

## ECONOMIC PLANNING IN YUGOSLAV FIRMS

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### 0. INTRODUCTION

The Yugoslav system of economic planning, which has usually been called the system of self-management planning since 1974, seems to be very appealing to economists. In fact, it can be understood as an attempt to create an advantageous combination of both market mechanism and planning mechanism.<sup>1)</sup> It is definitely one of the main topics in the field of the theory of comparative economic systems.

It is, however, beyond our purpose to describe the system of self-management planning precisely here. We would like to describe and analyze planning processes within Yugoslav firms as the first step towards a comprehensive understanding of the structures and performances of the planning system in Yugoslavia. Indeed, economic planning of the firms can be regarded as one of the fundamental planning activities in the whole system of self-management planning.<sup>2)</sup>

The purpose of this paper is to examine how the development plan is made and what properties the plan chosen by the firm possesses in the context of the whole system of self-management planning. Special emphases are put on the following questions:

- (1) What is the actual process of planning in Yugoslav firms?;
- (2) What economic objectives is the firm supposed to have, and to which criteria do members refer when they adopt the development plan?;
- (3) What economic parameters are taken into consideration when the plan is prepared?;
- (4) What properties and effects does the chosen plan possess?;

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<sup>1)</sup> See, for example, D. Kalogjera (12) and E. Kardelj (13) concerning some characteristic features of the Yugoslav planning system.

<sup>2)</sup> For instance, the law requires that the plans of other self-management organizations and the plans of public communities should be in conformity with the revenue of the firms in the sphere of material production. See: Law on the Bases of the System of Social Planning and on the Yugoslav Social Plan — 1976, Article 7.(3).

Section 1, in which the above-mentioned questions (1) and (2) will be treated, describes the planning process in the firm and shows its characteristic features. Section 2, in which the above-mentioned points (3) and (4) will be treated, theoretically analyzes the properties of the chosen plan and the factors influencing such a choice of plan. Finally, Section (3) comments on some important remaining issues.

## 1. THE PLANNING PROCESS IN YUGOSLAV FIRMS

The purpose of this Section is to describe a standard model of the planning process in Yugoslav firms and to make clear its characteristic features. A few remarks should be given before describing the process.

First, economic units appear in three different types of association in Yugoslavia. The economic unit of the first type is called the Basic Organization of Associated Labour (BOAL), which is the fundamental form of association of labour. A BOAL has its own Workers' Council and its own plans. The economic unit of the second type is called the Work Organization (WO), which is an independent, self-managing organization of associated labour. A WO often includes several BOAL's. The economic unit of the third type is the Composite Organization of Associated Labour (COAL), which is a form of organization of associated labour established through the merger of several WO's and BOAL's<sup>3)</sup> For simplicity, however, we will take only the easiest case where a WO contains no BOAL's

Secondly, every firm has three types of plans: a long-term plan, a medium-term plan and an annual plan. The fundamental and the most important plan is considered to be the medium-term plan (five-year plan) in Yugoslavia.<sup>4)</sup> Therefore, the medium-term plan is mainly brought into focus in the following description and analysis.

### 1.1. Planning process in Yugoslav Firms

*Step 1:* The first step of the planning process in the firm is to analyze the realization of the development and working plans of the preceding period. The planners and analysts (planner-analysts) evaluate the performance of the firm and identify the factors which are supposed to have caused this performance.<sup>5)</sup>

*Step 2:* The second step is to estimate the economic environments and/or the economic parameters of the firm in the following period. Through Step 1 and Step 2, a feasible and viable set of alternative plans for the next period are considered to be available to the firm.

<sup>3)</sup> The definition of these terms can be seen, for example, in The Associated Labour Act (2\*), pp. 403-410.

<sup>4)</sup> See: Law on the Bases of the System of Social Planning and on the Yugoslav Social Plan - 1976, Article 10 (3).

<sup>5)</sup> The description of the planning process in the firm can be seen in M. Milisavljević et al. (15) and P. Dejanović (9).

*Step 3:* In this step, taking into account the analyses and forecasts of Step 1 and Step 2, a decision is made concerning the problem of whether fundamental elements of the long-term plan given earlier should be maintained, modified or substituted by others. A draft of fundamental elements and targets of the plan for the next period are given by the planners, and this is examined and checked by the workers and the Workers' Council. In this step, it is quite interesting to observe which plan is chosen in the feasible and viable set as this choice can be understood to reflect the "individuality" of the firm. Naturally, it depends upon what type of objectives the members possess. This point will be discussed more minutely in the following Section.

*Step 4:* The next step is to coordinate and negotiate the outlines of plans with other firms and public communities and if possible, to conclude a self-management agreement and a social compact on them. At the end of Step 3, each firm is supposed to have its own fundamental plan elements, so that the next step is to coordinate the fundamental elements of the plan and interests among firms. This step is taken in order to ensure that the interests of all the participants are realized to a higher degree, and that economic balance from the standpoint of the society as a whole is attained much more easily through these agreements and compacts.

*Step 5:* This step works out concrete and individual programmes in order to make it possible for the earlier established outlines of the plan to be executed at the levels of shop-floors or other departments.

*Step 6:* The last step is to adopt the plan. When the Workers' Council adopts it, it becomes legally valid.

### 1.2. Objectives of Economic Activities in Yugoslav Firms. A Participation-Oriented Firm vs. an Efficiency-Oriented Firm

We have observed in the previous Section a standard process for the establishment of development and working plans in the firm. But what kind of economic plan is really chosen when members adopt it? It is true that members need some sort of economic criteria when they make a decision, especially on the outlines of the plan, and such criteria are understandably derived from the members' objectives in the firm. Hence, some observations should be made on the members' objectives.

