SELECTED ESSAYS
ON THE DYNAMICS OF
THE CAPITALIST ECONOMY
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7. THE DETERMINANTS OF PROFITS

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THEORY OF PROFITS IN A SIMPLIFIED MODEL

We may consider first the determinants of profits in a closed economy in which both government expenditure and taxation are negligible. Gross national product will thus be equal to the sum of gross investment (in fixed capital and inventories) and consumption. The value of gross national product will be divided between workers and capitalists, virtually nothing being paid in taxes. The income of workers consists of wages and salaries. The income of capitalists or gross profits includes depreciation and undistributed profits, dividends and withdrawals from unincorporated business, rent and interest. We thus have the following balance sheet of the gross national product, in which we distinguish between capitalists’ consumption and workers’ consumption:

- Gross profits
- Wages and salaries
- Gross national product

- Gross investment
- Capitalists' consumption
- Workers' consumption
- Gross national product

If we make the additional assumption that workers do not save, then the workers’ consumption is equal to their income. It follows directly then:

\[ \text{Gross profits} = \text{Gross investment} + \text{capitalists' consumption} \]

What is the significance of this equation? Does it mean that profits in a given period determine capitalists' consumption and investment, or the reverse of this? The answer to this question depends on which of these items is directly subject to the decisions of capitalists. Now, it is clear that capitalists may decide to consume and to invest more in a given period than in the preceding one, but they cannot decide to earn more. It is, therefore, their investment and consumption decisions which determine profits, and not vice versa.

If the period which we consider is short, we may say that the capitalists' investment and consumption are determined by decisions shaped in the past. For the execution of investment orders takes a certain time, and capitalists' consumption responds to changes in the factors which influence it only with a certain delay.

If capitalists always decided to consume and to invest in a given period what they had earned in the preceding period, the profits in the given period would be equal to those in the preceding one. In such a case profits would remain stationary, and the problem of interpreting the above equation would lose its importance. But such is not the case. Although profits in the preceding period are one of the important determinants of capitalists' consumption and investment, capitalists in general do not decide to consume and invest in a given period precisely what they have earned in the preceding one. This explains why profits are not stationary, but fluctuate in time.

The above argument requires certain qualifications. Past investment decisions may not fully determine the volume of investment in a given period, owing to unexpected accumulation or running down of stocks. The importance of this factor, however, seems to have been frequently exaggerated.

A second qualification arises out of the fact that consumption and investment decisions will usually be made in real terms, and in the meantime prices may change. For instance, a piece of ordered capital equipment may now cost more than at the time when the order was given. To get over this difficulty both sides of the equation will be assumed to be calculated at constant prices.

We may now conclude that the real gross profits in a given short period are determined by decisions of capitalists with respect to their consumption and investment shaped in the past,
subject to correction for unexpected changes in the volume of stocks.

For the understanding of the problems considered it is useful to present the above from a somewhat different angle. Imagine that following the Marxian 'schemes of reproduction' we subdivide all the economy into three departments: department I producing investment goods, department II producing consumption goods for capitalists, and department III producing consumption goods for workers. The capitalists in department III, after having sold to workers the amount of consumption goods corresponding to their wages, will still have left a surplus of consumption goods which will be the equivalent of their profits. These goods will be sold to the workers of department I and department II, and as the workers do not save it will be equal to their incomes. Thus, total profits will be equal to the sum of profits in department I, profits in department II, and wages in these two departments: or, total profits will be equal to the value of production of these two departments—in other words, to the value of production of investment goods and consumption goods for capitalists.

The production of department I and department II will also determine the production of department III if the distribution between profits and wages in all departments is given. The production of department III will be pushed up to the point where profits earned out of that production will be equal to the wages of departments I and II. Or, to put it differently, employment and production of department III will be pushed up to the point where the surplus of this production over what the workers of this department buy with their wages is equal to the wages of departments I and II.

