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PROFITABILITY AND UNEMPLOYMENT IN AN OPEN ECONOMY**

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PROFITABILITY AND UNEMPLOYMENT IN AN OPEN ECONOMY

The concern for profitability has always been presented among businessmen because an undertaking cannot survive unless it is profitable. But until recently macroeconomic policy makers were not paying direct attention to profitability. It was assumed that a sound demand management policy operating on a market economy would atuomatically result in an appropriate profitability for most firms in this economy. This assumption no longer holds; almost everywhere in the world some form of price and income policy is considered as a necessary ingredient of good government, on a par with demand management policy. In particular income policies are considered as being required for solving the major economic problem of our times, namely unemployment.

In economic theory a paralled shift of interest is taking place. For reasons that I shall consider in the second part of this talk, profitability was a neglected concept during the fifties and sixties. It is now being brought again in the forefront, notably by the reconsideration of the theory of unemployment. I am sure this is not the result of a new fashion that would soon pass away; on the contrary it will be a longlasting concern.

Such a development, both in economic policy and in economic theory, raises a number of questions about which precise answers are not available at present. This paper will attempt to give an overview of the problem and of the questions to be solved, stressing particularly some present challenges for economic research. I hope it is up to date in its main argument, but I cannot claim to know all interesting contributions in this very lively field and I must apologize if I am not always well informed of the research work done elsewhere, in particular here in Finland in the Research Institute of the Finnish Economy.

1. THE ECONOMIC POLICY PROBLEM

Unemployment is the main problem confronting economic policy nowadays, even though one should not neglect either inflation, which I shall not consider here at all. The unemployment problem has not radically changed with respect to what it was in the past, but the economic conditions prevailing now require a careful consideration of the complex relationship between unemployment and the structure of relative prices and remuneration rates. It is this relationship that I want to examine in the first half of the present paper.

(i) Profitability and capacity building

The first dimension of the relationship between unemployment and the structure of relative prices runs from profitability to capacity building and capacity utilization, then to employment. The recent economic evolution has drawn attention to this dimension.

Indeed, most industrial countries have experienced a deterioration of profitability in the early seventies. Whether this deterioration was really a structural shift and could not rather be explained as a natural consequence of business fluctuations was the subject of some discussions on which I shall come back. But there seemed to be little doubt among policy makers that, in Western Europe at least, the deterioration exceeded what could be so explained. In some countries like Western Germany it occured before the business slowdown; in all European countries it is deep and was hardly reduced when business conditions temporarily improved, either in 1976 or in 1979.

The most obvious consequence of this profitability decline on employment was that the number of business failures increased and a larger number of people lost their job for this reason than was previously the case. But this may only be the visible part of the iceberg, because the early scrapping of some productive capacities also occured in firms that kept operating and the building of new productive capacites was sharply reduced everywhere. The decrease of employment in manufacturing, seems to be due to a large extent, to these facts.

Governments at least accepted this view. Striving to restore profitability they tried to enforce policies of wage restraint. Since the creation of new productive capacity was felt to be too low, various ways of subsidizing investment were also found.

Even though it is applied quite generally, this policy does not meet with approval from everybody. In my country for instance some people seem to argue that the trouble really arises because demand management was too restrictive: a more rapid growth, stimulated by an expansionary policy, would have automatically improved profitability, they say.

This raises a real question. The asserted need to rely on income policies, which are always difficult to define and to enforce, assumes that profitability will otherwise not be automatically restored, at least not quickly enough. It is my belief that the assumption is correct, but theoretical economists must recognize that the argument for it has not been completely given.

Such was my reason for exploring the topic. In my little book *Profitability and Unemployment*[1], to which you were kind enough to refer when you invited me to give this talk, I considered a very simple model addressed to the study of the dynamic relationship between profitability, productive capacity and unemployment. I had of course to represent the laws of evolution of relative prices and remuneration rates

1) Cambridge University Press, 1980.

and I am aware that my model is particularly disputable in this respect. In this respect, I may refer to some of the work done here by my colleague, Seppo Honkapohja[1)]

(ii) Relative costs and the substitution of capital for labor

The second dimension of the relationship between unemployment and the structure of relative prices runs from the relative cost of labor with respect to capital, to the substitution of capital for labor and then to employment. Indeed, the demand for labor depends on the degree to which productive capacity is capital intensive. At any time when unemployment exists one may say that it would be lower, other things being equal, if more labor intensive methods of production were being used.

