The employment issue: investment, flexibility and the competition of developing countries [*]

PAOLO SYLOS LABINI

1. Different types of investment: short run and delayed effects

Investment and flexibility in the labour market are presented as the fundamental factors for employment. The importance of investment, especially public investment, is emphasized by economists of the Keynesian tradition, whereas flexibility is considered the essential factor by economists of the *laisser faire* persuasion. In my view both factors are important, although their effects differ from one country to another and in their timing. When referring to mature industries in advanced countries we have also to take into account competition from developing countries, which in some respects is related to the question of flexibility.

Public investment is decided by the state, on the basis of some form of cost-benefit analysis and subject to the constraints of the budget. Private investment can be stimulated by reducing either corporation tax or interest rates; the expansion in the money supply should also be considered, since it is not automatically determined by a reduction in the interest rate. Two additional intangible factors are usually not mentioned: the efficiency of bureaucracy and political stability. True, it is not the task of the economists to discuss them; yet, we have to recognise that they are very important.

There are two types of public investment. The first is concerned with general infrastructures, the second with specific infrastructures, such as those intended to stimulate the growth of industrial districts.

☐ Università degli Studi di Roma "La Sapienza", Dipartimento di Scienze Economiche, Roma (Italy).

Private investment, too, is of two types. Investment of the first type gives rise to an increase in productive capacity in a number of firms, that of the second type to an increase in the productivity of labour – in other words to lower unit labour costs.

The four types of investment have this in common: in the period during which they are carried out they expand effective demand and employment – which is exactly the effect that Keynes, who focused his analysis on the short run, had in mind. It is well known that Keynes, albeit in a paradoxical vein, considered even admittedly unproductive public expenditure to be a stimulus to demand and employment – in the short run the effect would be the same.

Both types of public investment increase productive capacity, but in the case of general infrastructures the increase is spread throughout the economy; the second type may be directed towards certain types of activity or particular areas and its effects can to some extent be estimated beforehand: both types of public investment complement private investment, but in the latter case, i.e. in the case of specific infrastructures, the complementarity is close and visible.

The distinction between the two types of private investment is largely abstract, since both always – or almost always – produce both types of effect; the difference lies largely in their composition: one promotes mainly productive capacity, the other mainly productivity. Productive capacity is stimulated by a sustained increase in demand, while productivity is stimulated by an increase in the cost of labour relative to the prices of machines, i.e., by an increase in the ratio between W/P_{ma}. Yet a sustained increase in demand too stimulates productivity, since new firms entering into an expanding market buy new machinery, which as a rule is more efficient than the old, with the result that new firms tend to organize their productive activities more efficiently than older ones. That an expanding market promotes productivity increases is exactly the view propounded by Adam Smith – the division of labour depends on the extent of the market; and the division of labour is at the origin of those increases. (The Smith effect has been reconsidered, in different terms, by Verdoorn and Kaldor.) Investment that generates mainly increases in productivity can thus be the result of two impulses, which usually act together, though in various ways; if we consider their origin, we may speak, in the case of a sustained increase in demand, of the Smith effect and, in

the case of an increase in the relative cost of labour, of the Ricardo effect, since Ricardo discussed it in chapter XXXI of his *Principles*.

In conclusion: in the short run – year on year – investment generates an increase in demand, while an increase in demand, however generated, tends to stimulate investment capable of increasing both productive capacity and productivity, with the proviso that the second component tends to prevail when the W/P_{ma} ratio rises.

2. The productivity, employment and unemployment equations. The investment/income ratio

There are several analytical advantages in working out a productivity equation and deriving from it two more equations concerning employment and unemployment. If we consider productivity not as an exogenous but as an endogenous variable we may start with the following equation:

$$\hat{\Pi} = a + b \, \hat{Y} + c \, (\hat{L} - \hat{P}) + d \, (\hat{W} - \hat{P}_{ma})_{-m} + e \, L_n \qquad (1)$$

where Π is the productivity of labour, Y is GNP, L the cost of labour per unit of output, given by the difference between the rate of change of the index and that of productivity of labour already under way ($\hat{L} = \hat{W}/\hat{\Pi}_L$), W the wage index, P the index of prices for finished goods, P_{ma} the price index of machinery, I investment and the circumflex accent denotes a rate of yearly change. $\hat{Y}$ represents the expansion of the market and thus indicates the Smith effect, whereas the difference $\hat{W} - \hat{P}_{ma}$ is the Ricardo effect. I shall not discuss either the Smith or the Ricardo effects here, but shall briefly consider the rationale of the second variable, i.e., the difference $\hat{L} - \hat{P}$.