Members of the firm have various objectives in their economic activities. It is natural that their objectives may vary under different conditions. For instance, they may differ according to power relations in different interest groups within the firm (managers and workers) and to the business performance of the firm. Economic factors external to the firm (e. g., degree of competition in the industry) can influence members' objectives, too. All of these suggest that we have to be very careful in our formulation of members' objectives. When we observe the actual behaviour of Yugoslav firms, the above-mentioned factors turn out to be different from firm to firm, so that members' objectives

in their economic activities are supposed to differ from firm to firm. But we do not have to bring such a complexity of the actual economy into our analysis here. What should be done is to analyze some aspects of its complexity in a simple form. Thus, in the analysis of firm behaviour we make use of two different models, both of which seem very typical in Yugoslavia (this does not mean that other types of members' objectives cannot be observed in reality). These two models can be derived from the research work of I. Adizes.

In the latter half of the 1960s, Adizes observed the economic behaviour of several firms in Yugoslavia. Through his actual observation, he formulated two types of behaviour of the firms, which are called "Company XYZ" and "Company ABC" in his book.<sup>6)</sup>

Company XYZ has the following characteristic features: (1) more production-oriented; (2) less staff in the departments of marketing, planning and finance; (3) little initiative taken by the director in major decision-making; (4) more decentralized management; (5) priority being given to personal income in revenue distribution.

The other, Company ABC, which is as large as Company XYZ in number of employees, has the following characteristics: (1) more market-oriented; (2) more staff in the departments of marketing, planning and finance; (3) strong initiative taken by the director in major decision-making; (4) more centralized management; (5) priority being given to investments in revenue distribution.

This classification of Yugoslav firms can serve as a foundation on which we can construct models.

What objective function is Company XYZ supposed to have in the simple form? We would like to emphasize that more decentralized management and the absence of strong leadership by the director can be made by in this firm. This means that important decisions might be made by the direct participation of a number of groups within the firm. Hence, economic objectives which are compatible with the workers' personal interests might be adopted. Thus, it would not be so ridiculous for us to assume that this company has the objective function of maximizing average personal income in the long run. We call this type of firm a Participation-Oriented Firm (P. O. firm).<sup>7)</sup> In the context of actual economy, the maximization of average personal income in the long run should be understood as the maximization of net income per member in the firm, which is typically composed of personal incomes, collective consumption funds and reserve funds.<sup>8)</sup> But this objective is just basic and not absolute. Indeed, the plan which maximizes the objective function will not be necessarily accepted by the workers since it may cause a lot of changes in their jobs, wor-

<sup>6)</sup> See: I. Adizes (6). There remains, however, the question of whether or not his practical observation is applicable in present-day Yugoslavia because he observed only the latter half of the 1960's. From my own practical observations, these two types of objectives are still dominant.

<sup>7)</sup> This type of objective function in Yugoslav (type) firms can be seen in many articles. See, for example, B. Ward (21), J. Vanek (20), A. B. Atkinson (7), E. G. Furubotn (10), I. Nakatani (16), (17), and N. Zelić (22).

<sup>8)</sup> See: Associated Labour Act, Article 1114 and M. Milisavljević et al. (15), p. 424.

king conditions, and/or social environments which are very unpopular among workers. Furthermore, the plan maximizing the objective might require layoff of workers, but such layoff is prohibited by law in Yugoslavia.<sup>9)</sup>

What objective function, on the other hand, is Company ABC assumed to have? What does the director who takes a strong leadership pursue in this firm? He may aim at maximizing the growth rate of the firm, which will give him a good social reputation. Workers, however, would not find much interest in it. We would like, rather, to assume that the director would aim at maximizing the net residual of income of the firm, which is used as reserve funds, for several purposes, say, to ensure its stable development. In this case net residual includes neither workers' personal income nor collective consumption funds, which are virtually considered as a kind of cost in this type of Yugoslav firm.<sup>10)</sup> Company ABC can be called an Efficiency-Oriented Firm (E. O. firm). Naturally the effects which the plan will have on workers' jobs and working conditions should be carefully considered here, too. Furthermore, the director and the planners will be required to increase workers' personal income over time since the workers would not give such a great discretion to the management without any promises favourable for them.

## 2. DEVELOPMENT PLANNING IN YUGOSLAV FIRMS

How are development plans adopted in Yugoslav firms? What economic parameters influence the choice of development plans? What properties do these chosen plans really possess? These are the questions to be examined in this Section. In analyzing these topics, two types of economic objectives in the firms, i. e., that of a participation-oriented firm and that of an efficiency-oriented firm, will be taken into account. This procedure is intended to give a more realistic explanation of the economic behaviour of Yugoslav firms. For the sake of simplicity, in this Section, a development plan corresponds to a growth plan, which is clearly one of the aspects of a development plan. Furthermore, we only deal with the first part of the whole planning process in the firm (from Step 1 to 4 in Section 1.1) here. In fact, only this part is of great interest from the standpoint of the whole economy as it has a lot of influence on the economic activities of other firms and public communities, while the second part can be regarded as an internal process within the firm. And since we deal with the planning process within the firm here, the process of negotiating and concluding agreements and compacts with other firms and public communities is not explicitly considered either.

First of all, the basic assumptions which are available in the ana-

<sup>9)</sup> See: Constitution (1), Article 32 and Associated Labour Act (2), Article 213.

