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THE YUGOSLAV SELF-MANAGED FIRM AND ITS BEHAVIOUR*

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I. INTRODUCTION

In this work we wish to offer some of the results of an empirical investigation of the behaviour of self-managed firm¹⁾. In forty Slovenian work organizations we polled managers and production workers in order to confirm a highly popular hypothesis worked out by economists of Yugoslavia and other countries on the behaviour of the self-managed firm²⁾. The problems in this investigation are interesting because the workings of a real self-managed firm are analysed. The essence of any real theory lies in its practical validity. This is why such a research project could only be carried out in Yugoslavia, where the ideas of self-management were first put to practice.

Our analysis of the behaviour of the self-managed firm is based on qualitative indicators. The results obtained through an analysis of quantitative indicators could be of some use in statistical research, but they would not show the true reactions of the self-managed firm nor the motives for them. Therefore, we collected the evidence using

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¹⁾ It is necessary to say that neither the Constitution nor the Associated Labour Act use the term "self-managed firm". This term has been substituted by a new one: organization of associated labour. No matter how the new term is being used in reality, we can say that it has not deprived the basic economic cells of some of their fundamental entrepreneurial functions, and that from a traditional point of view of economic theory, we can still say that the firm is the basic cell of our self-managed economy. Although there may be laws concerning its internal organization (entailing the principle of solidarity) introduced by the Constitution and the Associated Labour Act as a correction in commodity-money relations, as our work is based on a discussion of the efficiency of the self-managed firm, we shall go on using the term "self-managed firm". By it we shall mean a work organization whose characteristics best suit the traditional term "self-managed firm" (for more on this subject see: D. Pučko, 1974).

²⁾ For some time now we have been following discussions on the function of the aim of the self-managed firm as reported in international literature on economics. Two basic hypotheses have evolved. Since B. WARD's Ph. D. thesis was published in 1958, a number of economists in Yugoslavia and other countries have supported the assumption that the self-managed

a questionnaire in work organizations which were selected on the basis of several criteria. We collected the basic information by questioning the managers or the comptrollers of financial sectors in these work organizations. We believed that their views on the subject were most competent. However, aware that there are some differences in the interests of the workers in the organizations, we added a separate questionnaire for production workers to our basic one. In each work organization, we questioned a few workers whom we selected at random.

In doing the research, we combined the questionnaire with interviewing. On obtaining consent for cooperation, we first sent a questionnaire to a respondent (the basic questionnaire), and after a certain period of time had elapsed, we contacted that respondent. On second look at the questionnaire, we cleared up the disputable questions. In order to confirm the practical validity of the questionnaire, and to evaluate the possibilities which the questionnaire offers, we used interviews in the first fifteen work organizations. Each interview, lasting for three to four hours in each work organization, was recorded on tape and subsequently transcribed. In this way we obtained adequate information on how to work out the questions. In the remaining twenty-five organizations we utilized the questionnaire method; there were no differences in answers between the two methods of collecting information.

In the questionnaire, we used three techniques for handling the answers. The basic one was to range the answers. Namely, the obtained behavioural models of the self-managed firm offered various possibilities of behaviour. In the questionnaire, they had to be taken into account as possibilities of actual behaviour. The respondent had to face them, to compare them, and to decide on the ones with which he agreed. We took into account the fact that he did not find all of them equally significant, and we asked him to demonstrate his attitude by ranking. We also often used the method of a "yes" or "no" reply. In all other cases, we posed questions for graded answers.

firm maximizes income per employee as opposed to a capitalistic one which maximizes profit. As this hypothesis implies irrational behaviour by the self-managed firm, some backward economists quickly adopted it to expose the economic inferiority of the self-managed firm as opposed to the capitalist one.

In this dispute, D. Dubravčić states that conclusions on behaviour depend on the mathematical structure of the model. If we take the aim as relation (income per employee, profit per unit of capital), the location of resources is irrational. If instead of fraction we maximize only the numerator, then the allocation becomes optimal.

Žana J. Vanek states that the effects of WARD's model improve to a great degree if we assume that the firms have free entry into the market, and that members of a work community disagree with employment restraint.

In 1967, B. Horvat offered a hypothesis on the basis of studying the behaviour of a real self-managed firm. If the production-financial plan determines the share of personal incomes this acts as accounting income, while the remainder of income maximizes. In such a case, the behaviour of the self-managed firm is macroeconomically rational.

II. ANALYSIS OF THE BEHAVIOUR OF THE SELF-MANAGED FIRM

1. The Self-Managed Firm and the Change in Production Volume

We shall start the analysis of the behaviour of the self-managed firm by investigating its adaptability to changes of market parameters. The questioned firms gave the following answers concerning the principle for determining the production volume of a certain product:

TABLE 1. The principle for determining production volume in firms, according to the efficiency criterion³⁾

| The principles for determining production volume | more efficient | less efficient | sum |
|--|----------------|----------------|-----|
| Primarily we try to cover as large a part of the market as our capacities allow | 17 | 4 | 21 |
| Primarily we try to reach the highest possible income per worker | 2 | 4 | 6 |
| Primarily we are concerned with the full employment of capacities | 3 | 4 | 7 |
| We would trace the principle of maximization of income per employee, but are not flexible enough | 1 | 5 | 6 |
| Sum | 23 | 17 | 40 |

$$\chi^2 = 13.92 > \chi^2_{0.01} = 11.34$$

differences are statistically significant

On the basis of disposable capacities, firms pronounce the expansion of share in the market as the main principle in determining production volume. This is strongly pronounced in more efficient firms, while the less efficient ones have not opted for any of the given possibilities. If we take into account the same information and divide the firms into two groups, according to the number of workers, the differences between the two groups become still more evident:

³⁾ Being aware that it is not easy to find the right criterion in dividing firms according to efficiency, especially when they lack equilibrium, we divided the selected firms into two main groups: the less efficient ones (17) and the more efficient ones (23). We made use of the model in which we took into account the average accumulative degree.

TABLE 2. The principle for determining production volume in firms, according to the number of workers¹⁾

| The principles for determining production volume | Smaller firms | Larger firms | Sum |
|--|---------------|--------------|-----|
| Primarily we try to cover as large a part of the market as our capacities allow | 8 | 13 | 21 |
| Primarily we try to reach the highest possible income per worker | 6 | — | 6 |
| Primarily we are concerned with the full employment of capacities | 2 | 5 | 7 |
| We would trace the principle of maximization of income per employee, but are not flexible enough | 4 | 2 | 6 |
| Sum | 20 | 20 | 40 |

$$\chi^2 = 10.56 > \chi^2_{0.05} = 7.82$$

differences are statistically significant at the level of 0.05

This is how larger firms justify their preference for the first principle: "In determining production volume, we first analyse the demand for our products and compare it to the production possibilities, which depend on capacities. Capacities being too small, as a rule, to be able to cover all the needs, we have to make optimal use of them. We do not always succeed to the utmost because of deficiencies in our production. Therefore, it is our aim to reach, on the basis of the given capacities, the highest possible income of our firm. We are not particularly concerned with the fact that this may result in a rise of income per worker. The income per worker may rise, but this is not our primary concern. Rather our primary concern is to satisfy the demand on the market. If we didn't satisfy the demand, competition or imports might intervene and our business would take a turn for the worse". But if we have a look at smaller firms, we see that they prefer the principle of maximizing income per worker in spite of the fact that the principle of increasing the share on the market is present, too. It appears that the two complement each other because smaller firms normally do not employ new labour, and therefore the income of the firm is highest when the income per worker is highest.

¹⁾ Firms with up to 500 employees were classified in the group of smaller firms, while firms with over 500 workers were classified in the group of larger ones.

On the basis of the two tables, we can draw the following conclusion: over the short term, the self-managed firm utilizes the given capacities. Production is adapted to the needs on the market, trying to cover the highest possible part of the market for reasons which we shall analyse in detail later on. This means that the highest possible gross income of the firm is its main concern. As material costs and depreciation charges have to be deducted from it, the highest possible income is the motive of the firm. To this end, the firm combines productive factors taking into account prices and marginal products, and employing each factor equals its price. This rule especially applies to the production factor of work because the volume of capital is given over the short term. As a result the self-managed firm lacks flexibility when production volume changes according to the change in market parameters²⁾; this is evident in the following table:

TABLE 3. Reaction of the self-managed firm to change in production volume due to change in market parameters

| Changes in market parameters | Production volume changes | Production volume does not change | Sum |
|------------------------------|---------------------------|-----------------------------------|-----|
| change in material costs | 1 | 39 | 40 |
| change in personal incomes | 1 | 38 | 39 |
| change in price of product | 3 | 37 | 40 |
| change in fixed costs | 1 | 39 | 40 |

If the self-managed firm reduced the production volume, its position on the market would deteriorate and the income of the firm would decrease, too. Considering the given capacities and the optimal investment of production factors, it has no possibility of increasing production volume. Therefore, as a rule, it does not change production volume.

