and shows that though the former presents problems regarding arbitrage and non-availability of the sale-proceeds for economic development, it reduces the negative effect on domestic agriculture and is a better measure for relief of hunger as it will provide cheaper food for just those who require it most.

This policy will produce similar results in international trade arena also. Free gifts of surplus food or sales at low prices to underdeveloped countries are

less damaging to normal export markets, if arbitrage is checked, than the open sale of the surplus in the world market would be, and this proposition holds even if no agreement is involved as to the maintenance of normal imports of food.

Dr. Purvis, in his paper, presents some data on the pattern of world trade in wheat relevant for the purpose of analysing the impacts of PL 480 exports on the markets of other food-exporting countries, on the pattern of world trade in wheat, and on agricultural production in recipient countries. Studying the trends of time-series data relating to wheat exports of the USA, Canada, Australia and Argentina into different importing regions and into India he concludes that since 1954, PL 480 exports of wheat have represented a net addition to the world trade in wheat and there has been no significant decline in the exports from other countries. Any loss of markets by other exporters was a loss of a share of increased world trade. There is some evidence that only part of that increase would have occurred as commercial trade but added commercial trade would presumably have been at the expense of capital imports and long-term economic development. A careful analysis of the indices of foodgrain prices in India shows that PL 480 wheat sales were not sufficient to prevent an increase in the Indian domestic price of foodgrains relative to other commodities.

(MATILAL PAL)

R. Krishna, "Farm Supply Response in Indo-Pakistan: A Case Study of the Punjab Region", *Economic Journal*, September 1963.

The paper presents estimates of the 'short-run' and 'long-run' elasticities of supply (acreage) of agricultural commodities for Punjab in the Indo-Pakistan subcontinent. The crops considered are American cotton, *desi* cotton, maize, sugarcane, rice, bajra, jowar, wheat (irrigated), wheat (unirrigated), barley and gram. The estimates are derived from time-series data pertaining to the period 1914/15 to 1945/46.

Nerlovian 'adjustment' model is used to estimate the different supply elasticities. Besides the relative price, other independent variables used in the model are rainfall, total irrigation capacity and the relative yield of the crops. Out of these three variables that shift the average-price relation, only those are included in the estimating equation of a given crop which are important in determining the acreage of that particular crop.

The estimated elasticities for the different crops are quite revealing. Except for jowar, barley and gram, all other crops have positive price elasticities. The

short-run price elasticities vary from 0.1 for wheat and bajra to 0.2—0.4 for maize, sugarcane and rice and to 0.7 for cotton. The long-run price elasticities vary from 0.15 to 1.6. Jowar has a negative long-run elasticity with respect to the relative price changes. Barley and gram are insensitive to price movements mainly because these are rainfall crops. These findings make it difficult to accept the widely prevalent notion that farmers in the low-income countries respond very little or negatively to price movements. On the contrary, these findings compare favourably with the parallel estimates in the developed countries.

The significance of the net regression coefficients and elasticities of the price variable increases with the extent of precision that is attained in the specification of the relevant nonprice variables for different crops. Factors differ in importance as a determinant of acreage according to the crops. Price alone was important for maize and sugarcane, price was more important than yield for *desi* cotton; irrigation capacity was more crucial (in terms of elasticities) than price for American cotton, bajra and irrigated wheat; yield was more important than price in the case of rice; and rainfall was all-important for unirrigated wheat, barley and gram.

The coefficients of adjustment for the different crops are as high as their parallels computed for the United States. These coefficients range from 0.24 in case of bajra to 0.77 for barley. For American cotton, *desi* cotton, wheat, maize, rice and sugarcane the coefficients range between 0.40 and 0.59. This indicates that Punjab farmers adjusted fairly rapidly to change in the relative prices of crops.

The estimated elasticities are useful in improving the quality of acreage forecasts since these take account of climatic and economic factors while the official estimates rely only on climatic conditions. These estimates are also useful in tracing the effects of different policies on the relative acreages of different crops, and hence facilitate in choosing the most beneficial policy.

(SARFRAZ KHAN QURESHI)

T. J. Samuel, "Population Growth and Per Capita Income in Underdeveloped Economies", *Asian Economic Review,* November 1963.

Per-capita income is determined by a number of factors, the chief among them being demographic factors. In this context, the effect of population growth in underdeveloped countries on per-capita income is examined in the absence of satisfactory indicators of 'overpopulation' and 'underpopulation'. The concept

of 'optimum population' and the application of the 'incremental technique' fail to explain the effect of a change in the rate of growth of population on economic development or per-capita income. The optimum theory of population does not hold good in an advanced economy where there are frequent dynamic changes in the economic system, but it may have some significance in an underdeveloped economy where such changes are relatively quite small.