<sup>10)</sup> This type of objective function in Yugoslav firms was formulated by B. Horvat (11).

lysis of the economic behaviour of both types of Yugoslav firms are listed.<sup>11)</sup>

### 2.1. The Basic Assumptions

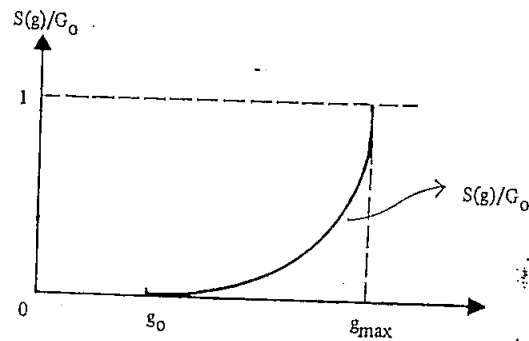
(Assumption 1) A technology permits no substitutability in production between capital and labour, and the firm can enjoy both labour-saving technological progress at rate  $\gamma$  and economies of scale.<sup>12)</sup> In this case, labour  $L_t$  and output  $Q_t$  can be given as follows:

$$L_t = aK_t e^{-\gamma t} \quad (2.1.)$$

$$Q_t = bK_t t^\alpha, \quad 0 < \alpha < 1, \quad (2.2.)$$

where  $K_t$  denotes the capital stock at time  $t$ .

(Assumption 2) The firm faces a downward-sloping market demand curve for its product, which shifts outward over time at rate  $g_0$ . The firm can, however, increase its sales at faster rate  $g$  if it expends  $S(g)$  on sales promotion, which is assumed to be a function of  $g$ . The ratio between expenses  $S(g)$  and the initial gross revenue  $G_0$  (which is given here) is presented in Figure 1.



(Fig. 1)

In this situation, the function  $S(g)$  is supposed to have the following properties:

$$\left. \begin{array}{l} S(g) = 0 \\ S'(g) > 0 \text{ and } S''(g) > 0 \\ S(g_{\max}) = G_0 \end{array} \right\} \begin{array}{l} \text{for } g \leq g_0, \\ \text{for } g > g_0 \end{array} \quad (2.3.)$$

<sup>11)</sup> The following theoretical model owes much to A. B. Atkinson (7) and I. Nakatani (17), though some modifications are made.

<sup>12)</sup> These modern technological developments (technological progress and economies of scale) would force the firm to employ such technology in order for it at least to survive in the competitive industries. An introduction of such technology tends to change labour relations within the firm to a great extent.

(Assumption 3) The planners determine a rate of growth that is fixed through the planned period when they make a plan. The price of its product and the price of capital goods are also assumed to be constant through this period. (This assumption of constant prices is clearly unrealistic, though an expected increase of general price level can be regarded as included in an internal discount rate of the firm. The assumption is, however, introduced in order to analyze the economic behaviour of the firm in simpler frameworks. Indeed, consideration of the actual pricing behaviour of the firm makes analyses much more difficult. As was pointed out by J. Mencinger, pressure to increase its price may be strengthened by the firm to secure personal incomes, especially when the economy is slack. But every firm cannot enjoy this policy of increasing prices because there exist some price regulations in reality, and surely in several industries tough competition prevents firms from arbitrarily increasing prices. The actual pricing behaviour in Yugoslav firms, therefore is a mixture of competitive and monopolistic pricing.)<sup>13)</sup>

Making use of these basic assumptions, the capital stock can be shown to grow at rate  $\alpha g$  when output  $Q_t$  grows at rate  $g$ :

$$K_t = K_0 e^{\alpha g t} \quad (2.4.)$$

Taking into account that the price of the product is constant through the planned period, net revenue  $R_t$  can be expressed as a function of  $g$ :

$$R_t = G_0 e^{g t} - S(g) e^{g t} = (G_0 - S(g)) e^{g t} \equiv R_0(g) e^{g t}. \quad (2.5.)$$

### 2.2. Development Planning in a Participation-Oriented Firm.

As was shown in the previous Section, a participation-oriented firm (P. O. firm) has the objective function of maximizing average personal income in the long run. A P. O. firm can be supposed to maximize the present value of average personal income at discount rate  $\delta$ . In the first part of this Section, all capital is assumed to be financed by borrowing from outside. This assumption is compatible with the supposed objective function of the P. O. firm. In the Appendix of this section, however, a more general case will be dealt with.

The objective function of the P. O. firm can be formulated as follows. At first, net income per worker at time  $t$ ,  $y_t$  is defined by

$$y_t = \frac{R_t - ipK_t - cL_t}{L_t}, \quad (2.6.)$$

where  $p$  denotes the price of capital stock,  $i$  denotes interest rate on capital stock, and  $c$  denotes the rate of guaranteed personal income.<sup>14)</sup>

<sup>13)</sup> See J. Mencinger (12), pp. 8-9.

<sup>14)</sup> See, for example, Law on Labour Relations (5), Article 75-81, about the amount of guaranteed personal income.

Taking into account the basic assumptions, the equation (2.6.) can be rewritten

$$y_t = \frac{R_o(g)e^{(g+\gamma-\alpha g)t}}{aK_o} - \frac{ipe^{\gamma t}}{a} - c.$$

The present value of average personal income over an infinite time horizon with discount rate  $\delta$ ,  $Y_o^{15)}$ , therefore, is given by

$$Y_o = \frac{R_o(g)}{aK_o} \cdot \frac{1}{(\delta-\gamma)-(1-\alpha)} - \frac{ip}{a(\delta-\gamma)} - \frac{c}{\delta}. \quad (2.7.)$$

The planners of a P. O. firm have to prepare alternative growth plans. Naturally, those alternative plans would include the plan which maximizes  $Y_o$  among them. And they should contain information on what will happen to workers' jobs if the plans are put into effect because workers show much interest in their job-changes and they have the right to make final decisions about adoption of the development plan in Yugoslavia.