In the short run, if the rate of increase in labour costs tends to exceed the rate of increase in prices for finished goods, managers are induced to save labour by redistributing jobs among workers within the firm and reorganizing the production process in a more efficient way. If the rate of increase in wages is expected to continue, managers will be stimulated to introduce labour-saving equipment, knowing that the increase in productivity caused by this decision will not materialize in the same year, but in a later period. The variable $(\hat{L} - \hat{P})$

can then be introduced either without a lag or with a shorter lag than those of the other two variables, i.e., X $(\hat{W}- \hat{P}_{m4})$ and I, with the proviso that the lag referring to the first of these variables is presumably longer than that related to the second variable, since the labour saving component of investment depends on the difference $(\hat{W}- \hat{P}_{m4})$. Given the composite nature of investment – output-increasing and labour-saving – the explanatory value of I is, at best, only partial; we should expect it to rise only when the rate of increase in wages clearly exceeds that in the prices of machinery. All in all, we treat aggregate private investment as only a step in the logical sequence and consider only current investment, included in Y (let us remember that $Y = C + I$).

The above equation is intended to explain the continuous variations in productivity originated by minor innovations and adaptations. From the standpoint of scientific and technical progress such innovations are of very modest importance, but they are of great relevance for economic development in the short run. Major innovations, on the contrary, are discontinuous – they are the source of erratic shocks – and are relevant mainly in the long run; they may lead to the creation of new goods or to entirely new methods of producing existing goods.

The productivity equation can easily be adapted to employment if we recognize that the rate of change in productivity is equal to the difference between the rate of change of income and the rate of change in employment, or $\hat{\Pi}= \hat{Y} - \hat{N}$, where N is the level of employment. Having omitted lagged investment, we are left with the short run effects of current investment included in Y, which should be seen as the sum of C and I. If $b < 1$ and if we put $b' = 1 - b$, we have:

$$\hat{N} = - a + b' \hat{Y} - c\,(\hat{L} - \hat{P}) - d\,(\hat{W}- \hat{P}_{m4}) \qquad (2)$$

i.e. the employment equation. $\hat{Y}$ appears with a positive sign both in equation (1), where it indicates the Smith effect, according to which an increase in Y brings about an increase in productivity, and in the employment equation. This is not a contradiction, provided that $b < 1$; if in equation (1) $\hat{Y}$ represents the Smith effect, in equation (2) it can be seen as representing demand, or the Keynes effect.

If we decide to 'explain' not the percentage of unemployment, as is usual, but the rate of change in the level of unemployment, the

third equation is $\hat{UN} = \hat{FL} - \hat{N}$, where $\hat{FL}$ represents the labour force, or:

$$\hat{UN} = a + e\,\hat{FL} - b'\,\hat{Y} + c'\,(\hat{L} - \hat{P}) + d'\,(\hat{W}- \hat{P}_{m4})_{-m}. \qquad (3)$$

As a rule, in their theoretical models economists, beginning with Keynes, assume the labour force as given; in this case the unemployment equation coincides with the employment equation with inverted signs in the variables. However, $\hat{FL} = 0$ is not the rule but the exception, owing to the increase in population due to both the natural increase and immigration, and in the participation rate of women. Thus the variable $\hat{FL}$ is also greater than zero.