2. Personal Incomes Representing the Aim of the Self-Managed Firm

2.1. Elements in the Analysis of Personal Incomes Representing the Aim of the Self-Managed Firm

When we talk about the income of a firm, we have to take into account that the income of the self-managed firm is not a homogeneous

²⁾ B. Ward showed the following effects on changes in the production volume of a self-managed firm in the process of income maximization per worker:

- 1) negative effect of the rise in prices
- 2) change in personal incomes has no effect
- 3) positive effect of increased fixed costs
- 4) negative effect of the rise in prices of products

quantity and that its size depends on factors other than the quantity of labour performed by members of the work community⁶). That is why there are significant differences in income per worker among different sectors of the economy, and within each one of them; accordingly, there are differences in personal incomes for equal work. We assume that in determining a share for personal incomes within the net income the members of the work community of the self-managed firm do not only consider the relation between personal incomes and accumulation, but other factors as well.

The information given in Table 4 shows that the personal income level in the questioned firms primarily depends upon the income (average range 2.212). This is understandable as the disposable income of the self-managed firm is the basis for personal incomes. However, work organizations generally take into account additional factors too in determining personal income levels within net income. The most important of them is the rise in living costs (3.362). Work communities take care to ensure the workers' standard of living according to the rise in living costs. In doing this, work communities often find themselves at a dead end because they have taken from net income a share for personal incomes which is larger than capacities allow. This observation offers the following solution: the rise in personal incomes has to be coordinated with the rise in labour productivity. Yet, we have to admit that this principle (the third in significance in our analysis 3.387) can be of great use if applied to our national economy as a whole, but at the same time it proves deficient when used in work organizations. The increase in work productivity, measured together with the rise in income, entails the quantity and quality of work performed as well as the influence of other production factors. That is why the rate of productivity increase differs in various sectors: the promotion of the principle of paying workers according to productivity results in different personal incomes for equal work and, accordingly, in deformation of the principle of payment according to effort. This is evident in the relatively high position which the rise in personal incomes in other work organizations takes (3.500) in the structure of personal income factors. The self-managed firm has to take into account the rise in personal incomes in other work-organizations to avoid a shortage of labour. This means that the principle of paying workers in agreement with the increase in work productivity will show good results only if the operating conditions of the firm have been approximately equal to those in other firms.

⁶ In a market economy, the personal income level per worker depends on the work performed as well as on other factors: the combination of labour with other factors, the objectively-conditioned variations of technological progress within sectors, differences in competition, lack of coordination among various sectors concerning supply and demand, price policy (See: B. Horvat, 1962; A. Bajt, 1967; I. Lavrač, 1972; L. Madžar, 1974).

TABLE 4. Average ranks⁷ for factors influencing the size of personal incomes within the net income of a self-managed firm

| Criteria | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 | Factor 7 | χ^2 | DF | Sig. |
|--|--|---------------------------------|---|-------------------------|------------------------|-----------------------------|-----------------------------------|----------|----|------|
| | Increase in personal incomes in other work organizations | the disposable amount of income | self-management distribution of personal income | 'fear of public opinion | Rise in cost of living | rise in labour productivity | personal incomes in previous year | | | |
| Total number of employed smaller firms | 3.500(4) | 2.212(1) | 4.563(5) | 5.975(7) | 3.362(2) | 3.387(7) | 5.000(6) | 80.946 | 6 | 0.00 |
| larger firms | 3.475(4) | 2.1025(1) | 4.925(5) | 5.750(7) | 3.250(2) | 3.400(3) | 5.075(6) | 41.946 | 6 | 0.00 |
| Efficiency more efficient | 3.525(4) | 2.300(1) | 4.200(5) | 6.200(7) | 3.475(3) | 3.375(5) | 4.925(6) | 40.789 | 6 | 0.00 |
| less efficient | 3.261(3) | 2.457(1) | 4.783(5) | 5.957(7) | 3.345(4) | 3.174(2) | 4.935(6) | 45.563 | 6 | 0.00 |
| Fluctuation of labour force not possible | 3.676(3) | 1.882(1) | 4.285(5) | 6.000(7) | 3.265(2) | 3.824(4) | 5.088(6) | 37.941 | 6 | 0.00 |
| Credit can be obtained | 4.167(4) | 2.472(1) | 4.194(5) | 6.167(7) | 3.306(3) | 3.000(2) | 4.694(6) | 34.940 | 6 | 0.00 |
| cannot be obtained. | 2.955(2) | 2.000(1) | 4.864(5) | 5.818(7) | 3.409(3) | 3.705(4) | 5.250(6) | 52.534 | 6 | 0.00 |
| Competition level low | 2.696(2) | 2.156(1) | 4.844(5) | 5.844(7) | 3.281(3) | 3.625(4) | 5.281(6) | 37.279 | 6 | 0.00 |
| high | 3.854(4) | 2.250(1) | 4.375(5) | 6.063(7) | 3.417(3) | 3.229(2) | 4.813(6) | 46.660 | 6 | 0.00 |
| Production phase intermediate ph. | 3.071(2) | 2.143(1) | 4.500(5) | 6.119(7) | 3.214(3) | 3.905(4) | 5.048(6) | 48.490 | 6 | 0.00 |
| final production | 3.974(4) | 2.289(1) | 4.632(5) | 5.816(7) | 3.526(3) | 2.816(2) | 4.947(6) | 37.240 | 6 | 0.00 |
| | 2.917(2) | 2.250(1) | 4.958(6) | 6.188(7) | 3.063(3) | 3.854(4) | 4.771(5) | 58.803 | 6 | 0.00 |
| | 4.375(5) | 2.1156(1) | 3.969(4) | 5.656(7) | 3.818(3) | 2.688(2) | 5.344(6) | 33.763 | 6 | 0.00 |

⁷ In the computation we used Friedman's nonparametric test for estimating the differences among average ranks. See: S. Siegel, 1956 p. 166-173.

The operating conditions of a firm differ in various sectors of the economy. Therefore the comparison of results offered by firms divided into groups according to certain criteria shows different structural values for the personal income factors. We shall demonstrate two of the more interesting examples. Dividing firms into groups of more and less efficient ones, we can see specific differences in the meaning of the factors of personal incomes according to significance. The meaning of the factors stands out clear: the rise in personal incomes in other firms (3.676) and the rise in the cost of living (3.265) in less efficient firms. This can be attributed to the fact that workers in less efficient firms receive lower personal incomes for equal work; this results in the demand for equal personal incomes in all firms, including the more efficient ones. The same factor has a similar meaning: a rise in personal incomes in other organizations in the group of firms in which labour fluctuation is possible (2.955), however the meaning is lost in firms in which labour fluctuation does not occur (4.167). As a rule, the income per worker in these firms is lower than in the group of firms where fluctuation is possible. Therefore, we conclude that an explicit decrease in the rise of personal incomes in these firms does not take place. They can hold back the rise in personal incomes only to the point at which it might endanger the workers standard of living, which is evident in the meaning of the factor: the rise in cost of living (3.306).

2.2. Fluctuation of Labour Force and Personal Incomes of Workers

The factor of increase in personal incomes in other work organizations requires special attention in our analysis. A. Bajt has estimated its influence on personal incomes in the national economy⁸: In some sectors, work productivity rises more readily than in others and there is no decline in prices of products. Therefore, the personal incomes of the workers in these sectors are higher for equal work than in the others. This rise in personal incomes is followed by a rise in personal incomes resulting from an enforced increase in prices in these sectors. Through this interaction, the demand for products produced in the former sectors increases and accordingly, firms in these sectors raise their personal incomes on account of the higher prices of their products coaxed by the increased demand. The process continues and creates a vicious circle in which the workers in some sectors are at a disadvantage where the rise in personal incomes is concerned. Having the opportunity for option and trying to satisfy their need for higher personal incomes, they move to those work organizations which offer higher pay for equal work. Therefore, the fluctuation of labour force inevitably proves to be the result of an unbalanced system of income distribution.

