DEVELOPMENT PROBLEMS OF THE AGRICULTURAL SECTOR IN LABOUR MANAGED MARKET ECONOMIES

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Organizational Characteristics

General characteristics. A labour managed market economy with a mixed structure is defined by the following characteristics:

1. There are three sectors: a social sector which consists of labour managed enterprises; an individual sector which consists of family enterprises with nonfamily or limited nonfamily labour, and a capitalistic sector which consists of capitalistic enterprises with workers who are employed at an agreed wage, which is not directly dependent on the economic success of the enterprise.

2. The decisionmaking process is decentralized and relies on the market mechanism in principle.

3. In the labour managed sector, the firms observe the following basic rules: the process of management is based on democratic majority rule; the income of the firm is shared by all members; and the members of the firm collectively enjoy the usufruct of the enterprise (including the accumulated capital), but they are not owners in the sense that neither the members collectively nor each member individually may sell the assets of the firm.

Particularities of the Yugoslavian agricultural sector. Yugoslavia has only a social and an individual sector. The individual sector produces less than 15 percent of the GNP, and is of major importance only in agriculture. In 1977 in the individual sector, 75 percent of the GNP of the agricultural sector was produced by 96 percent of the total active agricultural population, who cultivated 84 percent of the agricultural land on 2.6 million holdings with an average size of 3.9 hectares. The social sector employed 4 percent of the active agricultural population in about 2,000 enterprises, which occupied 16 percent of the cultivated land and produced 25 percent of the social product of agriculture. There is a considerable bias of the distribution of natural conditions between the two sectors in favour of the social sector.

Economic Factors Supporting the Development of a Dual Structure

The idea of the labour managed system requires that newly employed workers share fully in all rights of those already employed. Consequently, from the viewpoint of the workers' council, it is only advantageous to increase (decrease) the existing labour force if the increase of the net income earned by an additional (the "last") worker is above (below) or at least equal to the average income of the workers already employed. The appropriate objective function is to maximize the average labour income. The labour capacity of the individual farm household is determined predominantly by noneconomic reasons. Its distribution between farm work and off-farm work is strongly influenced by economic principles--it would be sensible to remove parts of the family's labour capacity from farm work as long as the opportunity earnings of off-farm work are above the marginal productivity of farm work.

Obviously only two stable situations can exist in the labour market under these conditions:

1. The full employment situation. The labour managed system offers so many employment opportunities that everybody from the individual sector for whom it is advantageous to work there may do so.

2. The underemployment situation. The employment opportunities in the labour managed sector are so rare that the possibility of work there does not appear as a realistic opportunity in general for the active population in the individual sector.

In labour managed enterprises the optimal labour input is achieved in both situations if the marginal productivity of labour equals its average productivity. Hence, it is independent from the price of labour (from the minimum income at which additional employees would be willing to work in the enterprise).

Family farms try to maximize the family income taking into account the existing possibilities for off-farm work. If sufficient employment opportunities are available in the labour managed sector, the marginal productivity of family labour on the farms tends to become equal to the average labour income in the labour managed sector. However, in a structural underemployment situation, labour income in the social sector and marginal productivity in the individual sector are not directly related. The marginal productivity of family labour can amount to any value above zero, depending on the profitability of farming, particularly of labour intensive farming, and on the given land to worker ratio.

No difference exists in both sectors concerning the optimum combination of yield increasing inputs (fertilizer and irrigation) at a given structure of production and given natural and economic conditions. The optimal combination of labour and predominantly labour saving inputs is also determined by the same economic principle in both sectors. However, the price of labour to be used for the determination of the minimum cost combination differs. In family farms with a given labour force and a given land input, the marginal productivity of labour is the relevant price. The optimal use of labour saving capital inputs at given input prices is determined by the profitability of labour intensive crop production or of animal production on the basis of purchased feed. In labour managed farms, the average labour income is the relevant price. It is advantageous for the remaining labour force to substitute labour for capital as long as the average earnings per worker are higher than the costs of capital to substitute the "last" worker. As in the full employment situation, the equilibrium capital to labour ratio tends to approach its technical maximum, since average labour productivity increases with continuous substitution, thus at least partly compensating for the effect of the normally decreasing substitution rate.

