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Economic Growth and Income Distribution in a Dictatorial State: The Case of Financial Control

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This paper attempts to derive a situation of income distribution, when a state has a dictatorial power over money markets and a utility function with economic growth and political fund as its two variables. Political contributions of funds from business sectors in order to secure benefits from low official interest rates are the main force affecting income distribution in the economy of this nature.

Ⅰ. Introduction

There is a great diversity of economic systems in a spectrum between a capitalist and a socialist systems, and a number of combinations of the two systems also exist in various forms. A possible combination one encounters among developing countries is an economy basically operated on market mechanism, but heavily controlled and manipulated by a strong central government usually headed by a dictator.

The dictator is not only wielding a far reaching political power but also deeply involved in almost all operation of a national economy. Only where the dictator's hand does not reach, lively market forces are effective in a true sense of capitalism. The most frequent sectors in which the dictator finds an easy interference in terms of influence are money and

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labour markets. In case of money market the dictator meets less resisting forces than labour market where labour dispute is easily kindled by mere intervention. However, it is also possible to control labour market by a strong central government when the so-called national security situation requires an imminent measure.

This paper only deals with the case of financial control by the dictator, totally excluding the possibility of control and manipulation in labour market, foreign exchange market, import-export regime, etc. A simultaneous treatment of all these markets is by no means infeasible, but requires excessive sophistication in generalization and modelling. Perhaps, an additional feature of dictatorial control of another market may be easily extended after a basic study is made about the control of money market.

There are some papers dealing with an economic situation under a strong dictatorial government, mostly from a viewpoint of political scientists employing primarily the instruments used in political economy.[1] There are also some papers dealing with a national economy with a given set of numerous non-economic variables such as political stability, literacy rates, etc.[2] In spite of number of studies conducted with respect to socio-political aspects influencing economic growth and development, there is no unanimity in supporting significantly any set of definite hypotheses. Particularly, no paper has yet theoretically and systematically analysed economic growth and development under various intensity of non-socialistic dictatorship.[3]

An excercise expounded in this sort of papers may contribute to laying a ground for furthering and enticing empirical studies, which attempt to quantify a relation between economic situations and dictatorial establishment in an economy. In reality, where political power extensively meddles in economic decision-making, an attempt to separate economic reasoning from everyday social life seems to inevitably produce a hypothetical picture which hardly describes an economic situation developed in a dictatorial state.

1) For instance, refer to Erich Weede [5].

2) A classical example is Irma Adelman and Cynthia Morris [1].

3) Anne O. Krueger [4], however, extensively dealt with the case of the government intervention and its effect on economic rent-seeking in general.

II. Some Basic Concepts

In a dictatorial state, the head of state or a group of junta consisting a supreme decision body in the state not only wields political power but also strongly influences in determining economic policy instrumental variables such as bank interest rates, import-export quaotas, foreign exchange rates, tax, etc. Under this circumstance, the development of wide-spread black markets is a natural consequence, and some of unsatisfied needs and wants are usually solved in these markets, accompanying high risks. The operations of this type of an economy basically rely on the mixture of three theoretically separable, but realistically concocted, systems; namely a command economy, normal market economy and hidden underground economy.

Since legitimacy of a dictatorial government may normally be secured by providing the nation with stable and high economic living standard, the government is particularly keen about maintaining good economic performance in terms of employment, growth in national income, etc. Let us begin with establishing a utility function of a dictatorial government.

$$U = U(\Delta, \Phi) \tag{1}$$

where Δ is increment in gross domestic product, and Φ necessary political funds to maintain the dictatorial systems involving such as secret security service, body guards, political thug, political campaign, propaganda, etc. Suppose further that the utility function is well-behaving in neoclassical sense, and let us define that the increase in GDP is made such a simple manner as

$$\Delta = gY = \sigma kY \tag{2}$$

where we assumed a Harrod-Domar type growth mechanism. Here, g denotes the growth rate of GDP, k average propensity to save, and σ a simple output-capital ratio. Equation (2) basically tells us that a high increase in GDP is only possible with high average propensity to save given the out-put capital ratio.