The Appendix presents a series of econometric estimates, with satisfactory results, and several diagrams showing that the variations in the percentages of unemployment and in the I/Y ratio are specular. The behaviour of this ratio directly or indirectly expresses the various impulses coming from I: directly, it includes the expansion in effective demand; indirectly, it includes the effects on productivity and capacity generated by previous investment. Thus, if Y rises as a result of an increase in productivity due to previous investment, then the percentage of unemployment falls if the rises in I is greater than that in Y, since an increase in Y proportional to that of Π is obtained without an increase in employment. Only if I increases more than Y does unemployment fall; and the increase in investment should proportionately be even greater than that in Y if the labour force increases. On the other hand, Y can increase without encountering bottlenecks if previous investment has determined an expansion in productive capacity. A given increase in income can absorb a proportionally greater number of unemployed workers if real wages decline.

3. Technological unemployment and professional mismatch

In recent years economists have devoted much attention to technological unemployment. This type of unemployment can be said to owe its origins to labour-saving investment; however, such investment saves labour per unit of output: it creates unemployment only if output increases less than productivity. It is therefore misleading to

state that this type of investment necessarily generates unemployment. To be sure, when certain firms, especially large ones, decide to introduce revolutionary innovations and to reorganize their activity so radically as to reduce the number of their employees dramatically, then even a large increase in output cannot offset the cut in their labour force, a good number of whom will become unemployed. But this will happen in particular types of firm and in given sectors; it will have serious and lasting consequences on aggregate employment only if aggregate demand does not increase sufficiently.

Investment that leads to the production of new goods does not appear to give rise to unemployment. In the long run, however, this can be the case, when the resulting new goods come into competition with already existing goods: steamships with sailing-ships, railways with horses and carriages, and so on. Bearing in mind, however, that as a rule the effects of this type of competition are not immediate, allowing time for those involved either to adjust their activities, to change them, or to retire from the market, we may state that product innovations do not normally generate unemployment but, rather, contribute to an increase in employment. It is true, however, that both process and product innovations determine an almost continuous redistribution of workers, the intensity of which will vary according to the activities and periods involved. This makes it necessary to organize private or public institutions for the formation of workers. The process of redistributing workers, however, encounters various kinds of obstacle and one of its consequences is an increase in unemployment. To some extent, then, unemployment can be considered as the result of a mismatch between the demand for labour and the various skills of workers: this is readily apparent when both vacancies and unemployment increase.

One special type of mismatch in the labour market can be observed in the different regions of a given country, such as, for instance, the North and the South of Italy. In the North we find areas with very near full employment, whereas in the South the average rate of unemployment exceeds 20%. Certainly, a number of persons from the South go to the North; yet the number of Northern firms hiring workers from other countries is both high and increasing. This is not easy to explain, since many factors are involved: lack of the required skills, the cost of moving from distant regions, the cost of accommodation, family ties and customs; there is also the possibility of

finding a job in the 'informal' economy – an issue to which I shall return.

To be sure, technological and organizational progress necessarily imply an incessant redistribution of workers among firms and sectors. More specifically, unemployment is composed of two flows: one consists of workers who have lost their jobs and are looking for another one, the other of young people in search of a first job. Within certain limits, both flows are physiological; the change from one job to another necessarily requires time: it becomes pathological when the search exceeds a certain duration. Within limits, the second type of flow is also physiological, since young people need time to find a job consistent with their education and aspirations. On the whole, the main reason why most economists, without advancing explanations, consider that so-called frictional – I prefer to say 'physiological' – unemployment has increased in the last four or five decades (from 2-3% to 4-5% of the labour force) is that the average level of education has increased considerably.

If we adopt a long-term view we may state that even the shifts in employment from agricultural towards non-agricultural activities and from industry towards services have to be related to technological and organizational innovations; this also applies to the redistribution of activities at world level. It remains true, however, that at the national level these changes can lead to unemployment only if aggregate demand increases more slowly than productivity, the increase in which, broadly conceived, is the main consequence of technological and organizational changes.

4. Different types of flexibility in the labour market. The case of the United States

We have to distinguish at least four types of flexibility: in wages, in conditions concerning the firing of workers, in the duration of contracts and in the use of part-time workers. Naturally, the different types of flexibility are interrelated. Thus, if the legal difficulties involved in firing workers are considerable, wages will be rigid downwards, whereas they will be very flexible in an upward direction. On the other hand, if recourse to part-time work is limited, then the sup-

ply of labour will be less than if there were no restrictions, since fewer women and students will enter the labour market. The lower the flexibility, broadly conceived, the higher, *ceteris paribus*, the probability that real wages will rise. Although a rapid rise in real wages is only one of the consequences of relative downward rigidity in the labour market, it is certainly a relevant consequence.