At first, with given expected economic parameters, we consider the case in which the planners can find such  $g$  that makes it possible that  $Y_o > 0$ . This means that a P. O. firm appears more or less promising in its future business activities. In this case, the planners may find that the rate of growth  $g^*$  that maximizes  $Y_o$  satisfies the relation,

$$\frac{S'(g^*)}{R_o(g^*)} = \frac{1}{\theta - g^*} \quad (2.8.)$$

where  $\theta \equiv \frac{\delta - \gamma}{1 - \alpha}$ .<sup>16)</sup> The rate  $g^*$  would be called a potentially optimal

rate of growth since this rate is not necessarily adopted by the Workers' Council. Indeed, it may introduce workers' job-changes on a large scale, which is not so popular among workers, or it may even technologically produce superfluous workers (an overemployment problem) and this causes another difficulty to the Workers' Council and the director because of the legal prohibition of forced layoff.

On the other hand, the planners must consider the effects such  $g^*$  may have on job-changes. In order to maintain the level of employment,  $dL_t/dt \geq 0$  must be kept. Making use of the basic assumptions, we have

<sup>15)</sup> We suppose here that a discount rate  $\delta$  is so large that  $\delta - \gamma - g(1 - \alpha) > 0$ .

<sup>16)</sup> It is assumed that the shape of the function  $Y_o$  is such that the second-order conditions are satisfied.

$$\frac{dL_t}{dt} = (\alpha g - \gamma) a K_o e^{(\alpha g - \gamma)t},$$

so that  $g$  must satisfy that  $\alpha g - \gamma \geq 0$  or

$$g \geq \frac{\gamma}{\alpha}. \quad (2.9.)$$

Which growth rate will be chosen by the Workers' Council in a P.O. firm that has the above-mentioned economic environments? Understandably, it depends upon many factors, but the following two cases are of special interest and are distinguished here.

$$\text{Case 1: } g^* \in H(\alpha, \gamma) \equiv \left\{ g / \frac{\gamma}{\alpha} \leq g \right\}$$

This might be the case when the firm has a slower rate of technological progress and/or smaller economies of scale (especially, this is the case when there exists no technological progress). In this situation, the potentially optimal rate of growth  $g^*$  makes sure of non-reduction of labour employment, so that the Workers' Council will accept this rate  $g^*$  and the development plan which realizes it.

What properties does the rate  $g^*$  have, then? From the e.g. (2.8.) we obtain

$$\frac{d\theta}{dg} < 0,$$

so that  $\theta = \theta(\delta, \gamma, \alpha)$  proves to be a decreasing function of  $g$ .<sup>18)</sup> Therefore, when, for instance, an expected rate of technological progress  $\gamma$  rises (this may be the case in seriously competitive industries) with given  $\delta$  and  $\alpha$ , then the optimal rate of growth is supposed to increase. And with given  $\delta$  and  $\gamma$ , the greater economies of scale will bring the greater rate of growth in a P. O. firm.

Finally, we will consider the case of special interest in which there exist no economies of scale ( $\alpha = 1$ ). Then, from (2.7.), we have

$$Y_o = \frac{R_o(g)}{aK_o} \cdot \frac{1}{(\delta - \gamma)} - \frac{ip}{a(\delta - \gamma)} - \frac{c}{\delta},$$

<sup>17)</sup> It is assumed that  $g_{max} \geq \frac{\gamma}{\alpha}$ .

<sup>18)</sup> It is supposed that there exist an inverse function  $g = f(\theta)$  which is also differentiable.

so that the optimal growth rate  $g^*$  is such  $g$  that fulfills that  $S'(g) = 0$  or  $g \leq g_0$ . That is, in this case, a P. O. firm shows no interest in its growth. In other words, a P. O. firm shows interest in its growth only if there exist economies of scale.

Furthermore, as was shown in (2.8.), a P. O. firm may adopt its growth rate without considering interest rate  $i$ . But presumably it happens that the discount rate  $\delta$  is affected by the change of  $i$ , which naturally has some influence on selecting the rate of  $g$ .

$$\text{Case 2: } g^* \notin H(\alpha, \gamma) = \left\{ g / \frac{\gamma}{\alpha} \leq g \right\}$$

This tends to occur when there exists a higher rate of technological progress and/or larger economies of scale, in a word, when there exists dynamic economic development under pressure of keen market competition.

Which rate of growth will be chosen by the Workers' Council in this case? The answer again depends upon a number of factors. But discussions which lead to final decisions may cause a conflict of interests among members. In fact, the adoption of the growth rate that gives a maximum income per member over time means a great change of workers' jobs and may produce superfluous workers (an overemployment problem) within the firm under the legal prohibition of forced layoff. On the other hand, even if they adopt a plan which does not permit a great change of jobs (and this case is much more probable in Yugoslavia), they may feel some frustration because they know that some workers' change of jobs can bring more average personal income to others. Anyway, in this situation, after tough and time-consuming discussions, the Workers' Council would adopt the growth plan that is higher than the potentially-optimal rate of growth  $g^*$  and does not cause a great change of workers' jobs in a P.O. firm.<sup>19)</sup>

Finally, the case in which  $Y_0$  is non-positive for all possible  $g$ , or in other words, the case when workers will get only the guaranteed personal income under estimated future economic environments should be considered. This may not happen so often in reality, but would be the case sometimes.<sup>20)</sup> In this case, the planners must report to the

<sup>19)</sup> But such an adopted growth plan is not necessarily lower than the growth plan that ensures the minimum personal income below which workers do not want to work (in Yugoslav reality, this minimum personal income may be fairly low, because they know that there exists a high rate of unemployment). However, this amount of minimum personal income is not necessarily the same as the amount of the guaranteed personal income (See Associated Labour Act (2), Article 131.). It should be noted that these arguments are valid only when sufficient capital is available to the firm and keen economic competition forces it to employ modern technology, which will be the case in several economic branches in Yugoslavia.