The data on employment of labour given in Table 5 of our questionnaire support this thesis. The questioned firms presented the fluctuation of labour as being the most important factor (2.410). This is a

⁸ See: A. Bajt 1975, p. 8.

TABLE 5. Average ranks of labour employment

| Criteria | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | Factor 6 | χ^2 | DF | Signif. |
|---|----------|------------|------------|------------|------------|------------|----------|----|---------|
| The total | 3.956(4) | 2.782(2) | 2.410(1) | 4.487(6) | 4.103(5) | 3.282(3) | 36.527 | 5 | 0.000 |
| Number of the employed smaller firms | 3.474(4) | 3.026(2) | 2.526(0) | 4.579(6) | 4.237(5) | 3.158(3) | 16.270 | 5 | 0.000 |
| larger firms | 4.375(5) | 2.550(2) | 2.300(1) | 4.400(6) | 3.975(4) | 3.400(3) | 23.737 | 5 | 0.002 |
| Efficiency more efficient. | 4.000(4) | 2.652(1-2) | 2.652(1-2) | 4.348(6) | 4.087(5) | 3.261(5) | 18.453 | 5 | 0.024 |
| less efficient | 3.844(4) | 2.969(2) | 2.063(1) | 4.688(6) | 4.125(5) | 3.313(3) | 19.670 | 5 | 0.014 |
| Fluctuation of labour force not possible | 3.765(4) | 2.553(1) | 2.853(2) | 4.382(6) | 3.647(3) | 4.000(5) | 13.865 | 5 | 0.016 |
| possible | 4.068(4) | 3.114(3) | 2.068(1) | 4.558(6) | 4.455(5) | 2.727(2) | 32.506 | 5 | 0.000 |
| Credit can be obtained cannot be obtain. | 3.750(4) | 3.156(2) | 2.188(0) | 4.656(6) | 3.813(5) | 3.438(3) | 15.277 | 5 | 0.009 |
| | 4.065(4) | 2.522(1) | 2.656(2) | 4.370(6) | 4.304(5) | 3.174(3) | 24.050 | 5 | 0.000 |
| Competition level low high | 4.225(4) | 3.125(3) | 2.1025(1) | 4.525(6) | 4.300(5) | 2.700(2) | 27.929 | 5 | 0.000 |
| | 3.632(3) | 2.421(0) | 2.721(2) | 4.447(6) | 3.895(4-5) | 3.895(4-5) | 16.361 | 5 | 0.006 |
| Production phase immediate ph. final production | 3.957(4) | 2.978(2) | 2.239(1) | 4.283(5-6) | 4.283(5-6) | 3.261(3) | 22.031 | 5 | 0.000 |
| | 3.906(5) | 2.500(1) | 2.656(2) | 4.781(7) | 3.844(6) | 3.310(3) | 16.786 | 5 | 0.000 |

problem which is especially typical for the Slovenian economy, where the lack of some labour groups is severe. Primarily, there is deficiency of unskilled labour force for those tasks which are harder to perform because of poor working conditions. These vacancies are filled by labour force from other republics which depend on fluctuation. This supposition is based on information about the structural share of the labour force from other republics, and was obtained from the questioned firms. We divided the firms into categories according to the number of employed. As a rule, in larger firms the share of labour

TABLE 6. The structural share of labour from other republics in the self-managed firms, divided into categories according to the criterion of total number of workers

| Structural share in labour from other republics, in % | Larger firms | Smaller firms | Sum |
|---|--------------|---------------|-----|
| none | 1 | 8 | 9 |
| 1—10 | 5 | 4 | 9 |
| 11—30 | 10 | 4 | 14 |
| 31— | 4 | 4 | 8 |
| Sum | 20 | 20 | 40 |

$$\chi^2 = 28.2 > \chi^2_{0.01} = 11.34$$

Differences are statistically significant

force from other republics is higher than in the smaller ones, showing an average of ten to thirty per cent. This share of labour is represented by unskilled workers and therefore we can assume that they are employed to perform the hardest tasks. Their basic aim is to reach the highest possible personal incomes and, accordingly, they move to those work organization which pay more for equal work.

A similar problem is also the lack of skilled and highly skilled labour force, especially in production sectors. This problem is illustrated by the information on the fluctuation of labour force in the following table:

TABLE 7. Fluctuation of labour force in the questioned firms, according to groups of workers

| group of workers | there is fluctuation of labour force | there is no fluctuation of labour force | sum |
|-----------------------------|--------------------------------------|---|-----|
| unskilled labour force | 25 | 15 | 40 |
| skilled labour force | 23 | 17 | 40 |
| highly-skilled labour force | 20 | 20 | 40 |

The indicators show that the fluctuation of skilled and highly-skilled labour force has greatly increased. There are two explanations: either there is not a sufficient number of highly-skilled and skilled workers, according to the needs in work organizations or, in their absolute need, the shortage is not quite so severe as these groups of workers perform tasks other than those for which they had been trained. We are inclined to accept the second explanation. To illustrate this, we shall have a look at the information given by the questioned firms on the relation between the workers holding jobs in direct production and those who are not employed in direct production — this latter group entailing managers, administrators, and research staff. We classified the organizers of production in the group of workers in direct production.

TABLE 8. Workers not employed in direct production in relation to workers in direct production, in groups of firms divided into categories according to number of employees

| The share of labour force in production, in % | larger firms | smaller firms | Sum |
|---|--------------|---------------|-----|
| 50—60 | 7 | 3 | 10 |
| 61—70 | 11 | 7 | 18 |
| 71— | 2 | 10 | 12 |

$$\chi^2 = 25.00 > \chi^2_{0.01} = 9.21$$

Differences are statistically significant

The share of workers who do not work in direct production is about 30 to 50 per cent in larger firms, while it is somewhat lower in smaller firms. One of the reasons for differences in the share of these workers probably lies in the fact that there are more research workers

TABLE 9. Changes in the economic system influencing the number of managerial and administrative employees

| Number of managerial and administrative workers | larger firms | smaller firms | Sum |
|---|--------------|---------------|-----|
| increased | 15 | 11 | 26 |
| unchanged | 5 | 9 | 14 |
| Sum | 20 | 20 | 40 |

$$\chi^2 = 1.03 < \chi^2_{0.05} = 3.84$$

Differences are not statistically significant

in larger companies. The indicators in the following table show that the increased share of workers not employed in direct production is also due to the increase in managerial and administrative staff:

The data do not reveal any significant differences between larger and smaller firms, but one can see a pronounced tendency toward increase in the share of managerial and administrative staff in the self-managed firms. We have to stress that, when questioning the managerial staff, we often realized that the most responsible managerial tasks were carried out by workers with technical education. This could mean that especially these groups of workers keep leaving the jobs for which they had been trained and seek employment elsewhere, outside production activities. A similar process was probably caused on account of the growth of civic activities in various engineering and other similar organizations. Therefore, we can conclude that the main reason for the shortage of this group of workers in production is due to the fact that they keep leaving their jobs in production areas. If a work organization wishes to hire them, it has to adjust its wishes to the demand for them on the market.

2.3. The Principle of Forming the Personal Income Share Within the Net Income of the Self-Managed Firm

The analysis of factors of labour employment proves that the forming of the personal income share within the net income of the self-managed firm is influenced by factors over which the members of the work organization have little control. We have mentioned two factors: rise in living costs, and rise in personal incomes in other work organizations where labour fluctuation is possible or where there is fear of it. There are others, such as fear of public disapproval in case of raising personal incomes too much, self-management agreements on the distribution of income, social resolutions..., which probably influence the size of personal incomes, but our analysis did not find them to be very significant. Therefore, we believe that the rise in personal incomes in other work organizations, the rise in living costs including the disposable income, and the rise in labour productivity are of decisive importance in working out funds for personal incomes within the net income of the self-managed firm. The significance of this factor is quite obvious because personal incomes do primarily depend on income earned by the self-managed firm. The data in our questionnaire reveal that the factors of rise in living costs and rise in personal incomes in other work organizations even outmatch the factor of labour productivity.