As it is normally taken granted in a dictatorial government, the official money market is totally under control of the state and, therefore, only highly monopsonistic banking institution officially exists.[4] Again, the official interest rate is unilaterally set by the

4) Wontack Hong [3].

state, and unofficial private money markets are rampant and easily accessible, usually for borrowers who do not have connections with the official banking system.[5] Now, it is clear that the dictator accumulates necessary political funds by extracting a fraction of the difference between the rate of return on capital and the official interest rate charged on loans from the official banking system. Accordingly, the political fund Φ may be defined as

$$\Phi = \alpha(r - i)L(i), \quad dL/di > 0 \tag{3}$$

where r denotes the rate of return on capital, i the official interest rate, α the fraction of the difference taken by the dictator, usually in the name of political contributions, L deposits from the household sector in the official banking system. Here L is assumed to be a function of interest rate, the first derivative with respect to i to be positive.

Suppose further that investment or capital formation in the economy is made as a positive function of net profit earned as a fraction of difference between r and i, i.e.,

$$\begin{aligned} I &= \beta(1 - \alpha)(r - i)L \\ &\quad \beta > 0,\ \partial I/\partial L > 0,\ \partial I/\partial r > 0 \\ &\quad \partial I/\partial i < 0,\ \text{and}\ \partial I/\partial \alpha < 0 \end{aligned} \tag{4}$$

Equation (4) is a normal version of an investment function which incorporates both marginal efficiency of capital theory and availability of fund hypothesis. Here I denotes investment or fixed capital formation.

Inserting Equation (4) into Equation (2) and utilizing the usual investment-savings identity, we have

$$\begin{aligned} \Delta &= \sigma\beta(1 - \alpha)(r - i)L \\ &= \sigma\beta(r - i) - \sigma\beta\Phi \end{aligned} \tag{5}$$

or

$$\Phi = (r - i)L - \frac{1}{\sigma\beta}\Delta$$

Equation (5) is crucial in the sense that it shows the trade-off relation between growth of GDP and political fund. The more the political fund is secured by the dictator, the less the

5) Robert T. Deacon and Jon Sonstelie [2] deals with a special case in which price control is applied in commodity markets.

growth potential would be. This is the frontier in terms of growth and political fund the economy is allowed to reach.

Ⅲ. Optimization Behaviors

The optimizing behavior of the dictatorial state would be as simple as a usual consumer behavior. A Lagrangerian function may be established as following manner:

$$\Lambda = U(\Delta, \Phi) - \lambda\left[\Phi - (r-i)L + \frac{1}{\sigma\beta}\Delta\right] \tag{6}$$

differentiating Equation (6) with respect to Δ, Φ and λ, we have the following:

$$\frac{\partial\Lambda}{\partial\Delta} = U_1 - \frac{\lambda}{\sigma\beta} = 0$$
$$\frac{\partial\Lambda}{\partial\Phi} = U_2 - \lambda = 0$$
$$\frac{\partial\Lambda}{\partial\lambda} = \Phi - (r-i)L + \frac{1}{\sigma\beta}\Delta = 0$$

where $U_1 = \partial U/\partial\Delta$ and $U_2 = \partial U/\partial\Phi$, respectively. From the above the optimality condition is obtained as

$$\frac{U_1}{U_2} = \frac{1}{\sigma\beta} \tag{7}$$

which indicate the usual tangency at which the marginal rate of substitution between political fund and growth is equal to the slope of Equation (5). It is immediately evident that the growth of GDP at the solution point, Δ^*, is less than the maximum attainable growth, $\Delta = \sigma\beta(r-i)L$, by as much as $\sigma\beta\Phi^*$ since $\Phi^* \neq 0$. Because of acquisition of political fund by the dictator, the growth of GDP has to be sacrificed and state welfare declines.

Another look at the utility function produces an additional feature of dictatorial behavior. Rewrite the utility function, expressed in Equation (1), in terms of both interest rate i and the portion taken as political fund α by simply inserting Equations (3) and (5) into Equation (1).

$$U = U[\sigma\beta(1-\alpha)(r-i)L, \alpha(r-i)L] \tag{8}$$

Maximizing the utility function above with respect to α and i we have the following

$$\frac{\partial U}{\partial \alpha} = -U_1\sigma\beta(r-i)L + U_2(r-i)L = 0$$
$$\frac{\partial U}{\partial i} = [U_2\sigma\beta(1-\alpha) + U_2\alpha]\left[-L + (r-i)\frac{dL}{di}\right] = 0$$

and from these two equations, the condition shown in Equation (7) and the following additional condition are also derived :

$$i = \frac{1}{1+\frac{1}{\eta}}r \qquad (9)$$

where

$$\eta = \frac{i}{L}\frac{dL}{di}$$

Note also that

$$U_1\sigma\beta(1-\alpha) + U_2\alpha \neq 0$$

since all terms on the left hand side are positive.

