Dual economy model a critique

Economics

The growth models considered in Chapter 2 are highly aggregative and some economists (Lewis 1954; Fei and Ranis 1961, 1964; Jorgenson 1961, 1967; Dixit 1968, 1971; Kelly et al. 1972) began to analyse the problems in terms of two sectors, namely agriculture and industry.

Briefly, the socalled traditional noncapitalist agricultural sector is supposed to be unresponsive to economic incentives and here the leisure preferences are imagined to be high; production for the market does not take place and producers apparently do not follow profit-maximizing rules: ‘ disguised’ or open unemployment is supposed to prevail throughout the rural sector and indeed the marginal productivity of labour is expected to be zero, and in some cases negative (Nurkse 1953). Income is equal to subsistence level (Leibenstein 1957: 154) partly determined by physiological and partly by cultural levels (Lewis 1954).

Further, capital has no role to play in agricultural production (Jorgenson 1967: 291). Two sectors are linked by the influx of surplus homogenous labour from agriculture to industry. Nothing happens to the transfer of savings or capital and growth takes place when demand rises as a result of ploughing back of profits by the capitalists into reinvestment. The backward sector is eventually ‘ modernized’ with the transfer of all surplus labour from agriculture. The extension of the Lewis model by Fei and Ranis (1964) also suffers from some limitations.

First, no attempt is made by Fei and Ranis to account for stagnation. Second, no clear distinction is made betweenfamily-based labour and wage-based labour and nothing is said about the process of self-sustaining growth. The

investment function is not specified andmoney, price, foreign exchange as well as terms of trade between agriculture and industry are ignored. The dual economy model of Jorgenson is based on familiar neoclassical lines but this hardly helps us to accept it as a more sound theory or, better, in terms of its predictive capacity.

For example, Jorgenson considers land and labour only in terms of their agricultural production function and ignores the role of scarce capital. Jorgenson assumes that a surplus arises when agricultural output per head is greater than the income level at which the population growth rate is at its ‘ physiological maximum’. This is difficult to comprehend because a clear definition of physiological maximum is lacking and a surplus may exist even before the point at which income corresponding to this maximum is reached. Jorgenson, like Fei and Ranis, neglects the role of money and trade.

No capital formation takes place in agriculture in Jorgenson’s model; no attempt is made to analyse the problems of disguised unemployment in agriculture and it is assumed that the industrial wage is equal to the marginal productivity of labour. The shortcomings of the Jorgenson model vis-a-vis the FR model lie in the assumption of a ‘ Malthusian response mechanism and a zero income elasticity of the demand forfood’ (Hayami et al 1971: 22–3). Population growth in LDCs is not always determined by consumption per head.

Also, the case for a zero income elasticity of the demand for food is not well supported in practice (NCAER 1972). (For an extension of the Jorgenson model, see Ramanathan (1967), where some of the restrictive assumptions

are relaxed.) In both the FR and Jorgenson models, it is implicitly assumed that technical progress would be of a labour-augmenting type. This may not happen in practice (Krishna 1975). The Lewis and FR models suffer from an additional weakness in laying the emphasis only on accumulation and not on technical progress.

If growth in the Lewis-FR fashion means rise in income and if the marginal propensity to consume food is positive for any group of income recipients, then, with given output, food prices will rise which will raise wages and reduce profits and growth. Thus any type of accumulation increases industrial wages and at no phase is the supply of labour to industry infinitely elastic (Guha 1969). The earlier dual economy models failed to specify the precise relationship between two sectors (Dixit 1968, 1971).

It is contended that to take care of the interdependence between terms of trade and supply price of labour, a general equilibrium analysis may be necessary. Dixit implies that the important factors that affect the shadow price of labour are the degrees of suboptimality of savings (the shadow price of savings in terms of consumption) as well as the price and income elasticities of the demand for food. In general equilibrium analysis, if the interdependences are to be dealt with simultaneously, it becomes difficult to see how the results rest on the premises or whether the ‘ tail is wagging the dog’.

Again, Dixit’s assumption that the only activity which can be undertaken in the traditional sector is food production is not easy to accept. The traditional sector also enters into non-agricultural activities; market wages and the

shadow price of labour could be different because of taxes which may be influenced by the elasticity of marketed surplus. In any case, Dixit does not give much emphasis to the agricultural sector in his earlier model. Thus, the closed economy models of the dual economy may be misleading (Newbery 1974: 41) and the empirical estimation of a general equilibrium model is very difficult.

It seems that although the writers on the dual economy models adopted a useful approach to analyse the problems of LDCs, most of their work is devoid of any rigorous empirical analysis. An attempt has been made (Kelly et al. 1972) to test a modified neoclassical dual economy model with particular reference to Japan by using simulation techniques. It seems that the Japanese case is not very typical (Ishikawa 1967) of LDCs. The other familiar neoclassical premises on which the model rests do not seem to be very appropriate.

These include full employment, wage-labour and neglect of land as an input in the production function. The absence of foreign trade and lags in the economic system is also disturbing. Although the dual economy models originated from the unnecessary neglect of agriculture the models themselves do not perform very well, not only because they are based on certain simple and sometimes incorrect assumptions but also because they fall in their predictive power. First, the division of the sectors into two completely independent compartments is dubious.

Second, almost all the empirical evidence available at present suggests that farmers in LDCs respond to price incentives in a way which is very similar to

the response that one finds in developed countries (Bauer and Yamey 1959; Behrman 1968; Krishna 1963; Ghatak 1975). Third, it is doubtful whether disguised unemployment prevails throughout the year. Seasonal unemployment is easily observed in many poor countries, e. g. Algeria. But employment in non-farm works is also observed in some countries (Griffin 1969).

Evidence also suggests that in some countries surplus labour could disappear at times of sowing and harvesting (Jorgenson 1966; Schultz 1964; Marglin 1976). Fourth, wages could be higher than marginal products only when non-farming activities are wholly absent, no employment is offered outside the joint family farm and if no labour is hired (Berry and Soligo 1968). But the experience of Latin America, the case of migrant labour in Africa and the fact of hiring labour during sowing and harvesting seasons of main crops in India would not always support the zero marginal productivity theory. It is hown that all farms are not characterized by zero marginal productivity of labour (Mathur 1964).

Fifth, the case of a backward-bending supply curve of labour (Boeke 1953: 40; Higgins 1968) in LDCs may also be debated. If people live at subsistence level, it is only natural that they would seek to attain their survival algorithms and the trade-off between income and leisure would not be observed until a critical minimum income level is reached where the basic wants are satisfied. We shall elaborate this point in the next chapter. Sixth, the theory that only the capitalists in the urban sector can save is questioned (Bergan 1967).

After investigating the saving behaviour in Pakistan and Bangladesh, Bergan concludes that ‘ rural areas … appear to have contributed at least three fourths of total savings of the country’. Similarly, despite the fact that the Egyptian situation conformed well to some basic assumptions of the Lewis model, its application shows very poor predictive power partly because of the underestimation of population growth rate, the nature of manufacturers and the behaviour of capitalists (Mabro 1967: 341–77; Kanbur and McKintosh 1987; Ghatak 1991).