The above clarifies the role of the 'distribution factors', i.e. factors determining the distribution of income (such as degree of monopoly) in the theory of profits. Given that profits are determined by capitalists' consumption and investment, it is the workers' income (equal here to workers' consumption) which is determined by the 'distribution factors'. In this way capitalists' consumption and investment conjointly with the 'distribution factors' determine the workers' consumption and consequently the national output and employment. The national output will be pushed up to the point where profits carved out of it in accordance with the 'distribution factors' are equal to the sum of capitalists' consumption and investment.†

THE GENERAL CASE

We may now pass from our simplified model to the real situation where the economy is not a closed system and where government expenditure and taxation are not negligible. The gross national product is then equal to the sum of gross investment, consumption, government expenditure on goods and services, and the surplus of exports over imports. ('Investment' here stands for private investment, public investment being included in government expenditure on goods and services.) Since the total value of production is divided between capitalists and workers or paid in taxes, the value of gross national product on the income side will be equal to gross profits net of taxes, wages and salaries net of taxes, plus all taxes direct and indirect. We thus have the following balance sheet of the gross national product:

<table>
<thead>
<tr>
<th>Gross profits</th>
<th>Gross investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>net of (direct) taxes</td>
<td>Export surplus</td>
</tr>
<tr>
<td>Wages and salaries</td>
<td>Government expenditure on goods and services</td>
</tr>
<tr>
<td>net of (direct) taxes</td>
<td>Capitalists' consumption</td>
</tr>
<tr>
<td>Taxes (direct and indirect)</td>
<td>Workers' consumption</td>
</tr>
</tbody>
</table>

Gross national product

Part of the taxes are spent on transfers such as social benefits, while the remaining part serves to finance government expenditure.

† The above argument is based on the assumption of elastic supply which was made in Part I. However, if the output of consumption goods for workers is at capacity level any increase in capitalists' consumption or investment will merely cause a rise in prices of these goods. In such a case it is the rise in prices of consumption goods for workers which will increase profits in department III up to a point where they are equal to the higher amount of wages in departments I and II. Real wage rates will fall, reflecting the fact that an increased wage bill meets an unchanged supply of consumption goods.
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diture on goods and services. Let us subtract from both sides of the balance sheet, taxes minus transfers. On the income side the item ‘Taxes’ will disappear and we shall add transfers to wages and salaries. On the other side, the difference between government expenditure on goods and services and taxes minus transfers will be equal to the budget deficit. Thus, the balance sheet will be as follows:

<table>
<thead>
<tr>
<th>Gross profits net of taxes</th>
<th>Gross investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wages, salaries and transfers net of taxes</td>
<td>Export surplus</td>
</tr>
<tr>
<td>Gross national product minus taxes plus transfers</td>
<td>Capitalists’ consumption</td>
</tr>
</tbody>
</table>

By subtracting now from both sides wages, salaries and transfers net of taxes, we obtain the following equation:

\[
\text{Gross profits net of taxes} = \begin{cases} 
\text{Gross investment} \\
+ \text{Export surplus} \\
+ \text{Budget deficit} \\
- \text{Workers’ saving} \\
+ \text{Capitalists’ consumption} 
\end{cases}
\]

Thus, this equation differs from the equation of the simplified model in that instead of investment we have now investment plus export surplus plus budget deficit minus workers’ saving. It is clear, however, that our previous relationship still obtains if we assume that both the budget and foreign trade are balanced and that the workers do not save, that is:

\[
\text{Gross profits after tax} = \text{Gross investment + capitalists’ consumption}
\]

Even if these assumptions are made, the system is much more realistic than in the first simplified model and all of the arguments of the previous section still apply. It has to be remembered, however, that we are dealing now with profits after tax, while in the first simplified model the problem did not arise because taxes were assumed to be negligible.

Determinants of profits

Savings and Investment

Let us subtract on both sides of the general equation for profits (see previous page) capitalists’ consumption and add workers’ savings. We obtain:

\[
\begin{align*}
\text{Capitalists’ gross savings} & \quad \text{Gross investment} \\
\text{Workers’ savings} & \quad \text{Export surplus} \\
\text{Total gross savings} & \quad \text{Budget deficit} \\
\end{align*}
\]

Thus, total savings are equal to the sum of private investment, export surplus and budget deficit, while capitalists’ savings are, of course, equal to this sum minus workers’ savings.