The data are presented in the following table:

TABLE 10. The influence of rise in personal incomes in other work organizations and rise in living costs on the increase of personal incomes

| Rise in personal incomes | Fluctuation of labour force is possible | Fluctuation of labour force is not possible | Sum |
|---|---|---|-----|
| agrees with rise in labour productivity | 4 | 12 | 16 |
| is faster than rise in labour productivity owing to the rise in living cost of workers and fluctuation of workers | 18 | 6 | 24 |
| Sum | 22 | 18 | 40 |

$$\chi^2 = 5.9 > \chi^2_{0.05} = 3.94$$

differences are statistically significant

Both factors are especially important in the group of firms where labour force fluctuation is possible, but they are also not insignificant in the other group of firms. Therefore, we conclude that the self-managed firm has to take them into account when making decisions. Normally, this is done at the beginning of every year. When the self-managed firm estimates the rise in personal incomes for that year, during that year, it gradually approaches the estimated rise in personal incomes. As we can see from the data in the following table, it can not go beyond certain limits. It has to follow the estimated rise in personal incomes because of the significance of the factors of rise in personal incomes in other work organizations and rise in living costs.

TABLE 11. View on realization of the estimated rise in personal incomes

| Estimated rise in personal incomes | Number of firms |
|------------------------------------|-----------------|
| realized | 37 |
| not realized | 3 |
| Sum | 40 |

The managerial workers emphasize that they can only diverge from the estimated rise in personal incomes when they have reached a higher profitability than they had planned. We can conclude that the estimated rise in personal incomes acts as a short-term aim of the self-managed firm, as a limiting category which the work organization has to take into account before it finally distributes the net income.

3. Accumulation as the Final Aim of the Self-Managed Firm over the Short-Term

If the short-term aim of the self-managed firm is primarily to earn the highest possible income and if the share of personal incomes in it has been planned in advance ($w + \Delta w$), then we can consider the maximization of the remainder of income, i.e., accumulation, to be the final aim of the self-managed firm. This conclusion comes as unexpected if we apply it to the real situation in our national economy where the indicators of the fall in the share of accumulation in self-managed firms have been known for some time. Yet it only appears to be unexpected. The size of the share of accumulation within the net income of a self-managed firm depends on the share of personal incomes; when this increases, the share of accumulation decreases despite of the supposed maximization.

In the previous paragraph we stated that there is a strong tendency to distribute net income in favour of personal incomes; this is not only the result of the unjustified wishes of the members of a work organization, it is an objective result of discord in the system of income distribution. An exaggerated rise in personal incomes can also be explained by the lack of harmony in the interests of the employee groups which is really a form of an unbalanced system of distribution of income. Namely, self-management does not really reduce differences in workers' interests and views on their self-management rights. This is why workers unite into interest groups formed according to various views and interests. Let us see what differences among interest groups were revealed in our analysis of the basic aim of the self-managed firm. Table 12 shows that the managerial staff in the questioned firms considers the accumulation of the firm to be the basic aim of the self-managed firm (2.637). Workers in direct production were divided into two groups: members of the workers' council and others. They answered the same question about the basic aim of the self-managed firm in this way:

TABLE 12. Average ranks of aims of the self-managed firm, according to the managerial staff

| | Aim 1 | Aim 2 | Aim 3 | Aim 4 | Aim 5 | Aim 6 | Aim 7 | Aim 8 | Aim 9 | Aim 10 | X' | DF | Signif. |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|--------|----|---------|
| Personal income | 6.962 | 2.637 | 3.813 | 4.962 | 5.875 | 6.962 | 7.425 | 4.387 | 6.600 | 5.375 | 95.641 | 9 | 0.000 |
| Accumulation | | | | | | | | | | | | | |
| Income per worker | | | | | | | | | | | | | |
| Full employment of capacities | | | | | | | | | | | | | |
| Bigger share in market | | | | | | | | | | | | | |
| Higher rate of production on account of demand | | | | | | | | | | | | | |
| Help to other firms | | | | | | | | | | | | | |
| Bigger economic power | | | | | | | | | | | | | |
| Development of an underdeveloped region | | | | | | | | | | | | | |
| Bigger income | | | | | | | | | | | | | |
| the total | 6.962 | 2.637 | 3.813 | 4.962 | 5.875 | 6.962 | 7.425 | 4.387 | 6.600 | 5.375 | 95.641 | 9 | 0.000 |
| Number of the employed smaller firms | 6.325 | 2.650 | 2.300 | 4.525 | 6.750 | 6.625 | 7.650 | 5.675 | 6.825 | 5.675 | 63.847 | 9 | 0.000 |
| larger firms | 7.600 | 2.625 | 5.325 | 5.400 | 5.000 | 7.300 | 7.200 | 3.100 | 6.375 | 5.075 | 56.296 | 9 | 0.000 |
| Efficiency more effic. less effic. | 7.283 | 2.217 | 4.217 | 5.435 | 5.152 | 6.978 | 7.435 | 4.152 | 6.761 | 5.370 | 62.917 | 9 | 0.000 |
| Fluctuation of labour force not possible. | 6.972 | 3.194 | 4.056 | 4.324 | 6.855 | 6.941 | 7.412 | 4.706 | 6.382 | 5.382 | 40.225 | 9 | 0.000 |
| Credit can be obtain. cannot obtain. | 6.955 | 2.182 | 3.614 | 4.636 | 5.523 | 7.083 | 7.333 | 4.082 | 6.161 | 4.556 | 38.367 | 9 | 0.000 |
| Competition level low high | 7.219 | 2.906 | 2.938 | 4.105 | 6.344 | 6.875 | 7.688 | 4.625 | 6.844 | 5.438 | 49.050 | 9 | 0.000 |
| | 6.792 | 2.458 | 4.358 | 5.521 | 5.563 | 7.021 | 7.250 | 4.229 | 6.438 | 5.333 | 52.470 | 9 | 0.000 |
| | 6.881 | 3.071 | 3.467 | 4.595 | 5.833 | 6.476 | 7.548 | 5.109 | 6.595 | 5.405 | 44.283 | 9 | 0.000 |
| | 7.053 | 2.158 | 4.184 | 5.368 | 5.921 | 7.500 | 7.289 | 3.579 | 6.605 | 5.324 | 57.301 | 9 | 0.000 |

TABLE 13. View of workers in direct production on the basic aim of their work

| The basic aim of work | members of workers' council | others | Sum |
|----------------------------|-----------------------------|--------|-----|
| personal income | 2 | 30 | 32 |
| income per employed worker | 52 | 41 | 93 |
| accumulation | 12 | 7 | 19 |
| other aims | — | 2 | 2 |
| Sum | 66 | 80 | 146 |

$\chi^2 = 26.42 > \chi^2_{0.01} = 11.34$ differences are statistically significant

The disparate attitudes of the groups of workers in production are very clear in the above table. While member of the workers' council almost agreed that income per employee is the basic aim of work, the other workers emphasize personal incomes, too. If we also take into account the group of managers and their work aims, we see that the interests of all three groups of workers differ. This leads to the conclusion that conflicts may arise. However, according to our analysis we gather that the adjustment of interests is carried out in an objective way: because of the significance of the factors of rise in living costs and rise in personal incomes in other work organizations, accompanied by the fluctuation of labour or fear of it, the personal incomes of the employed workers have to be adjusted to the planned growth. In this sense, accumulation represents the remainder of income, and varies according to its size because the principle of accumulation in the self-managed firm prescribes that the share of personal incomes must first be deducted from net income and then the remainder of income accumulates. This is evident in the following table:

TABLE 14. The principle of accumulation in the questioned firms

| The principle of accumulation | number of firms |
|--|-----------------|
| no accumulation | 3 |
| we accumulate as much as we can after paying out personal incomes within the limits of determined size | 28 |
| we reach the planned accumulation even at the expense of personal incomes | 1 |
| we reach the estimated personal incomes and the estimated accumulation | 8 |
| Sum | 40 |

In spite of the clearly-expressed tendency of self-managed firms to accumulate the largest possible part of income, there are only a few firms which reach the planned share of accumulation. Therefore, the managers believe that the share of accumulation is much too poor to enable the realization of development plans:

TABLE 15. The share of accumulation in the net income of the questioned firms

| The share of accumulation | The number of firms |
|--|---------------------|
| is too large according to other portions of income | — |
| is too large according to our investment plans | — |
| is just right | 2 |
| is too small, but we cannot accumulate more because the estimated personal incomes have to be paid out | 36 |
| Sum | 38 |

On the basis of this data we can conclude that the adjustment of interests of the employed workers is being carried out at the expense of accumulation, and this does not lead to a quick solution of problems concerning the movement of social reproduction. At the same time, we have come across evidence which proves that the aims of the self-managed firm cannot be identified with the aims of any of the interest groups. They are formed as the resultant of their interests and are primarily marked by a tendency toward greater accumulation on account of relative decrease in the net income of the self-managed firm.