If production is not more labor intensive, it may be because of an inappropriate structure of relative costs. Labor costs may be too high because of both the high level of real wages and the important taxation based on labor incomes. Capital costs may have been too low because of both the low level of real interest rates and the important subsidies given to investment.

Indeed, one may well argue that the now common policy of subsidizing investment is misconceived because it is much less effective in stimulating the building of new productive capacities than in accelerating the substitution of capital for labor. The net effect on employment would in that case be negative.

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1) "On the dynamics of disequilibria in a macro model with flexible wages and prices", in M. Aoki and A. Marzollo, ed., *New Trends in Dynamic System Theory and Economics*, Academic Press, 1979.

This is again a relevant issue, an issue that my little book does not approach, and cannot approach considering the model that it uses. I have been recently working on a model that is a little less special and takes the substitutability of capital for labor into account[1]. This model permits a discussion on which of the two effects of an investment subsidy dominates with respect to the resulting unemployment.

The result of this exploration is too complex to be given in just a few sentences. It, of course, depends on the elasticity of substitution of capital for labor, but also on a number of other factors. Let me say, however, that, viewed in a medium term perspective, the argument against subsidizing investment looks to me as being rather reinforced by this exploration. Profitability ought to be restored differently, by means that are neutral, or even unfavorable, with respect to the substitution of capital for labor.

(iii) An appropriate income distribution

Assuming as I do that income policies have some autonomy, one understands which principles they should apply in order to contribute to the fight against unemployment. In their action on the structure of relative prices and remuneration rates they should aim at an appropriate level of profitability and at an appropriate relative cost of capital with respect to labor.

Appropriate. Indeed, it would not be wise to go too far when compensating the present price disequilibria. For

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1) "Wages and unemployment", April 1981, to be published in the *Economic Journal*; also "Notes on growth theory with imperfectly flexible prices", European University, Florence 1980.

instance it would not be wise to aim at a too high level of profitability at full capacity. Not only would this contradict well accepted social objectives; it might also depress too much aggregate demand, which would be favourable neither for employment nor for capacity building.

But what is now the appropriate level of profitability? Some discussion about this question take it for granted that the objective should be to restore profit rates to their previous level. This was in the background of the debate on whether full capacity profit rates had declined or not in the US. In fact, even assuming that in the sixties an appropriate level of profitability was realized, this does not tell us much about what this level should be in the eighties. Indeed, the changes in the business environment are so large that a fresh consideration is required in order to determine what is the appropriate level of profitability.

Before any numerical evaluation, we should of course be precise on what is meant by profitability. Our concern is the profitability of productive operations, as against for instance the profitability of financial investments. More generally we want to compare the profitability of productive operation with the profitability of alternative operations. Hence, we are interested in the pure profit rate, which may be shortly defined as the excess of the real profit rate earned by production over the real interest rate.

There are reasons to believe that the equilibrium real long term interest rate has declined during the past decade, notwithstanding the high level of the present observed nominal short term interest rates, the main reason being the decline of the expected growth rate. Hence, the same level of profitability as before will be achieved with lower real profit rates as soon as the present policy of deliberately high interest rates will stop.

But a higher profitability, i.e. a higher pure profit rate, may now be required in order to compensate risk-averse entrepreneurs for the increased degree of uncertainty with which they must now live. By how much should the risk premium be increased? One cannot know unless one has a good representation of investment behavior. I shall come back on this remark.

(iv) The case of a small open economy

The development up to this point was phrased as if the economy was closed. But foreign trade is now important everywhere and this brings a new component into the picture of the economic policy problem.