<sup>20)</sup> It should be noted that the possibility for the firm to increase the prices of its products is neglected in this situation because of the basic assumption 3. If the firm can raise the price, it will do so in order to secure personal incomes. But this behaviour is possible only for those firms which belong to less competitive industries and which are permitted to raise the prices by the public agencies.

Workers' Council that every possible economic plan or managerial effort cannot bring more income than the guaranteed personal income in the future. This situation is definitely critical to a P. O. firm. A large-scale rearrangement of the firm (including the possibility of moving out into the other economic branches) should be sooner or later required by the Workers' Council and the director.

## 2.2. Appendix. Self-financing and Its Effects on Development Planning in a P. O. Firm

It has been assumed so far that investment funds are supplied from outside. This assumption is, however, not so realistic. Almost all firms are likely to rely in part on self-financing in reality.<sup>21)</sup> Hence, a general case where the investment funds of the firm are supplied both from outside and from self-financing should be dealt with here.

Suppose that a portion of investment funds  $\lambda$  ( $0 \leq \lambda < 1$ ) is provided from outside and the other portion  $(1 - \lambda)$  comes from self-financing. Then, what will occur in the potentially-optimal rate of growth  $g^*$  of a P. O. firm? In this situation, the present value of average personal income is

$$Y_0 = \frac{R_0(g)}{aK_0} \cdot \frac{1}{(\delta - \gamma) - g(1 - \alpha)} \cdot \frac{i\lambda p + (1 - \lambda)\alpha g p}{a(\delta - \gamma)} \cdot \frac{c}{\delta}$$

Therefore, the first-order conditions for determining the potentially-optimal rate of growth proves to be

$$\frac{S'(g)}{R_0(g)} = \frac{1}{\theta - g} \cdot \frac{K_0}{R_0(g)} \cdot \frac{p\alpha(1 - \lambda)(\theta - g)}{\theta} \quad (A)$$

As far as self-finance is relied upon (i. e.,  $1 - \lambda > 0$ ), the righthand side of eq. (A) is less than  $1/(\theta - g)$ <sup>22)</sup>, and this means that the new potentially-optimal rate  $g$  is less than the old one  $g^*$ . Furthermore, from eq. (A), a decrease of  $\lambda$  can be considered to lead to a decrease of  $g$  (note that the magnitude of the interest rate has no influence on this result). When we take into consideration the possibility of self-financing, some modifications must be made of the arguments in the first part of this Section.

## 2.3. Development Planning in an Efficiency-Oriented Firm

An efficiency-oriented firm (E. O. firm) is supposed to maximize its present value of the total net residual (reserve funds). As was mentioned before, the planners must ensure an increase of personal income, desirably, at a constant rate, however low it may be. In fact, the

<sup>21)</sup> An example of structure of investment finance in the firm can be seen in M. Milisavljević et al. (15), p. 423.

<sup>22)</sup> It follows from the footnote (\*) on page 9 that  $\theta - g > 0$ .

We have been implicitly assuming so far that the present value of total net residual  $\pi_0$  is positive. But this is not always the case. In fact, in some firms (e. g. firms producing "inferior goods"),  $\pi_0$  may be negative for all feasible  $g$ . This implies that workers can no longer enjoy increasing wage rates.<sup>26</sup> This forces the Workers' Council and the director to rearrange their firm. They may be obliged to consider the possibility of reducing their scales of economic activities and/or moving into other more profitable economic branches, and so on. Naturally, these policies will cause a great change in workers' job tasks. Workers are required to spend much time in discussing these fundamental topics. Anyway, after long and tough discussions, they would agree on the policy to reduce their personal income while seeking to rearrange their business activities.

#### 2.4. Development Planning in Yugoslav Firms

##### Summary

We summarize here development planning, the expected behaviour of workers and directors, and the properties of plans actually chosen in the firms, taking into account the behavioural differences between a P.O. firm and an E.O. firm.

First, it must be noted that chosen development plans depend greatly upon estimated changes of economic, social and political environments or estimated socio-economic parameters for the next period in the firms. (In this paper, an expected rate of technological progress, an expected rate of demand expansion, and expected rate of interest, etc., are considered as those economic parameters.) The accuracy of expected values of economic parameters, therefore, is very crucial for business success in the next planning period.

Secondly, the firms will not be forced to introduce high-level modern technology in less-dynamically developing industries. This may be the case in industries where there exists no strong international and/or domestic competition. In this case, the firms can enjoy the larger feasible and viable sets of plan drafts and almost all the drafts in this set will not reduce labour employment so that business success and the maintenance of good labour relations in the firm will be compatible. Hence, all members can enjoy favourable economic results. In this situation, in a P. O. firm, the workers may show no interest in economic growth if there are no economies of scale. On the other hand, in an E. O. firm, the workers would still maintain some interest in it.

Thirdly, in economic branches where there exist a dynamic economic development, which may be brought by keen international and/or domestic competition, the planners in the firm will expect trends and the necessity of larger economies of scale and/or a higher rate of technological progress, and would be obliged to employ such modern technology in order to ensure their survival in a highly competitive industry.

<sup>26</sup>) Note that the possibility of raising product prices is not taken into account here.