Countervailing Factors

The different "labour price" applies also to the calculation of relative profitability of farm enterprises within farms and results in different comparative costs favouring the division of labour with respect to the satisfaction of demand. Labour managed farms are the marginal producers of labour intensive products (products like most vegetables and soft fruit, of which the production function indicates a relatively wide technical range of substitution between land and yield increasing inputs, but a relatively small technical range of substitution between labour and labour saving inputs). Family farms with relatively small land to worker ratios are the marginal producers of labour extensive products (products like cereals with a relatively small technical range of substitution between land and yield increasing inputs and a relatively large range of substitution between labour and labour saving inputs). The production of these products in family farms is usually due to one of the following reasons: (1) self-sufficiency; (2) submarginal conditions for farming for which no alternative exists under given natural and economic conditions, and the possibility to remain in business mainly rests on the possibility of reducing the remuneration of labour in the individual sector to basic subsistence; or (3) to use the land capacity which cannot otherwise be used due to crop rotation reasons or because the labour capacity in critical seasons is exhausted by producing labour intensive products. Both sectors have comparative advantages for basically different production systems for products like pigs and eggs which require little or no direct land input and which can be produced within a wide range of substitution between labour and labour saving inputs. Displacing competition--if it occurs--is likely to begin at these markets.

Preliminary Conclusions

Labour managed enterprises are likely to follow the most capital intensive development path in any stage of growth. This does not necessarily affect the differentiation of yield increasing inputs in agriculture between the social and the individual sector. However, the stage of structural underemployment is likely to last longer and provide less off-farm work opportunities than in capitalistic economies. The capital to labour ratio will develop differently in the two sectors of agriculture during structural underemployment. No general statement is possible with respect to the resulting income differences, since the individual sector is forced to maintain capital extensive (usually small scale) production under marginal conditions, but also has the chance to compete successfully in labour intensive crop production and--the more capital is scarce in the social sector--in small scale animal production on the basis of purchased feed. Three main factors influence the development of income differences between the sectors besides capital formation in the social sector: (1) the land to worker ratio in the individual sector; (2) the distribution of natural conditions between the sectors; and (3) the relative importance of the individual sector.

Economic factors suggest the need for employment of labour in both sectors after the employment in the labour managed sector reaches a level at which everybody from the individual sector who wants to work there can in principle expect to find an opportunity. The resulting exodus of workers from the individual sector causes either a change in the farm size structure in the individual sector, accompanied by an increase in predominantly labour saving capital inputs, or a decrease in production in the individual sector.

Institutional Factors

Institutional arrangements, especially those concerned with access to the capital market and diversification of technical progress, could be set up, in principle, in ways which avoid any discrimination of sectors. However, they will very likely favour the social sectors for which the implementation normally has strong ideological and political motivations. In Yugoslavia, economic policy did little to moderate the dual structure which the labour managed system finally established in 1965 had inherited, and did much to encourage it. The distribution of capital has been and still is determined by the government and the distribution of power in the banking system, both of which favour the social sector. Individual farms only have access to credit via labour managed firms by organized cooperation with them. Organized cooperation was (and in many parts of the country still is) practically the only organized way for the distribution of technical progress in the individual sector. The growth of single firms by increasing the land input is restricted by the agrarian law limiting the maximum size of private holdings to 10 hectares of farm land and 25 hectares of woodland except in the very mountainous regions.

A few institutional arrangements that have the tendentious effect of at least moderating the rigidity of the duality of the development are: (1) the institutionalized cooperation between the two sectors; (2) the opening of the labour markets of the industrialized economies of Western Europe to Yugoslav workers; and (3) the possibility of temporarily employing part-time workers in the social sector at an agreed wage rate without giving them the status of members of the enterprise.

Table 1--Share of the production of the individual sector as a percentage of total production (a) and relative yields (b) in 1977

	(a) Percent	(b) Social=100
Social product	75	1/56
Wheat	60	60
Maize	84	66
Sunflower	49	93
Sugarbeets	30	94
Tobacco	100	--
Paprika	94	na
Potatoes	98	60
Tomatoes	92	na
Milk	91	33
Wool	95	na
Lamb	2/95	na
Pig meat	2/80	na
Cattle	2/75	na

1/ Social product per hectare of cultivated land.
2/ Estimates.
na = Not available.