Indeed, profitability tends to be high where competitiveness is high. Relatively low factor costs permit to firms to sell at a cheap price, but to take nevertheless a good margin for their profits and to invest for the production of new products, hence to improve their competitiveness and profitability. This is the wellknown virtuous circle, with its opposite companion the vicious circle. Profitability abroad is therefore a standard against which profitability in the country must be judged.

This is particularly so when unemployment is considered. The need of limiting the foreign trade deficit imposes a constraint on aggregate demand. Where competitiveness is low and the balance of payments deficit cannot be increased, governments have to stick to a depressing demand management policy, even though idle productive capacities are available in the country.

This type of phenomenon has been well studied in a recently published article by J. Drèze and F. Modigliani[1]. Even though

1) "The trade-off between real wages and employment in an open economy (Belgium)", *European Economic Review*, January 1981.

the argument does not take all disequilibrium phenomena into account and for instance does not consider the substitutability of capital for labor, the results are worth considering with great interest at this time.

Roughly speaking and interpreting their results in the context of our present problem, I shall just state their main finding, namely that even in an open economy constrained with respect to its foreign deficit, the main impact of profitability on unemployment goes through the effect on productive capacity. For Belgium the relevant elasticity, that actually is the elasticity of employment with respect to the real wage rate, increases in absolute value from something like 0.2 to something like 2 when this effect is taken into account.

If we limit our attention to that part of the impact that is due to the adjustment of productive capacity, we notice moreover that the value of the elasticity does not depend in an obvious way on the size of the economy. Capacity building is probably as sensitive to profitability in a small open economy as it is in a large one; this being the case, the impact on employment should have the same order of magnitude in both economies.

Hence, the distinction between small and large open economies, which is so important in the discussion concerning demand management policies, seems to be much less so here. I shall not insist on it any longer in this paper.

2. QUESTIONS ADDRESSED TO ECONOMIC SCIENCE

Thus far in this paper, I tried to survey the main aspects of the economic policy problem concerning the role that profitability has to play in the fight against unemployment. Even though I spoke with some confidence, it should be clear to you at this point that several parts of the picture I tried to draw require further investigation. The theoretical analysis should be consolidated because its foundations have not been well surveyed; the econometric evaluations should be made more precise and more appropriate to the new set of problems I mentioned.

Such being the case, I shall now try to sit back and to devote my attention to the fundamental research that is being done and ought to be completed in order that economists can better master the economic policy problem.

(i) Profitability, a neglected disequilibrium concept

Our starting point may be to notice that profitability was hardly spoken of in the teaching of economics that was current in the early seventies; it is probably still very little spoken of in the current teaching. That this should have been the case and should still be the case cannot be explained only by the fact that the present economic policy problem is rather new. One should recognize that the economic science was not well prepared to deal with this problem.

Indeed, one may say that economic theory was taken by surprise. The two major pillars of this theory, which were built, consolidated and embellished during the last decades, do not provide good foundations for the discussions that have now to be lead.

Neoclassical general equilibrium theory hardly ever considers profitability. Indeed, one of its main features is that the pure profit rate ought to be null in any equilibrium, once the rents of scarce resources have been correctly identified. A non-zero pure profit rate can only reveal a disequilibrium in the structure of relative prices; therefore it cannot be studied by classical general equilibrium theory. To be complete, one must recognize that, when dealing with general equilibrium under uncertainty, neoclassical theory found that risk aversion implies that the mathematical expectation of the pure profit rate earned by a risky operation should be positive; but that property is too farfetched for it to be directly useful from the present point of view. Profitability must be considered as being essentially a disequilibrium concept.

On the other hand, Keynesian macroeconomics is geared for dealing with a different kind of disequilibrium, namely a deficiency of aggregate demand with respect to potential output. It implicitly assumes that profitability is high enough for firms to wish to produce this potential output as long as there is a demand for it. A lack of profitability is excluded by assumption.

But it is only natural that fundamental research reveals hidden assumptions and inquires about what happens when these assumptions are relaxed. Indeed, such has been the case with the research into the foundations of Keynesian macroeconomics.