On the other hand, when the planners take into consideration the expected demand of products, they cannot accept such a high rate of economic growth since they must pay quite a lot of sales promotion costs. (It should also be considered that a rather limited investment-fund supply would set a limit to the actually accepted rate of growth, though this is not explicitly considered here.) At the same time, they must take into account that labour employment should not be reduced, which may require a higher rate of growth. Thus, it is very probable that a dilemma arises between business success and the improvement or maintenance of labour relations in the firm.

Specifically, in a P. O. firm, a development plan which does not reduce labour employment on a large scale will be adopted by the workers after long and tough discussions. But this means less average personal income in the long run, so that many workers may feel frustrated to some extent. On the other hand, in an E. O. firm, a development plan which does not reduce labour employment will be relatively easily adopted by the workers, though the director, who is assumed to take a strong initiative in the decision-making, will try to persuade the workers to choose more efficient plans because he knows that the plan will bring a lower expected net residual in the long run. In fact, workers show more interest in labour employment and their jobs than in net residual. Thus, the director may feel very frustrated.

Finally, highly critical cases for the firm must be considered. It may happen that the expected present value of average personal income in the long run is less than the guaranteed personal income in a P. O. firm. This implies that workers will get the guaranteed personal income which is not such an attractive amount in reality. How will the workers behave in this case? At first, because this expected value depends upon the estimated economic parameters, they may wait for a possible change of the economic parameters over several years while enduring low personal incomes. This is, however, the case only when such a change of parameters is probable in the near future. In other cases in which there exists a lesser probability of such a favorable change, the directors and the planners as well as the workers have to start examining the possibilities of altering the internal organization of the firm on a large scale. Naturally, if the firm is permitted to raise the price of its product, then it would do so. But this is not possible for every firm in the Yugoslav reality. Almost the same can be said for an E. O. firm. In this situation, workers can no longer obtain wage increases at a constant rate over time, though they may get a fairly large wage. (We have not mentioned the special case in which the firm can maintain its business activities only with lots of subsidies from the public communities. Although this case is very important, it should be analyzed in a separate paper.)

### 3. OPEN ISSUES

We will discuss some important remaining issues which should be analyzed in the near future.

First, this paper only deals with the simplest case in which a Work Organization (WO) includes no Basic Organizations of Associated Labour (BOAL). The actual economy is more complicated, so that a more general case in which a WO includes several BOALs should be analyzed. Generally speaking, workers tend to show interest only in the business performance of the BOAL to which they directly belong. In fact, the amount of their personal income depends upon the business performance of the BOAL though it also depends upon the rate of distribution of net revenue of the WO among the BOALs, which is determined in advance according to self-management agreements. Here difficulties appear in the WO. This may be particularly true when a BOAL enjoys economies of scale and/or "external economic effects" within a WO. Suppose, for instance, that a BOAL (BOAL-A) uses two materials as its input which are substitutable with each other, and suppose that the first material ( $M_1$ ) comes out of the other BOAL (BOAL-B) within the same WO and the second ( $M_2$ ) comes from another domestic or foreign factory. In this case, it may happen that BOAL-A prefers  $M_2$  to  $M_1$  because  $M_2$  is better in terms of cost and quality. (Note that a BOAL is a relatively independent economic unit which has its own business interests.) This behaviour of BOAL-A will lead to a piling up of  $M_1$  at the warehouse of BOAL-B unless some other political factors are taken into account. Of course, this will cause serious difficulties in the WO. Therefore, we must analyze an adjustment mechanism or process of interests among the BOALs within a WO.

Secondly, as was mentioned earlier, it should be noted that the adopted plan which is considered in this paper does not necessarily become the final plan in the firm. This paper considers only the first three steps of the six presented in Section 1.1. that are supposed to make up a standard planning process in Yugoslav firms. In other words, an "adopted plan" in this paper should be regarded as the basic plan which is made taking into consideration mainly the internal interests of the firm, though the draft plans of the firm are assumed to be made on the basis of information from the draft plans of other socio-economic agents, especially the drafts of the Social Plans of public communities. In reality, each firm is obliged by law to coordinate and negotiate its plan with the plans of other firms and public communities, as Steps 4 to 6 in Section 1.1. show. It is very probable that the plans of the firm would be modified to some extent through the process of coordination. (Usually negotiation and coordination are done at the corresponding chamber of economy with the participation of representatives of relevant firms, the planning agency of the public community, banks, the chamber of economy, etc.) This is particularly true when the firm gets some of its investment funds from outside, e.g., banks. When each participant agrees, they conclude self-management agreements on their plans. In Yugoslav reality, however, the mechanism of concluding these agreements does not seem to work very well. As far as this process or mechanism plays a crucial role in the whole planning system in Yugoslavia, we cannot fail to examine: what structure the mechanism of concluding self-management agreements has;

which factors hinder it and which factors promote it.<sup>27</sup>) These are our future tasks.

Thirdly, the functions of the socio-political factors in the economic planning of the firm should be examined. The mechanism of coordination of various interests within the firm and among the firms is very significant in a Yugoslav-type system of planning, as was mentioned before. In this respect, socio-political factors seem to play indispensable parts. S. Bolčić, for example, emphasizes:

It is mistaken to expect that a consciousness of collective long-range interests can be completely spontaneously formed, especially in a situation of a significantly momentary duality of interests. In increasing new ideas about the future, particularly in a socialist society, ideology can be a positive support for institutional changes. In this case, ideology is not spoken of as "ideologization" or as "indoctrination" but exactly from the standpoint of the positive forming of ideas about the future, by the linking of that which is actually occurring in the society with "really possible" alternatives in the society's development ((8), p. 7.).