Ⅳ. Feasible Consequences

From the above optimizing behavior, it is immediately clear that maximum attainable economic growth in the economy is not materialized since there always exists an attempt to acquire a certain level of political fund by the dictator. What will be the size of α will be determined by Equation (7), depending upon the comparative intensity of the dictator' s preference to the growth and the maintenance of the dictatorial regime.

This is possible mainly because of the fact that unless the elasticity η is infinitely elastic the official interest rate, i, will always be lower than the rate of return, r, and the following always holds

$$r - i > 0 \qquad (10)$$

It is also true that as the elasticity η tends to be more inelastic the gap between i and r

becomes larger, and with a fixed α the fund Φ increases. Perhaps this is one of reasons why in a dictatorial state a compulsory national savings drive is usually enforced. Since the political fund may be expressed as

$$\Phi = \alpha\left(1 - \frac{1}{1+\frac{1}{\eta}}\right)rL = \frac{\alpha rL}{\eta+1} \tag{11}$$

It may be summarized as

$$\frac{\partial\Phi}{\partial\alpha} > 0, \quad \frac{\partial\Phi}{\partial\eta} < 0, \quad \text{and} \quad \frac{\partial\Phi}{\partial r} > 0$$

Since there is a large gap between i and r, official banking operation, which is normally undertaken by market mechanism at which supply of and demand for fund determine an equilibrium market rate of interest, cannot be expected in this case, and credit allocation by the dictatorial state is made, instead, at the low official interest rate i. In this situation, one may easily conjecture that there will be a chronic excess demand for fund, and this demand may usually be met in a private money market where the interest rate will be higher than i. This inevitably led to an establishment of unofficial underground money markets, into which officially allocated fund from the banking system may flow. It is therefore clear that the relation between the official and the private money markets is spontaneous and organic in nature and, therefore, essentially inseparable. Simultaneous and symbiotic nature of coexistence of the two markets is unavoidably inherent in this type of economy. The very existence of a large scale rampant underground economy in an underdeveloped economy with dictatorial power may logically be explained as a consequence of its structural peculiarity. As long as the honeymooning between the dictatorial state and the business sector of the economy is maintained, it is not easy to expect that the underground economy will substantially be eradicated.

Accelerated exacerbation of income distribution against laboring household sector is also a natural consequence of this type of economy. Define income of the three different sectors as

$$Y_D = \Phi \tag{12}$$

$$Y_B = (1-\alpha)(r-i)L + rK \tag{13}$$

$$Y_H = iL + W \tag{14}$$

where Y_D, Y_B and Y_H denote incomes of the dictator, business sector and households, respectively. K and W are capital and wage fund. From Equations (9) and (11) it is clear that

$$\frac{\partial(Y_D/Y_H)}{\partial r} > 0, \quad \frac{\partial(Y_B/Y_H)}{\partial r} > 0, \quad \frac{\partial(Y_D/Y_H)}{\partial \eta} < 0, \text{ and } \frac{\partial(Y_B/Y_H)}{\partial \eta} < 0$$

which indicate that the productivity growth in terms of r and a decrease in deposit elasticity of interest definitely worsen the income distribution against the labouring household sector. The benefits of economic growth in terms of Δ would primarily shared by the dictator and the business sector.

V. Concluding Remarks

In a state where the dictator or dictatorial junta wields not only political power but also economic influence, a strong natural tendency would inevitably be imbued to establish political funds by the dictator to sustain its political basis and to legitimatize its dictatorship. By attempting to maximize simultaneously economic growth and political funding, the economy encounters (a) a less economic growth than non-dictatorial case, (b) lower official interest rate with lower interest elasticity of deposit than internal rate of return of capital, (c) establishment of wide-spread unofficial money markets, where interest rate is higher than the official banking institute, (d) steady worsening of income distribution of the labouring household sector contrasted to business and state sectors as the rate of return of capital increases and the interest elasticity of deposit becomes more rigid.

In a non-socialistic dictatorial state, the main operation of the economy extensively relies on market mechanism, while substantial influence is made in financial, labour and foreign sectors by the state in such a way that the dictator benefits economically from market interventions. Most of illegally accumulated fund in the hand of the dictator is closely connected with the operation of wide-spread unofficial money market, which forms a major portion of the underground economy.

A systematic approach to this sort of problem based on a quantification study is critically limited mainly due to the closed nature of informations and unavailability of statistical data, at least concurrently with the existence of such a dictatorial regime in an economy. However, once the state of reality is exposed after abolishment of such a regime, a quantification attempt may ensure easily, more likely based on the reasoning made in this study.

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