We must also add that if we divide firms into groups according to the adopted criteria, and if we go back for another look at the data in Table 12, we can see clearly that the various aims coincide with and supplement one another in their significance. In larger firms, the order of aims according to importance is: aim 2 — accumulation (2.625); aim 8 — increase in economic power (3.100); aim 5 — increase in influence on market (5.000); aim 10 — income of the work organization (5.075). The tendency toward larger accumulation is linked to three aims whose significance really reflect a similar tendency: the greater income of the self-managed firm. In larger firms, we quite often traced the following view: had we taken into account the criterion of the highest possible income per worker, our development would not have been as fast as it was. In conditions of an unstable economic situation, it is certainly better to strive primarily for the income of the firm. In this way, we find it easier to bear the absence of certain economic results and we also have advantages which we would not have had if we were small manufacturers". From this standpoint the aim of reaching the largest possible accumulation has a wider and deeper significance. The tendency toward

larger accumulation, which is very clearly expressed in the short-term function of the self-managed firm, is stimulated by the tendency toward greater economic power and augmented market share. It brings with it advantages which a smaller firm does not have over the short-term. We shall find out what these advantages are when we analyze the long-term behaviour of the self-managed firm.

4. Analysis of Long-Term Behaviour of the Self-Managed Firm

4.1. Aims of the Self-Managed Firm in the Process of Investment and Integration

In the previous chapter we found that the decrease in share of accumulation in self-managed firms is a general characteristic of our self-managed economy. When speaking to the managers in the questioned firms, we often heard that in the system of distribution of income, profit as a category has been unknown for some time and that the remainder of income left for accumulation does not allow for development growth. Yet at the same time, they insisted that the self-managed firm must grow and invest. Still more interesting is the finding that workers in production also believe in investment. The following table contains the data given by production workers on their disposition toward investment:

TABLE 16. Disposition of production workers toward investment

| View on investment in the self-managed firm | members of workers' council | others | Sum |
|---|-----------------------------|--------|-----|
| need for investment | 51 | 53 | 104 |
| no need for investment | 15 | 27 | 42 |
| Sum | 66 | 80 | 146 |

On the basis of this information, one can judge that members of the workers' council of the self-managed firm are strongly disposed toward investment. Therefore, we are interested in the aims and motives which have led them to this attitude. In the questioned firms, the managerial workers elaborated the following scale of investment aims: aim 1 — improvement of working conditions (2.079); aim 3 — increase in accumulation (2.895); aim 5 — rise in income per worker (3.132); and aim 2 — wish to develop a large organization (3.734)⁹⁾. The results seem to be surprising. It appears that in the long-term behaviour of the self-managed firm, the non-economic aim of improvement of working conditions has dominated the economic ones. Does this mean that the managerial workers prefer better working conditions for the employed to higher income per worker or to the larger accumulation of the firm?

⁹⁾ The most important aims are: aim 4 — a more favourable position of competitors (4.434); aim 6 — development of underdeveloped area (4.724).

This is a question for which we do not have a definite answer. It seems that members of work organizations are concerned about their working conditions and are prepared to make improvements only when their own jobs are in question. This is one explanation for the situation which deserves our attention, but there is another which seems more probable: the managerial workers in the questioned firms must have understood the improvement of working conditions to be the same as the improvement of operating conditions for the firm. This assumption is based on experience obtained during questioning and on the empirically-tested fact that Slovenian industry has been lagging behind the development of modern technology. If this is so, then the aims of the self-managed firm are not contradictory to the process of investments. We understand that the tendency toward improved working conditions is related to the tendency toward better economic performance, that is, greater accumulation in larger firms (2.400), higher income per worker (2.583), and greater accumulation (3.444) in the group of smaller firms.

The above statements are demonstrated by the data on integration movements. In the questioned firms, they say that the increase in accumulation (1.706) is the most important aim in integration with other firms. The tendency toward development of a large company is next in importance¹⁰⁾. Taking into account that integration has been carried out mostly in the group of larger firms, we judge that the aims of the self-managed firm in the processes of investment and integration coincide almost completely with their short-term aims.

4.2. Sources of the Investment Financing of the Self-Managed Firm and Investment Allocation

Why is there a coincidence in the structure of the aim of the self-managed firm over the short and long-term, especially in emphasizing accumulation? One of the possible reasons has already been revealed: self-managed firms have expressed a strong disposition toward investment. But can this indication be the only basis for the high significance attributed to accumulation? We found that only very few self-managed firms could implement their investment plans if they had to finance investment from their own accumulation. Therefore, we believe that behind this tendency there are other motives in the self-managed firm. Let us look at the following table, which presents information on the managers' attitudes toward sources of investment financing.

¹⁰⁾ The others follow according to importance: income per worker (3.029), influence on price (3.853) and political reasons (3.882).

TABLE 17. Attitudes toward the sources of investment financing in the self-managed firm

| deciding on sources of investment financing | larger firms | smaller firms | Sum |
|---|--------------|---------------|-----|
| we prefer investing with our own resources | 4 | 10 | 14 |
| we prefer investing with borrowed resources | 16 | 10 | 26 |
| Sum | 20 | 20 | 40 |

$\chi^2 = 4.9 > \chi^2_{0.05} = 3.84$

differences are statistically significant

In more than half of the questioned firms we traced the opinion that it is better for a firm to finance investment with loans. If we add to this the information on the share of accumulation in relation to bank credits, we get a complete picture in Table 18.

TABLE 18. Share of accumulation in relation to bank credits in the self-managed firm

| Share of accumulation | larger firms | smaller firms | Sum |
|--|--------------|---------------|-----|
| is greater than the share needed for obtaining bank credits | 6 | 11 | 17 |
| is just sufficient to cover the share for obtaining bank credits | 14 | 9 | 23 |
| Sum | 20 | 20 | 40 |

$\chi^2 = 3.6 < \chi^2_{0.05} = 3.94$

differences are not statistically significant

What conclusion can we draw on the basis of the two tables? Our basic discovery is that in financing expanded reproduction, the self-managed firm depends mainly on bank loans. If we add the preference of the members of a work-organization for investments, it becomes clear that the tendency toward greater accumulation is only a face for the attempts at obtaining as many investment resources as possible through credits. The logic of economic is this: in a situation of unstable economic conditions, the real value of credits falls with inflation. If we invest, we gain, especially if we invest with loans.

According to this, the competition of self-managed firms in obtaining the largest possible bank credits may even become imperfect¹¹⁾. To illustrate this, let us look at the information in Table 19, which shows how the questioned firms estimated their chances of getting credits:

¹¹⁾ We had an opportunity to see its dimensions when questioning the selected firms. We came upon a case of the conscious action of managers

TABLE 19. Managers' view on the possibilities of obtaining credits

| Possibilities of obtaining bank credits | Larger firms | Smaller firms | Sum |
|---|--------------|---------------|-----|
| Equal compared to other firms | 16 | 8 | 24 |
| Different compared to other firms | 4 | 12 | 16 |
| Sum | 20 | 20 | 40 |

$\chi^2 = 7.39 > \chi^2_{0.01} = 6.64$

Differences are statistically significant

Differences in obtaining credit are evident in the above table if we compare larger and smaller firms. Larger firms are likely to take advantage of their economic power and use it to influence the disposition of the banks in the distribution of loans. In this way, they get more of an advantage for these firms. Therefore, the system of expanded reproduction which is based on the financing of investments through bank credits and the price of resources being uneconomic, inevitably leads to the unequal conditions of self-managed firms in the creation and distribution of income, to the unsocial character of social resources, and to their transforming into collective property.