Indeed, the socio-political factors (especially of the League of Communists) seem to play the role of stabilizer in the planning system of Yugoslavia. Therefore, we should carefully examine: what socio-political factors should be taken into account; in which aspects or spheres, how they work, and so on.

Finally, this paper analyzes the planning activities of the firm (a micro-economic analysis), but a macro-economic analysis is also required. Namely, it is indispensable to examine what the performance of the Yugoslav planning system, which is supposed to consist of firms whose behaviour has just been examined here, and of the public communities in terms of economic development, inflation, employment, income distribution, and so on.

#### REFERENCES

- (1) YUGOSLAV CONSTITUTION, 1974.
- (2) ASSOCIATED LABOUR ACT, 1976.
- (2\*) ASSOCIATED LABOUR ACT, 1977.
- (3) LAW ON THE BASES OF THE SYSTEM OF SOCIAL PLANNING AND ON THE YUGOSLAV SOCIAL PLAN, 1976.
- (4) YUGOSLAV SOCIAL PLAN, 1976.
- (5) LAW ON LABOUR RELATIONS, 1978, SKOPJE.

- (6) Adizes, I., *Industrial Democracy: Yugoslav Style*, New York, 1971.
- (7) Atkinson, A. B., "Worker Management and the Modern Industrial Enterprise", *Quarterly Journal of Economics*, August 1973.

<sup>27</sup>) See, for example, S. Bolčić (3). His paper gives us some suggestions on those questions.



- (8) Bolčić, S., "Self-Management Agreements and Compacts as Elements of the Yugoslav System of Planning", presented in the Second International Conference on Participation, Workers' Control and Self-Management, Paris, 1977.
- (9) Dejanović, P., *Organizacija Samoupravnog Udaženog Rada*, Beograd, 1977.
- (10) Furubotn, E. G., "The Long-Run Analysis of the Labour-Managed Firm: An Alternative Interpretation", *American Economic Review*, March 1976.
- (11) Horvat, B., "Critical Notes on the Theory of the Labour-Managed Firm and Some Macroeconomic Implications", *Economic Analysis*, Vol. VI, 1972, Beograd.
- (12) Kalogjera, D., "Planning Under the System of Workers' Self-Management", presented in the Second International Conference on Participation, Workers' Control and Self-Management, Paris, 1977.
- (13) Kardelj, E., *The System of Planning in a Society of Self-Management*, 1976, Beograd.
- (14) Mencinger, J., "An Econometric Testing of Some Theoretical Propositions Regarding Labour-Managed Economy", *Economic Analysis*, Vol. XI, No. 1-2, 1977, Beograd.
- (15) Milisavljević, M., et al., *Planiranje i Razvojna Politika Samoupravnog Preduzeća*, 1977, Beograd.
- (16) Nakatani, I., "Rodosha Jishukanri no Keizai Riron Josetsu (Introduction to an Economic Theory of Workers' Self-Management)", *Keizai Kenkyu* (Economic Studies), Vol. 27, No. 2, April 1976, Tokyo.
- (17) Nakatani, I., "Rodosha Sanka no Keizai Riron (Economic Theory of Workers' Participation)", in *Keizaigakuteki Kiso* (Vol. 1 of Keizai Taisei Ron) ed. by M. Aoki, 1977, Tokyo.
- (18) Nutzinger, H. G., "Investment and Financing in a Labour-Managed Firm and its Social Implications", *Economic Analysis*, Vol. IX, No. 3-4, 1975, Beograd.
- (19) Stojanović, R., *Planiranje u Samoupravnom Društvu*, 1976, Beograd.
- (20) Vaneč, Jaroslav, *The General Theory of Labour-Managed Market Economies*, New York, 1970.
- (21) Ward, B., "The Firm in Ulyria: Market Syndicalism", *American Economic Review*, September 1958.
- (22) Zelić, N., "Jugoslovensko Preduzeće i Teorija o Ponašanju Samoupravnih Privrednih Subjekata", *Economic Analysis*, Vol. X, No. 1-2, 1976, Beograd.

#### EKONOMSKO PLANIRANJE U JUGOSLOVENSKIM PREDUZEĆIMA

Nozomu Abe

R e z i m e

Svrhu ovog članka čini analiza planskog ponašanja preduzeća u jugoslovenskim pravnim i društvenim okvirima.

Plansko ponašanje preduzeća varira u zavisnosti od dejstva raznih činilaca. Smatra se da u znatnoj meri na plansko ponašanje preduzeća utiču industrijske strukture (stepen konkurentnosti i prosperiteta industrije) i odnosi snaga (struktura moći) unutar preduzeća. U ranijim razmatranjima ove, od ekonomista inače često diskutovane, teme, mala pažnja bila je posvećivana ovim, upravo pomenutim, eksternim i internim faktorima. Stoga autor u svom članku želi da što je moguće eksplicitnije analizira odnose socio-ekonomskih faktora i/ili okruženja

preduzeća i proces odlučivanja u ekonomskom planiranju preduzeća. Poseban naglasak se, pri tome, stavlja na odnos između uvođenja moderne tehnologije i procesa koordinacije različitih interesa članova preduzeća. U ovoj analizi važnu ulogu igra „individualnost“ (specifičnost) preduzeća, koja se naravno umnogome razlikuje od preduzeća do preduzeća. Autor uvodi dva tipa jugoslovenskih preduzeća: jedna su tzv. preduzeća sa orijentacijom na participaciju („P O preduzeća“), a druga su tzv. preduzeća sa orijentacijom na efikasnost („E O preduzeća“). Oba ova tipa čine se autoru tipičnim za Jugoslaviju. PO preduzeća se, između ostalog, karakterišu direktorovim malim inicijativama u donošenju ključnih odluka, kao i decentralizovanim upravljanjem. Nasuprot tome, EO preduzeća su obeležena snažnim direktorovim inicijativama i centralizovanim upravljanjem.