Development in Yugoslavia

In 1975--ten years after the final establishment of the labour managed system—labour productivity in the social sector was 4.5 and land productivity almost twice as high as in the individual sector. The biased influence of institutional factors appears most distinctly in the distribution of investments since 1965 which were about 2-2.5 times higher in the social sector, and in the development of yields (table 1) which, however, also reflects the biased distribution of natural conditions. The production share of different goods has developed largely according to the comparative cost advantages of the two sectors, which in turn also reflect the distribution of investment and technical knowhow that is predetermined by policy, as well as the biased distribution of natural conditions. The farm size structure in the individual sector remained almost unchanged between 1965 and 1975 under the influence of lack of employment opportunitites and the institutional limitations to farm growth. However, income from off-farm work increased relative to income from farm work, especially in smaller farms. The reduction of underemployment in the individual sector, which has been achieved in recent years by the growth of employment opportunities in the social sector and the opening of the West European labour markets, signals that development may approach the end of the structural underemployment period in the near future. The resulting reduction of the labour force in the individual sector means the end of the dual development period. The unavoidable change in farm structure can be acieved either by gradual absorption of the individual sector by the social sector or by structural changes similar to those which happened in highly industrialized capitalistic countries. For political reasons, the government is likely to favour the first possibility.

OPENER'S REMARKS—Augustyn Wos

What Weinschenck calls the social sector does not develop according to the rules of market economies, therefore I do not accept the term labour managed. In Poland as well as Yugoslavia, labour transfer occurs between the social and private sectors in agriculture as specific states of dynamic balance are being established. Polish economists, however, do not term this situation a labour managed economy. The concept seems rather artificial to me, and does not render the essential characteristics of a mixed economy in agriculture. However, since I do not consider the definition to be the most important issue, we may accept the one suggested by Weinschenck.

It is risky or even dangerous for a social enterprise to increase employment in a situation where increase of the net income earned by an additional worker is below or at least equal to the average income of the already employed workers. A similar situation occurs in collective farms, many of which guard against admitting new members if they do not contribute an adequate land area or if their productivity is lower than average. This gives rise to harmful closing of some collective farms. It should be emphasized, however, that such a situation holds only for a very early development stage of those farms. Later on, when the farms face problems brought about by too small a production scale, these limitations give way to the second phase—economic expansion. Then the collective farms strive for new members. These problems are well known from experiences of all socialist countries. Thus, the situation analysed by Weinschenck on the model of Yugoslavia refers only to the initial development phase of the social sector in agriculture. The advanced development phase brings quite new problems which are, however, not covered by Weinschenck's analysis. The change of rules of running social farms in single phases of their development is a vital problem for discussion. Agricultural economic literature of socialist countries has considerable achievements in this field.

The next problem dealt with in the paper concerns the choice of more or less labour intensive products according to land to worker ratios on different types of farms. The statement that labour managed farms are the marginal producers of labour intensive products is generally right. At the time when the family farms and the labour managed farms are operating on a mass scale, the problem of choice of production lines is determined explicitly. But what does the problem look like when the number of small scale family farms is decreasing rapidly? Then the production of labour intensive products is started by big state or cooperative enterprises, which essentially changes the economics of the latter and requires a determination of new price relations between work and technique. With the developing and changing social sectors, the economic rules or choice of production structure are also changing.

The matter of choice of optimum production structure is of significance not only for the relations between the social and private sectors, but as it appears from experience, it is one of the most vital development problems of private farms, particularly if there are possibilities to hire farm labour. In Poland, where one-third of the total number of individual farms are part-time farms, and where nonagricultural sectors constantly offer a considerable number of jobs, tendencies for extensification of production structure of part-time farms appeared. However, a thorough analysis indicates that it need not necessarily be so. The main problem consists in the choice of a production structure which suits the economics of those farms. Products which ensure income per labour unit comparable to that attainable outside agriculture get high priority. A typical peasant farm is maximizing the overall profit or the profit per land unit, which is the constraint. On the other hand, part-time farms maximize profit per labour unit, and this rule shapes the choice of production structure. In this respect, the situation in Poland differs from that described by Weinschenck. His analysis and conclusions are right for structural underemployment, which presumably exists in Yugoslavia, but they cannot be generalized for conditions of the dual economy. I would be inclined to admit that Weinschenck's paper refers to a specific case of dual economy at an early phase of its development under circumstances of structural underemployment. Weinschenck's theses can, however, hardly be accepted as a general theory.