Such a system of financing expanded reproduction is also connected with the question of efficiency of investments. The strong tendency of the self-managed firm toward investments does not include investments

TABLE 20. Allocation of investment resources in self-managed firms

| Allocation of investment resources | Larger firms | Smaller firms | Sum |
|---|--------------|---------------|-----|
| New investments | 9 | 5 | 14 |
| Modernization of production and additions to existing units | 11 | 15 | 26 |
| Sum | 20 | 20 | 40 |

$\chi^2 = 1.5 < \chi^2_{0.05} = 3.84$

Differences are not statistically significant

trying to find firms with losses at the end of the fiscal year in order to get additional credits for the improvement of financial conditions. There was just one such case, but nevertheless, we often heard managers state that they would agree to high rate of interest only to obtain the necessary credits. This is how managers speculate: as long as the rate of interest is lower than the average rate of inflation, it is much more profitable for firms to invest with bank loans. Therefore, the warning of some managers who say that the investment project presented to the banks is too stretched, and the data in it false, is justified. This idea can serve as a signal that self-managed firms take advantage of every opportunity to get credits, and in doing so, they don't have equal rights — as some have found out.

in new facilities but primarily modernization of and additions to the existing units. The data obtained in the questioned firms support this:

In the questioned firms, we investigated the matter of gradual building of facilities or the principle of adding units to existing ones, a phenomenon which does not help in the effort to fight the present structural disagreement in our economy. In the absence of classical mechanisms of allocation, the function of allocating investment resources is carried out by banks where bank credits are concerned, while allocation of investment resources rests where the resources of work organizations are concerned. In this way, most investments remain located in the same positions. This means that, on the one side, no mechanism has been worked out for the foundation of new firms; on the other side, there is no way of eliminating firms which have losses. We had an opportunity to learn about firms which have been subject to social criticism and to the opinion that they should be eliminated because of their inefficiency. However, it seems that at some critical moment, when this should have been done, new reasons appeared and held back the expected course of events or even coaxed it to the opposite direction. Obviously, there is a gap between the existing wishes and real behaviour which results from criteria other than solely economic ones; therefore, in the absence of an adequate mechanism for investment allocation, the same old ways are resumed.

Data on the factors of pooling resources for joint investments show that there is a need to build up an efficient mechanism for investment allocation. Although the process has only just begun and has not yet been adopted widely, it has given the first positive results. In the questioned firms, they judge that the basic aim of pooling resources is the vertical linking of this production programme¹²⁾ (2.567), and this could be a way of overcoming certain structural disproportions. However, we still do not believe that this process could offer a complete solution for our national economy. The pooling of resources is primarily still the pooling of bank credits, with all the consequences which we have already pointed out. We believe that without a search for an adequate price system for production factors, we shall not be able to reach any substantial results. The solution of the problem does not depend on banks and self-managed firms as much as it is supposed to. Both economic subjects behave rationally in a given economic system. A balanced functioning of an economy must be ensured through an economic system, developed in a way which will enable individual economic cells to pursue their own aims and implement those of society through adequate measures of economic policy which will promote equal conditions for firms. This cannot be ensured through constant interfering with a view toward appeasing the conflicts because this results in new disproportions on account of partiality.

¹²⁾ The others follow according to importance: increase in accumulation (2.567); income per worker (2.833); tendency toward a larger organization (3.367); influence on prices (4.833); political reasons (4.844)

4.3. The Self-Managed Firm and Its Influence on Prices of Products

We can open our study of the possibilities of the self-managed firm to influence prices with the statement that in the post-war era the idea of a free system of prices based on the workings of the market mechanism has never really prevailed. In spite of periodic defreezes, legislators have still reserved the right to interfere with economic movements.

They interfered when the movements in the workings of the market showed negative trends. There were no mechanisms to ensure gradual balancing of the conditions of the economy, such as planning. Therefore, the mechanism of price control, particularly administrative price control, has taken the lead. In the process of enforcing it, they explained that in a given situation the administrative price control was the most efficient way of stopping the trends of raising process, though they admitted that other instruments would be necessary to moderate their focuses. Obviously this is not an easy task. Therefore, administrative price control has been taking place repeatedly: the defreeze of prices was followed by a freeze, and vice-versa.

In such conditions, self-managed firms have never been quite independent in making decisions because the decisions have been based on expectations of future results in which price played an important part. They had to face various price systems as no adequate price theory could be worked out that would agree with a self-managed economy. Let us see which mechanisms, working in the formation of prices, were revealed in the questioned firms. The information is presented in the following table.

TABLE 21. Mechanisms in the formation of prices in the questioned firms

| | The number of firms |
|---|---------------------|
| Price of our products determined by price bureau | 8 |
| Prices determined in agreement with all producers and confirmed by price bureau | 11 |
| Possibility of free formation of prices on the basis of competition | 7 |
| Prices determined in agreement with costumers and confirmed by price bureau | 14 |
| Sum | 40 |

Even though there are some firms which are free in setting prices on the basis of competition we judge that in the end they still depend on decisions made by the price bureau. It appears that the competence of deciding on prices is given to firms and other consumers (trading companies), yet the managerial workers in the questioned firms believe that the process of raising the prices is very complex, accompanied by voluntarism which disagrees with the logic of economics, and that the

price policy, guided by the administrative bodies, is one of the key factors in the unbalanced relations between various sectors of economy, between various industries, and between various firms. In some firms, they emphasize that organs of the federation and republics are responsible for poor economic results because, for some years now, they have not allowed any rise in prices. This indicates a certain opposition and distrust in the work of these bodies, not always justified yet stimulated by an unequal policy towards various sectors of the economy and even towards various firms. There is a general opinion in the questioned firms that larger firms have better chances of raising prices than smaller ones. In explaining this phenomenon, they say that larger firms have the power to cover greater shares in the market and that the meeting of demand often depends on their production capacities. To the question — can they influence the prices and what is the character of price policy in their firms — we got the following answers:

We can see distinct differences between the groups of larger and smaller firms. The greater economic power which we have found to be one of the most significant aims of the self-managed firm in its activities is obviously the most important one in influencing the prices of pro-

TABLE 22. Price policy of the self-managed firm

| Price policy | Larger firms | Smaller firms | Sum |
|--|--------------|---------------|-----|
| We can influence indirectly; we lead a long-term policy of retaining old markets and conquering new ones | 12 | 4 | 16 |
| We cannot influence prices; we take every chance to raise prices | 6 | 14 | 20 |
| We can influence prices; we lead a short-term price policy in order to increase income per worker | 2 | 2 | 4 |
| Sum | 20 | 20 | 40 |

$$\chi^2 = 21.6 > \chi^2_{0.01} = 9.21$$

Differences are statistically significant

ducts; therefore, it is quite clear that groups of larger firms insist on linking accumulation to this aim. In this way, they gain some advantages that smaller firms cannot have, and this is reflected in the higher personal incomes of the members of these work organizations. A smaller firm does not have such advantages, therefore the increase in accumulation is linked to larger income per worker.

In the questioned firms, we traced a general tendency to improve economic results through prices increase. Twenty-eight questioned firms

TABLE 23. Average ranks for price factors in the self-managed firm

| Criteria | Factor 1 | Factor 2 | Factor 3 | Factor 4 | Factor 5 | χ^2 | DF | Significance |
|-------------------------------------|----------|----------|----------|------------|------------|----------|----|--------------|
| The total | 1.137(1) | 2.600(3) | 2.587(2) | 4.275(4) | 4.400(5) | 118.155 | 4 | 0.000 |
| Number of employed smaller firms | 1.150(1) | 2.625(2) | 2.644(3) | 4.350(5) | 4.250(4) | 58.857 | 4 | 0.000 |
| larger firms | 1.123(1) | 2.575(3) | 2.525(2) | 4.200(4) | 4.549(5) | 61.654 | 4 | 0.000 |
| Efficiency more efficient | 1.109(1) | 2.435(2) | 2.587(3) | 4.370(4) | 4.500(5) | 75.373 | 4 | 0.000 |
| less efficient | 1.176(1) | 2.824(3) | 2.588(2) | 4.147(4) | 4.265(5) | 43.800 | 4 | 0.000 |
| Credit can be obtained | 1.265(1) | 2.559(2) | 2.706(3) | 4.265(5) | 4.206(4) | 43.153 | 4 | 0.000 |
| cannot be obtained | 1.043(1) | 2.630(3) | 2.500(2) | 4.283(4) | 4.513(5) | 75.826 | 4 | 0.000 |
| Competition level low | 1.000(1) | 2.690(3) | 2.642(2) | 4.333(4-5) | 4.333(4-5) | 67.250 | 4 | 0.000 |
| high | 1.289(1) | 2.500(2) | 2.526(3) | 4.211(4) | 4.474(5) | 53.484 | 4 | 0.000 |
| Production phase intermediate phase | 1.083(1) | 2.729(3) | 2.479(2) | 4.313(4) | 4.396(5) | 73.817 | 4 | 0.000 |
| final production | 1.219(1) | 2.406(2) | 2.750(3) | 4.219(4) | 4.406(5) | 45.125 | 4 | 0.000 |

out of forty expect the rise in prices in order to be able to pay out equal salaries that workers in other work organizations have, and in order to reach the expected accumulation.