Analizirajući preduzeća u gornjim okvirima, autor je došao do sledećih zaključaka:

Prvo, u industrijama koje se razvijaju manje dinamičnim tempom i u kojima, stoga, preduzeća nisu prisiljena da uvode modernu tehnologiju, moguće je donošenje takvih alternativa planova koje imaju realnu šansu da budu prihvaćene, jer ne idu na smanjenje zaposlenosti, tako da su u ovom slučaju kompatibilni poslovni uspeh i održavanje dobrih radnih odnosa u preduzeću. Svi članovi preduzeća uživaju povoljne ekonomske rezultate.

Drugo, u industrijama u kojima postoje dinamični ekonomski razvoj, koji se ostvaruje oštrom međunarodnom i/ili domaćom konkurencijom, planere u preduzeću očekuju trendovi i nužnost većih ekonomija obima i/ili više stope tehnološkog progressa, stoga će oni biti prinuđeni da uvedu takvu modernu tehnologiju koja će im obezbediti opstanak u visokokonkurentnom okruženju. S druge strane, ako planeri uzmu u obzir očekivanu tražnju za njihovim proizvodima, oni ne mogu prihvatiti tako visoku stopu ekonomskog rasta, budući da ona zahteva izuzetno visoke troškove unapređenja prodaje. U isto vreme, oni treba da vode računa o tome da zaposlenost u preduzeću ne bude reducirana, što može zahtevati višu stopu rasta. Na taj način, veoma je verovatno da će iskrsnuti dilema: poslovni uspeh i usavršavanje ili održavanje dobrih radnih odnosa u preduzeću.

U PO preduzećima, razvojni plan koji ne reducira zaposlenost u velikom obimu radnici će prihvatiti posle duge i burne diskusije. Međutim, to znači manji prosečan lični dohodak na dugi rok, tako da se u izvesnoj meri mnogi radnici mogu osećati frustriranim. S druge strane, u EO preduzeću, razvojni plan koji ne smanjuje zaposlenost radnici će relativno brzo i lako prihvatiti, iako će direktori, koji su po pretpostavci intenzivno angažuju u pokretanju inicijativa u procesu donošenja odluka, pokušati da ubede radnike da izaberu efikasniji plan, zbog toga što oni znaju da će plan na dugi rok doneti manji iznos neto reziduala. Tako se u ovom slučaju direktori mogu osećati frustrirani.

Konačno, potrebno je razmotriti i jedan slučaj veoma kritičan za preduzeće. Može se dogoditi da očekivana sadašnja vrednost prosečnog ličnog dohotka na dugi rok bude manja nego garantovani lični dohodak. To znači da će radnici dobiti garantovane lične dohotke čiji iznos u stvarnosti nije tako atraktivan. Kako će se radnici ponašati u tom

slučaju? Očekivano ponašanje radnika nije tako jasno i jednoznačno određeno. Veoma je verovatno da će se u takvom slučaju umešati društveno-politička zajednica jer su preduzeću potrebne izvesne dotacije. Ovaj slučaj ne treba analizirati samo sa društveno-ekonomskog, već i sa političkog aspekta. To, međutim, nije eksplicitno učinjeno u ovom članku.

Ovaj članak predstavlja prvi korak u pravcu obuhvatnog razumevanja i objašnjenja struktura i funkcionisanja ukupnog društveno-ekonomskog sistema planiranja u Jugoslaviji. Stoga, za ovim člankom treba da sledi analiza srodnih tema koje se, između ostalog, odnose na (1) mehanizam ili proces usklađivanja interesa OOUR-a unutar radne organizacije; (2) strukturu i funkcionisanje dogovaranja i zaključivanja samoupravnih sporazuma o osnovama planova; (3) uloga društveno-političkih organizacija u planskim aktivnostima; (4) makroekonomska analiza celokupnog sistema društveno-ekonomskog planiranja u Jugoslaviji.

## THE FORMATION AND DISTRIBUTION OF INCOME OF AN ECONOMIC UNIT (B. G. A. L.) IN YUGOSLAVIA

Aleksandar M. VACIĆ\*

### INTRODUCTION

Every economic system, whatever it might be, is founded on a definite social philosophy and organized in a definite organizational structure which shapes its anatomy. Both of them are very important and very often take the bulk of discussions connected with comparative economic systems. None of them, however, can be understood properly without its physiology, the way the national income is actually distributed and allocated within it.

The socialist self-management economic system, at least as it is understood in Yugoslavia, is based on social property of the means of production, the management of economic and other processes by those who work within them (self-management) and on distribution according to work performed. All those characteristics today play their parts in the framework of the market economy as an objectively-determined necessity. Since there is no monopoly on resource use and management, the economic units show a different pattern of behaviour. Based on the need and will of workers to make their living together, the economic units may be qualified as *organizations of associated labour*. The elementary ones between them — the smallest ones whose results may be and usually are sold at the market or within larger organizations of associated labour — therefore may be determined as *basic organizations of associated labour (BOALs)*.

Since both the workers and the BOALs they work in make their living out of the income the BOAL acquires, the functioning of the self-management economic system can be best understood through the formation and distribution of BOAL income.

Income formation and distribution have not been conceived in the same way in both the economic theory and practice of Yugoslavia. Many disputes take place about this in Yugoslavia. Some economists even completely rejected the very possibility of BOAL rational operation, other than the one based on wages determined on the labour mar-

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