On the one hand it has exhibited the role of price disequilibria and has lead to the development of the microeconomic theory of general equilibrium with sticky prices and rationing; this is a theory in which general equilibrium has a new meaning and is compatible with disequilibria on particular markets. This new general equilibrium theory is particularly well suited for dealing with the present problem, which involves two disequilibrium concepts: unemployment, a disequilibrium between the demand and supply of labor, and profitability, a disequilibrium in the structure of relative prices.

On the other hand, it has shown how a lack of profitability can be the cause of unemployment. A very aggregated model, to which this new general equilibrium theory can be applied, has lead to the distinction between two types of macro-economic unemployment. When the first type applies, the hidden assumption I mentioned before is valid and the traditional Keynesian analysis is correct. But if the second type applies, a different kind of analysis is required and then profitability plays an essential role. This second type of unemployment has been called "classical".

(ii) Relevance of classical unemployment

One must immediately say that the very aggregated model, in which the two types of unemployment are opposed to one another, is probably not the best model for the discussion of some of the issues that now require attention. However, the question of the actual relevance of classical unemployment is a very significant one. It should be thoroughly examined and some of the recent research deals with this examination.

The relevance of classical unemployment may be questioned on two grounds.

In the first place, classical unemployment occurs together with an excess of commodity demand over commodity supply. The output is limited because firms do not find it profitable to produce more; this is the reason why they do not recruit the whole labor force, even though a demand exists for more production. One must recognize that observation does not reveal at first sight such a situation: the familiar dis-equilibrium combination in case of unemployment is rather the Keynesian one, namely that of a lack of demand.

To this factual objection one may reply along either one of the following two lines. On the one hand, one may point out that there are many sections in the labor market, characterized both by the industry involved and by the region concerned. Not all sections need to be in the same kind of disequilibrium.

Observation shows that, in some regions and industries, unemployment is caused by the closing of establishment that have become unprofitable. The common situation is therefore not purely Keynesian, but contains a more or less important dose of classical disequilibrium. From the point of view of economic policy, applying a purely Keynesian analysis is not appropriate for dealing with such a mixed situation. In other words, classical unemployment may be relevant even if it is not predominant[1].

On the other hand, one must more and more view the economic policy problem in a medium term perspective. In such a perspective the classical disequilibrium should be understood as being a lack of productive capacity; firms may be operating at full capacity but nevertheless not be recruiting the whole labor force; the difficulty comes from the fact that they did not find it profitable to expand more productive capacity. It may even be that aggregate demand falls short of output at full capacity, but that this capacity is too small for full employment. In such a case the medium term problem is as much a lack of profitability as a lack of aggregate demand. Again classical unemployment is relevant, even if it is not apparent at first sight[2].

The second objection against classical unemployment argues that it cannot be sustained for a long period, because the spontaneous dynamics of prices and remuneration rates will automatically restore profitability: unemployment will lower wage rates and the excess demand on commodity markets will raise prices, so that profit margins will increase. Examining

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1) I tried to argue this point in my article "Macroeconomic rationing of employment" in J.P. Fitoussi and E. Malinvaud, ed., *Unemployment in Western Countries*, Macmillan, London 1980.

2) See in particular my paper "Wages and unemployment", op.cit.

this objection was my main motivation in my book *Profitability and unemployment*. I tried to argue there that, considering present institutions and practices, the spontaneous dynamics is working slowly and may, in some circumstances, require many years to restore profitability. I also tried to argue that this dynamics is not likely to lead the economy in the right direction: it will generate Keynesian unemployment rather than bring full employment. For these two reasons a deliberate price and income policy may be advisable.

(iii) Role of profitability on investment

I hope the various comments I made about the recent developments of the theory of unemployment and about my work in this area do not convey the idea that I consider this theory as being complete. On the contrary you should realize that the new developments, and my own contributions in particular, are still very tentative. I view them as pointing to the directions that are worth exploring, rather than as providing final results. They are meant mainly to stimulate further research. My comments about the econometric work to be done will be very much in the same spirit.

Indeed, I pointed out that the search for what is the appropriate level of profitability raises essentially econometric issues. But, notwithstanding the large amount of econometric work done during the past decades, no precise answer can be given.