To the question — which are the most frequent causes for the rise in prices — we received the replies presented in Table 23. What do they reveal? In the questioned firms they judge that the basic cause lies in the price rise of reproduction materials (1.137), but increase in personal incomes (2.587) and in contributions and taxes (2.600) to the socio-political communities have a significant influence on it, too. The results are obvious as the largest share in the price structure of a product is usually represented by the cost of reproduction materials. However, it is quite probable that the rise in prices of reproduction materials originates from the increased costs of labour per unit, or better, the increased personal incomes of the employed workers. Surplus demand for reproduction materials causes a rise in the personal incomes of the workers in industries which produce them. This results in the rising prices of reproduction materials, and accordingly, can have strong impact on all the sectors of the economy. Our analysis has presented a sufficient number of reasons for this assumption.

We found that there is lack of harmony in personal incomes for equal work in various sectors of the economy and in other spheres of activities, that the share of accumulation within the net incomes of the self-managed firm is falling, and that this finally results in the need for rise in prices of products.

III. CONCLUSION

1. In analyzing the behaviour of forty work organizations, we have come to some conclusions concerning the behaviour of the self-managed firm in its actual operations. We have showed that a typical self-managed firm adjusts its business decisions to the existing facilities and to the market research of its products, and on this basis maximizes the income of the firm. It takes into account the criteria of economizing, which means that it utilizes production factors in production to the degree at which the value of the marginal production factor equalizes its price. This criterion can be especially applied to the employment of labour because the amount of capital is given over the short term. We must emphasize that we do not take the price of labour as a production factor to be a social category, but we take it to be an opportunity cost which the firm must take into account in its allocation. It enters the short-term function of the aim of the self-managed firm as an accountable quantity ($\omega + \Delta\omega$), but its size depends on the following factors: 1) the size of the existing income, 2) increase in labour productivity, 3) rise in living costs, and 4) a demonstrative effect of rise in personal incomes for equal work in other work organizations. Therefore, the maximization of income can be marked as the basic aim of the self-managed firm, provided that the firm has paid out the estimated share for personal incomes in advance. Accordingly, accumulation represents the remainder of income. Together with the rise in share for personal incomes, determined by the above presented factors, and with the rise in share for

collective consumption, which is expressed by the empirically-deduced fact that contemporary societies satisfy their ever-growing needs in a collective way, its share within the net income of the self-managed firm is falling despite the supposed maximization.

In our analysis we came upon some changes in the structure of the basic aim of the self-managed firm. Smaller firms (criterion: number of workers) link their interest in greater accumulation to the wish for higher income per worker, while larger firms emphasize that accumulation is their aim, in order to reach the greatest possible economic power. We found that behind this tendency larger firms hide their economic interests in higher income, which they can reach because they have ways of obtaining credits and can exercise influence on prices. Smaller firms do not have these opportunities, therefore they link their economic results to the employed worker. They restrain the employment of labour, which means that they reach the highest income when the income per worker is highest, too.

The long-term aims of the self-managed firm, tested through the analysis of aims in investments and integration movements, are essentially different from the short-term ones. Increase in accumulation is the basic aim but we cannot consider this to be an independent one. Behind the tendency towards greater accumulation there is a tendency towards larger economic power and higher income. Over the long-term, this leads to increased income per employed worker and to the rise in personal incomes of members of the work organization. Greater economic power leads to the influence on credit policy of commercial banks and on prices of products. Therefore, we gather that the aim of accumulation derives from the aim of rise in personal incomes, although firms may not necessarily be aware of it.

2. If economic aims are those which, in market economies, express themselves in terms of money, and the noneconomic ones all the others, then we must admit that in our analysis the noneconomic ones have not proved to be of importance. Only once have we traced a noneconomic aim — improvement of working conditions — to be first on the list according to importance. This does not mean that there are no noneconomic aims in the self-managed firm. In every firm they appear in various forms, but in the abstract reflection of the self-managed firm they appear in their structural sense as secondary, deduced from the basic aim. This is obvious, as over the long term they cannot possibly be in disagreement with economic aims.

3. The self-managed firm is not flexible in the changes of market parameters. Most effects of changes in market parameters are unknown to it. The reason for this lies partly in the institutional circumstances in which it acts, and partly in unstable economic conditions. The self-managed firm which is run by a work community does not fire labourers. According to this fact, some effects that would require a decrease in production in order to reach the best economic results fail to come up. Because of disposable capacities, they also cannot reach a substantial increase in production. The increase in fixed costs originating from increased stocks in the periods of recession, and the rise in prices of materials, cause a rise in prices of products which, because of the necessary approval from the price bureau, acts retroactively and

of course has no influence whatsoever on production volume. We can draw the conclusion that the self-managed firm is less adjustable to market conditions than the capitalist one, that we know from neoclassical economic theory, but it is more resistant and stable when such changes take place. It is difficult to judge whether this is due to the character of the self-managed firm or to the consequence of an unstable situation. In any case, the possibility of certain effects influencing a rise in prices causes unexpected changes in behaviour.

4. The analysis indicates that one of the basic questions of our economic system still refers to the character of social property. The economic system is not built up so as to ensure that all the basic cells (self-managed firms) have equal access to social resources. Therefore, firms do not have equal conditions in the process of earning and distributing income and, accordingly, equal personal incomes for equal work. Conditions of reproduction of social property are not ensured, therefore constant interferences with economic movements take place in our economic reality. They are accompanied by voluntarism in decision-making and by additional disproportions in our economy. Therefore, we have come to the conclusion that an adequate system of relative prices, a price system of production factors and a mechanism of allocation of production factors, must be worked out. We really cannot solve the problem of efficiency if we ignore these three basic conditions for running an efficient economy. The essence of laws of economy lies in using scarce resources economically. It is necessary to employ an economic system which will ensure equal access to resources and an allocation of resources which will result in the utmost social benefit.

5. Several authors presented their contributions and have taken part in the debate on the behaviour and efficiency of the self-managed firm with a view to analyze the short-term function of the aim of the self-managed firm. Although they exposed it from several points of view, the focal point of the dilemma is still this: is the basic aim of the self-managed firm maximization of income per worker (personal incomes), or is it maximization of income of the self-managed firm within certain limits and, accordingly, maximization of accumulation? Without challenging the analytical value of these contributions, we believe that the self-managed firm, in its short-term behaviour, can best use the model of accumulation. However, as we have shown in our analysis, it must be modified by shifts in the function of the aim, according to the share of personal incomes in it.

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JUGOSLOVANSKO SAMOUPRAVNO PODJETJE IN NJEGOVO OBNASANJE

Janez PRASNIKAR

Rezime

V članku smo prikazali nekatere rezultate empirične raziskave obnašanja samoupravnega podjetja. Anketirali smo vodstvene delavce in delavce v proizvodnji v štiridesetih slovenskih delovnih organizacijah. Obravnavana problematika je zanimiva, ker opisujemo delovanje stvar-

nega samoupravnega podjetja. Pogoj vsaki resnični teoriji je namreč njena praktična veljavnost. Zato je bilo mogoče takšno raziskavo napraviti edino v Jugoslaviji, kjer so ideje o samoupravljanju prvič zaživele tudi v praksi.

Osnovne rezultate raziskave lahko združimo v nekaj točkah:

1. Pokazali smo, da tipično jugoslovansko podjetje prilagaja svoje poslovne odločitve obstoječim kapacitetam in tržnim raziskavam po svojih proizvodnih in da na tej osnovi maksimizira dohodek podjetja. Pri tem uopšteva kriterije ekonomičnosti, kar pomeni, da vlaga produkcijske faktorje v proizvodnjo do tiste stopnje, ko se vrednost mejnega produkta faktorja izenači z njegovo ceno. Ta kriterij velja zlasti za zaposlovanje delovne sile, ker je količina kapitala v kratkem obdobju dana. Opozoriti moramo, da cene produkcijskega faktorja dela ne razumemo kot družbeni odnos, ampak kot oportunitetni strošek, ki ga podjetje mora upoštevati v njegovi alokaciji. V kratkoročno funkcijo cilja samoupravnega podjetja vstopa zato kot obračunska količina ($Od + \Delta Od$), njena velikost pa je odvisna od naslednjih faktorjev: 1) velikost razpoložljivega dohodka, 2) rast produktivnosti dela, 3) rast življenjskih stroškov, 4) demonstracijski efekt povečanja osebnih dohodkov za enako delo v drugih delovnih organizacijah. Glede na to kot osnovni cilj samoupravnega podjetja označimo maksimizacijo dohodka, pri omejitvi, da podjetje vnaprej izplača predvideni delež osebnih dohodkov. Akumulacija se v tej zvezi pojavlja kot ostanek dohodka. Z rastjo deleža osebnih dohodkov v skladu z velikostjo, ki jo določajo navedeni faktorji, in z rastjo deleža skupne potrošnje, ki izraža empirično ugotovljeno dejstvo, da se v sodobnih družbah vse večja količina potreb zadovoljuje na skupen način, njen delež v čistem dohodku samoupravnega podjetja kljub domnevni maksimizaciji pada.