If we now assume that both foreign trade and the government budget are balanced we obtain:

\[
\text{Gross savings} = \text{Gross investment}
\]

If we assume, moreover, that workers do not save we have:

\[
\text{Capitalists’ gross savings} = \text{Gross investment}
\]

This equation is equivalent to:

\[
\text{Gross profits} = \text{Gross investment + capitalists’ consumption}
\]

because it may be obtained from the latter equation by the deduction of capitalists’ consumption from both sides.

It should be emphasized that the equality between savings and investment plus export surplus plus budget deficit in the general case—or investment alone in the special case—will be valid under all circumstances. In particular, it will be independent of the level of the rate of interest which was customarily considered in economic theory to be the factor equilibrating the demand for and supply of new capital. In the present conception investment, once carried out, automatically provides the savings necessary to finance it. Indeed, in our simplified model, profits in a given period are the direct outcome of capitalists’ consumption and investment in that period. If investment increases by a certain amount, savings out of profits are pro tanto higher.
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To put it in a more concrete fashion: if some capitalists increase their investment by using for this purpose their liquid reserves, the profits of other capitalists will rise \textit{pro tanto} and thus the liquid reserves invested will pass into the possession of the latter. If additional investment is financed by bank credit, the spending of the amounts in question will cause equal amounts of saved profits to accumulate as bank deposits. The investing capitalists will thus find it possible to float bonds to the same extent and thus to repay the bank credits.

One important consequence of the above is that the rate of interest cannot be determined by the demand for and supply of new capital because investment ‘finances itself’. The factors determining the level of the rate of interest are discussed in Part III below.

Determinants of profits

point where profits out of this production will increase by the amount of additional wages in the export sector.\footnote{If the production of consumption goods for workers is at capacity level, prices of these goods will rise up to a point where profits out of this production will increase by the amount of additional wages in the export sector (cf. footnote to p. 80)}

It follows directly from the above that the export surplus enables profits to increase above that level which would be determined by capitalists’ investment and consumption. It is from this point of view that the fight for foreign markets may be viewed. The capitalists of a country which manages to capture foreign markets from other countries are able to increase their profits at the expense of the capitalists of the other countries. Similarly, a colonial metropolis may achieve an export surplus through investment in its dependencies.\footnote{Foreign lending by a given country need not be associated with exports of goods from that country. If a country $A$ lends to country $B$, the latter can spend the proceeds of the loan in country $C$, which may increase \textit{pro tanto} its stock of gold and liquid foreign assets. In this case foreign lending by country $A$ will cause an export surplus in country $C$ accompanied by an accumulation of gold or liquid foreign assets in that country. In the case of colonial dependencies, this situation is not apt to arise, i.e. the amount invested will be normally spent in the metropolis.}

A budget deficit has an effect similar to that of an export surplus. It also permits profits to increase above the level determined by private investment and capitalists’ consumption. In a sense the budget deficit can be considered as an artificial export surplus. In the case of the export surplus a country receives more for its exports than it pays for its imports. In the case of the budget deficit the private sector of the economy receives more from government expenditure than it pays in taxes. The counterpart of the export surplus is an increase in the indebtedness of the foreign countries towards the country considered. The counterpart of the budget deficit is an increase in the indebtedness of the government towards the private sector. Both of these surpluses of receipts over payments generate profits in the same way.

The above shows clearly the significance of ‘external’ markets (including those created by budget deficits) for a capitalist

THE EFFECT OF THE EXPORT SURPLUS AND BUDGET DEFICIT

In what follows we shall frequently assume a balanced government budget and balanced foreign trade, as well as zero workers’ savings, which will enable us to base our argument on the equality between profits after taxes and the sum of gross investment and capitalists’ consumption. It is useful, however, to say a few words now about the significance of the influence of the export surplus and the budget deficit on profits.