The macroeconometric models that have been built during the past decades took their first inspiration in Keynesian analysis.

When applied for finding the values of the main Keynesian multipliers, they give rather consistent answers. In principle they apply beyond the realm of pure Keynesian analysis, since they have been extended in order to be able to deal with the many questions that macroeconomics raises. But they cannot be considered as being reliable when answers must be given to such questions as the following one: which structure of relative prices and remuneration rates would be appropriate from the point of view of medium term employment? Indeed, confronted with this question various macroeconometric models built for the same economy are likely to give very different answers. Two such models, both built in my institution, INSEE, for the French economy, do give quite different answers.

The heart of the problem is the evaluation of the respective strength of the various determinants of investment and of its orientation, either toward capacity building or toward substitution of capital for labor. The econometrics of business investment has been the object of a large number of studies; but its results are far from having the precision that would be required from the present viewpoint.

Beyond this general remark, one must note that the situation is particularly unsatisfactory with respect to the knowledge of the exact role of profitability on investment. Actually there is a real puzzle. Whereas laymen and business management specialists consider this role as being predominant, econometricians have not well identified it.

One question was much considered, namely whether realized profits were an important determinant of investment. In a number of studies, but not in all, this variable, realized profits, was found to have a significant role; however, this role was systematically found to be much weaker than that of the accelerator, measured for instance by the trend of past sales. Moreover, the fact that realized profits mattered was generally interpreted as meaning that the amount of available funds for self-financing of investment mattered.

If the role of profitability has been so little discussed in the econometric literature, it is partly again because this disequilibrium concept was unfamiliar and therefore neglected. It is high time now to fill this lacuna. But one must recognize that profitability is not directly measured in the data sets to which econometricians have access.

Econometric investigations must use proxies for profitability. One of such proxies may be the past excess of the realized real profit rate over the real interest rate. A very relevant task would therefore be now to reconsider the stock of already available econometric studies of business investment and to examine which of these studies do provide an estimate of the role of this proxy.

A different approach has recently been initiated by James Tobin[1]. It considers that a fundamental determinant of a firm's investment is a ratio, denoted by q, of which the numerator is the stock market valuation of the firm and the denominator is the replacement value of its capital. Some econometric work has shown that this q ratio appears as a significant factor besides the accelerator, this being true both in cross-section studies and in some time series analysis.

The best rationale for the role of q would be to take this ratio as a measure of profitability. It would indeed be directly related to the measure I proposed if the stock market value of a firm was precisely equal to the discounted sum of its expected profits.

But the econometric results obtained by this new approach are not precise; they give hardly more than a proof that the ratio q has a significant impact; they do not provide a sufficient

1) See in particular G.M. von Furstenberg, "Corporate investment: does market valuation matter in the aggregate?" *Brookings Papers on Economic Activity*, N° 2, 1977; B. Malkiel, G. von Furstenberg and H.S. Watson, "Expectations, Tobin's q and industry investment", *The Journal of Finance*, May 1979.

information for anyone who likes to find what the appropriate income distribution should be.

My own interpretation of this lack of accuracy starts from the belief that some disequilibria exist in the stock market evaluations. Readers of Keynes' *General Theory* remember his chapter 12 in which he discusses investment behavior and stock market evaluations. He distinguishes there two factors that explain changes in these evaluations: the first one "entreprise" is related to the "state of long term expectations" and is therefore the one acting also on investment behavior; but there also is "speculation" which disturbs stock market evaluations and make them poor measures of long term expectations.

Some recent theoretical work on the economics of speculation indeed clarify the logic of such phenomena and explain in which circumstances speculative bubbles can occur. They are directly related to the remarks made by Keynes[1)].

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If a conclusion should be given to the survey I tried to make, it certainly is that the research projects addressing to the solution of the present economic policy problem should cover many questions about which we know much too little. We economists have still much to learn before our fellow citizens can fully rely on us.

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1) I tried to make the connection quite clear in "La profitabilité comme facteur de l'investissement", *Rheinisch - Westfälische Akademie der Wissenschaften*, Vorträge, 1981.