V anlizi smo ugotovili nekatera preoblikovanja osnovnega cilja samoupravnega podjetja. Manjša podjetja (kriterij: število zaposlenih delavcev) povezujejo težnjo po večji akumulaciji s težnjo po večjem dohodku na zaposlenega delavca, večja podjetja pa poudarjajo cilj akumulacije, zlasti da bi dosegli večjo ekonomsko moč. Ugotovili smo, da se za tem ciljem večjih podjetij skrivajo ekonomski nagibi za večjim dohodkom, do katerega pridejo, ker imajo možnost pridobivanja kreditov in vpliv na cene. Manjša podjetja, ki teh možnosti nimajo, večje svoje ekonomske rezultate na zaposlenega delavca. V zaposlovanju delovne sile se zaprejo, kar pomeni, da dosežejo največji dohodek takrat, ko je največji tudi dohodek na zaposlenega delavca.

Dolgoročni cilji samoupravnega podjetja, ki smo jih preverili s proučevanjem ciljev podjetij pri investiranju in pri integracijskih gibanjih, se bistveno ne razlikujejo od kratkoročnih. Večanje akumulacije je osnovni cilj, vendar ga ne moremo jemati kot samostojnega. Za težnjo po večji akumulaciji se skriva težnja po večji ekonomski moči in večjem dohodku, ki dolgoročno vodi k povečanju dohodka na zaposlenega oziroma k večanju osebnih dohodkov članov delovnega kolektiva. Večja ekonomska moč omogoča vpliv na kreditno politiko poslovnih bank in vpliv na cene proizvodov. Zato mislimo, da je cilj: akumulacija izveden iz cilja: večanje osebnih dohodkov, čeprav ni nujno, da se tega v podjetjih zavedajo.

2. Če z ekonomskimi cilji mislimo tiste, ki se v blagovnem gospodarstvu izražajo v denarnih količinah, z neekonomskimi pa vse ostale, moramo reči da se v naši analizi neekonomski cilji niso pokazali kot pomembni. Samo enkrat smo zasledili neekonomski cilj: izboljšanje delovnih pogojev na prvem mestu po pomembnosti. To ne pomeni, da samoupravno podjetje v svojem delovanju nima neekonomskih ciljev. Ti so prisotni pri vsakem podjetju v raznih pojavnih oblikah, v abstraktni sliki samoupravnega podjetja pa so v pomenski strukturi ciljev sekundarni, izvedeni iz osnovnega cilja, kar je razumljivo, saj na dolgi rok nikakor ne morejo biti v neskladju z ekonomskimi cilji.

3. Samoupravno podjetje je neelastično na sprembe tržnih parametrov. Večine efektov sprememb tržnih parametrov sploh ne pozna. Vzrok je deloma v institucionalnih pogojih, v katerih deluje, deloma pa v nestabilnih gospodarskih razmerah. Samoupravno podjetje, s katerim upravlja delovni kolektiv, ne odpušča delavcev. S tem odpadejo nekateri efekti, ki bi zahtevali v smislu doseganja najboljših ekonomskih rezultatov zmanjšanje proizvodnje. Prav tako ne more pri danih kapacitetah doseči bistvenega povečanja proizvodnje. Povečanje fiksnih stroškov, do katerega pride posebno zaradi povečanih zalog v obdobjih gospodarske recesije, in povečanje cen materiala se zato v celoti preneseta na povišanje cen proizvodov, ki zaradi nujnosti odobritve s strani Zavoda za cene nastopa *ex-post* in seveda na obseg proizvodnje nima nikakršnega vpliva. Zaključimo, da je samoupravno podjetje manj prilagodljivo tržnim pogojem kot kapitalistično podjetje, ki ga poznamo iz neoklasične ekonomske teorije, je pa bolj odporno in neobčutljivo za te spremembe. Ali je to lastnost samoupravnega podjetja ali pa posledica nestabilne situacije, je težko ugotoviti. Vsekakor možnost prenašanja nekaterih efektov na povečanje cen v mnogočem spremeni obnašanje od pričakovane.

4. V analizi smo ugotovili, da se eno osnovnih vprašanj našega ekonomskega sistema še vedno nanaša na karakter družbene lastnine. Ekonomski sistem ni zgrajen tako, da bi vsem osnovnim celicam — samoupravnim podjetjem — zagotovil enak doštop do družbenih sredstev. Zato imajo podjetja neenake pogoje v procesu ustvarjanja in razdelitve dohodka, s tem pa prihaja do neenakih osebnih dohodkov za enako delo. Ker niso zagotovljeni pogoji reprodukcije družbene lastnine, prihaja v ekonomski stvarnosti do stalnih posegov v gospodarska gibanja. Spremlja jih voluntarizem v odločanju in z njim dodatna nesorazmerja v gospodarstvu. V zvezi s temi smo prišli do spoznanja, da je potrebno zgraditi ustrezen sistem relativnih cen in sistem cen produkcijskih faktorjev, ki mora biti povezan z mehanizmom alokacije produkcijskih faktorjev. Vprašanja učinkovitosti nikakor ne moremo reševati mimo teh treh temeljnih pogojev učinkovitega gospodarjenja. Zakoni ekonomije so v gospodarjenju z redkimi sredstvi. Zato je potrebno z ekonomskim instrumentarijem zagotoviti enak dostop do sredstev in takšno alokacijo sredstev, da bodo prinesla največjo družbeno korist.

5. V kontraverzi o obnašanju samoupravnega podjetja in o njegovi učinkovitosti je sodelovalo več avtorjev s svojimi prispevki. Njihovo proučevanje je namenjeno kratkoročni funkciji cilja samoupravnega

podjetja. Čeprav so ga osvetili z raznih zornih kotov, je v središču kontraverze dilema, ali je osnovni cilj samoupravnega podjetja maksimizacija dohodka na zaposlenega (osebni dohodkov) ali maksimizacija dohodka samoupravnega podjetja pri določeni omejitvi, oziroma maksimizacija akumulacije. Ne da bi ocenjevali analitično vrednost posameznih prispevkov, mislimo, da stvarnemu samoupravnemu podjetju v kratkoročnem obnašanju ustreza model akumulacije, ki pa je, kot smo pokazali v analizi, modificiran s premiki v funkciji cilja glede na delež osebnih dohodkov v njej.

THE TRANSFORMATION PROBLEM IN THE LABOUR-MANAGED (AND CAPITALIST) ECONOMY

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Four years after the publication of the third volume of Marx's *Capital* (Marx, 1894) where the *transformation* from labour values, as the quantities of labour *embodied*, to the prices of production was discussed, the Russian mathematical economist Dmitriev (Dmitriev, 1898) had unambiguously demonstrated that one can always derive prices of production *directly* from the given technical data and the (physical) necessary product, *without* prior knowledge of labour values.

It should be therefore concluded that the solution of Marx's transformation problem could *not* lie in the formulation of the «correct» algorithm of *transformation*, as might be implied by Morishima's work in this field (Morishima, 1973, 1974), but rather in the correct *comparison* of prices of production with the corresponding labour values of commodities, which is tantamount to calculation of the *absolute* prices of production in terms of labour embodied.

In order to reach this solution, two distinct conditions should be met simultaneously:

- (i) An *invariable* standard of value, necessary for the comparison of the two «value regimes» should be found.
- (ii) The calculation of the quantities of (socially necessary) labour embodied in the commodities should be done *properly*.

As is now widely understood, the first condition can always be met due to Sraffa's discovery of the standard system; or standard composite commodity (Sraffa, 1960, Ch. 4). The second condition can be met too, but *without* usage of *classical* labour values as the quantities of labour embodied, which is less widely understood.

The problem at issue will be examined, (in contrast to the usual approach) on the model of the *socialist* labour-managed economy. The reason for this is quite simple and lies in the fact that the structure of the *socialist* prices of production is very convenient for *simultaneous*

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