Simon Kuznets observes that there is no clear association between the rate of growth of population and per-capita income. However, in modern times, secular rises in population have been accompanied by secular rises in total output in some of the advanced countries of the world. As a result, there has been witnessed a rise in per-capita product in these countries.

To expect such result in underdeveloped countries is unrealistic as they are already short of capital with population increasing at a higher rate. The rate of growth of population in underdeveloped countries is between 2 per cent and 4 per cent per annum. The total saving as a percentage of the gross national product varies between 3 and 18.

The investments to be made may be classified into *i*), 'economic' investments and *ii*) 'demographic' investments. These two types of investments can be distinguished on the ground that 'economic' investments enable the growing population as well as the existing population to improve the standard of living, while 'demographic' investments enable the growing population to obtain a standard of living equivalent to that of the existing population.

The investments needed to provide the increasing numbers with working equipment just enough to enable them to secure an income equivalent to that of the existing population can be calculated with the help of capital-output ratios. Keeping in view the rate of population growth and the rate of saving in underdeveloped countries, it is obvious that the capital available at present is enough only for demographic investments.

(MOHAMMAD AMIR SIDDIQI)

C. Windle and G. Sabagh "Social Status and Family Size of Iranian Industrial Employees", *Milbank Memorial Fund Quarterly*, October 1963.

A census of all the 18,739 Iranian employees of an Iranian oil company was carried out in late 1955 to find out the nature of class differences in family size in an industrialized segment of Iran. Information on four census items *i.e.*, estimated age, grade in company, number of living children and religion, was obtained.

The employees were classified into four occupational status groups: 1) staff or white-collar workers; 2) foremen; 3) skilled workers; and 4) unskilled worers. These groups differed greatly in income and prestige. In the analysis of the data, only two religious groups, Muslims and Christians, were considered.

It was found that the family size of the four classes of employees increased systematically from unskilled workers to foremen and then it dropped down in case of the staff, thus indicating a reverse U-shaped relationship between number of living children ana occupational status.

Muslim staff had more living children than Muslim skilled workers, while among the Christians the opposite was true. White-collar workers, both Muslims and Christians, had more children than unskilled workers; but the difference in Christian white collar workers and the unskilled workers was narrower than that between Muslim staff and Muslim unkilled workers.

Further, Muslims had more children than Christians *in all classes*. This can be attributed to early marriages among Muslims and also to their traditional religious values favouring large family size.

The increase in the number of children from unskilled workers to foremen represents a decrease in infant mortality in the wake of better financial status and access to better medical facilities. That the staff have fewer children compared with foremen in both the religious groups can be attributed to late marriages and greater exposure to Western values of the former and the traditional values of the latter.

The findings of this study do not contradict Gideon Sjoberg's generalization about preindustrial cities that children of parents in urban upper-classes experience lower mortality than do the children of lower strata.

(IMTIAZUDDIN HUSSAIN)

J. W. Leasure, "Malthus, Marriage and Multiplication", *Milbank Memorial Fund Quarterly,* (Part 1) October 1963.

Malthusian concept of check on population growth and fertility was based on moral restraint. According to him, postponement of marriage and sexual abstinance provided an effective control on population. He regarded birth control and other preventions as immoral, but seems to have accepted promiscuity with late marriage as a lesser evil. As an attempt to attain late marriage, he advocated education and infusing in the poorer section of the people the spirit of attaining for themselves better living-conditions.

The fact that changes in marriage pattern will control population growth is important for developing countries. A study of marriage patterns of Bolivia and Turkey reveals that if marriageable age of females is raised to 27 years, *i.e.*, Malthus average, fertility rates decrease. This change in marriage pattern would affect: total fertility rate (TFR), net reproduction rate (NRR), the mean length of generation (T), and the rate of growth (r) for a stable population.

The data for Bolivia and Turkey demonstrate the association of various marriage patterns with the following variables: *i*) Singulate mean age (SMA) at marriage, *ii*) average age at child bearing (A), *iii*) proportions remaining single at age 50 (constant), *iv*) TFR, *v*) NRR, *vi*) crude birth rate (CBR), *vii*) crude death rate (CDR), and *viii*) rate of growth (r).

If SMA in Bolivia is raised from 22.5 to 27.2, the NRR and the CBR fall from 2.36 to 1.76 and 41 to 30 respectively. Similarly, in Turkey if SMA is raised from 19.7 to 22.5 and further to 27.2, the NRR would fall from 2.98 to 2.59 and 1.93 and CBR would fall from 50 to 44 and 33 respectively.

Illegitimacy rates are not included in this analysis. The reductions in fertility rates would be heavier if the proportions of women who never marry increases with SMA. In Ireland and most European countries prior to World War II low level of fertility was achieved not by extensive use of birth-control measures, but by postponement of marriage in increasing proportions combined with permanent renunciation of marriage.

(D. M. FAROOQ)