According to the formula established above, profits are equal to investment plus export surplus plus budget deficit minus workers’ savings plus capitalists’ consumption. It follows directly that an increase in the export surplus will raise profits \textit{pro tanto} if other components are unchanged. The mechanism involved is the same as that described on p. 80. The value of an increment in the production of the export sector will be accounted for by the increase in profits and wages of that sector. The wages, however, will be spent on consumption goods. Thus, production of consumption goods for workers will be expanded up to the

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Without such markets profits are conditioned by the ability of capitalists to consume or to undertake capital investment. It is the export surplus and the budget deficit which enable the capitalists to make profits over and above their own purchases of goods and services.

The connection between 'external' profits and imperialism is obvious. The fight for the division of existing foreign markets and the expansion of colonial empires, which provide new opportunities for export of capital associated with export of goods, can be viewed as a drive for export surplus, the classical source of 'external' profits. Armaments and wars, usually financed by budget deficits, are also a source of this kind of profits.

PROFITS AND INVESTMENT UNDER SIMPLIFYING ASSUMPTIONS

It was noted above (p. 79) that capitalists' investment and consumption are determined by decisions shaped in the past. The determinants of investment decisions, which are rather complex in character, are considered in Chapter 10 below. We shall deal here with the determination of capitalists' consumption.

We may make the following assumption, which is plausible as a first approximation, about the 'real' capitalists' consumption in a given year, C_t; that it consists of a stable part A and a part proportionate to \( P_{t-\lambda} \), the real profits after tax of some time ago; that is:

\[
C_t = qP_{t-\lambda} + A \tag{7.1}
\]

where \( \lambda \) indicates the delay of the reaction of capitalists' consumption to the change in their current income. \( q \) is positive and \( < 1 \) because capitalists tend to consume only a part of the increment in income. In fact, this part is likely to be rather small so that \( q \) is probably considerably less than 1. Finally, \( A \) is a constant in the short run although subject to long-run changes. We shall assume for the time being that foreign trade and the government budget are balanced and that workers do not save. In this case profits after tax \( P \) are equal to the sum of investment \( I \) and capitalists' consumption \( C \):

\[
P = I + C \tag{7.2}
\]

Substituting the value of \( C \) from equation (5) we obtain:

\[
P_t = I_t + qP_{t-\lambda} + A \tag{7.3}
\]

It follows that 'real' profits at time \( t \) are determined by current investment and profits at the time \( t-\lambda \). Profits at the time \( t-\lambda \) will be in turn determined by investment at that time and by profits at the time \( t-2\lambda \), and so on. It is thus clear that profits at time \( t \) are a linear function of investment at time \( t, t-\lambda, t-2\lambda, \) etc., and that the coefficients of investment \( I_t, I_{t-\lambda}, I_{t-2\lambda}, \) etc., in this relation will be \( 1, q, q^2, \) etc., respectively. Now \( q \), as said above, is less than 1 and probably considerably less than 1. Thus the series of coefficients \( 1, q, q^2, \ldots \) will be quickly decreasing and consequently among \( I_t, I_{t-\lambda}, I_{t-2\lambda}, \ldots \) only those relatively near in time will count in the determination of profits, \( P_t \). Profits will thus be a function both of current investment and of investment in the near past; or, roughly speaking, profits follow investment with a time lag. We can thus write as an approximate equation:

\[
P_t = f(I_{t-\omega}) \tag{7.4}
\]

where \( \omega \) is the time lag involved.

The shape of the function \( f \) can be determined as follows. Let us go back for a moment to equation (7.3) and substitute for \( P \) its value from equation (7.4):

\[
f(I_{t-\omega}) = I_t + qf(I_{t-\omega}) + A
\]

This equation should be fulfilled whatever the course in time of investment \( I_t \). Thus, it should cover inter alia the case where investment is maintained for some time at a stable level so that we have \( I_t = I_{t-\omega} = I_{t-2\omega} \). It follows:

\[
f(I_t) = I_t + qf(I_t) + A
\]

or

\[
f(I_t) = \frac{I_t + A}{1 - q}
\]

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