It is worth reflecting on a comparison between the United States and Italy, which in several respects can be considered as representing European countries. The most suitable data on which to reflect refer to wages and compensations and the growth of GNP, industrial output and employment. Real compensation includes employers' social security contributions, whereas real wages do not; in both countries I have taken 1970 = 100 and consider the year 1996:

	USA	Italy
Real compensation	116	180
Real wages	87	150

(In the United States real compensations increased over the whole period although in several single years it declined; in Italy real compensations increased much more than in the United States. Real wages fell in the United States, whereas they increased considerably in Italy.)

	USA	Italy
GNP	212	195
Total employment	165	111
Industrial output	212	210
Industrial employment	121	86

From the above data it appears that in the USA 58% of the increase in GNP in the period considered is to be attributed to the increase in employment and only 42% to the increase in productivity, whereas the corresponding figures for Italy are 13% (employment) and 87% (productivity). In the case of industry the divergence is still more pronounced; in the United States, 19% of the increase in output is to be attributed to employment and 81% to productivity, whereas

in Italy more than 100% is attributable to productivity, since industrial employment declined by 14% in the period.

These impressive divergences can be attributed not only to the different compositions of production but also to the characteristics of the labour market in the two countries. Thus, it seems evident that, all other things being equal, if it is easier to fire workers in one country than in another, the bargaining power of the unions will be less and the upward pressure on wages lower; at the same time, the propensity to hire will also be higher. It is fitting to point out, however, that the high level of flexibility in the American labour market is by no means an unmixed blessing. Apart from the feasibility of a policy aimed at bringing the flexibility in the labour markets of Europe up to the level of the United States, the above data and the productivity equation show that, *ceteris paribus*, high flexibility implies a lower rate of increase in productivity; and this, in the long run, could imperil the international competitiveness of the United States, with increasingly serious problems for the balance of trade. There is a remedy for this, namely to increase efforts in research, in order to improve the already respectable position of the United States in the international markets, as well as in the domestic market for high-technology products.

One reason why a high degree of flexibility in the labour market tends to depress the increase in productivity is that workers tend not to identify themselves with the firms that employ them, knowing that they can be fired at short notice; moreover, managers are not much inclined to introduce labour-saving machinery, since labour is cheap, wages do not increase quickly and workers can be both easily fired and easily replaced.

It follows from the above that when the labour market is too rigid there are troubles, but troubles of a different kind can arise when flexibility is unlimited. Here, too, there is a problem of achieving an optimum level; and there is no doubt that in Italy – and, I believe, in most European countries –, in spite of the recent remarkable progress, we have not yet achieved this optimum level.

Considering the extraordinary achievements of the United States in increasing employment, it may seem that a high degree of flexibility in the labour market has the crucial role and that the main route to combat unemployment is gradually to increase the degree of flexibility.

This it not so: investment is no less important, both in the short and, even more so, in the long run; and if private investment is not enough, public investment is necessary, provided its productive character be evident. The effectiveness of investment in reducing unemployment, however, also depends on the degree of flexibility in the labour market. In fact, the ratio between the flows of investment and of income should be very much higher in countries with relatively low levels of flexibility than in countries with relatively high flexibility. Thus, by taking the United States as representing the latter countries and France as representing the former, it appears from the data (for France and the United States see the diagrams in the Appendix) that in France this ratio should be more than four points higher than in the United States simply to keep a constant level of employment. This is because in countries with low labour market flexibility real wages and productivity increase more rapidly. Naturally, the gap between the two ratios in the two types of country neither is nor can be stable, since the behaviour of productivity does not depend only on real wages and real wages do not depend only on money wages, but also on the prices of raw materials and fuel and on exchange rates. The fundamental point is that productivity is not an exogenous but an endogenous variable, that depends, first of all, on variations in wages. All this means that the Keynesian recommendation to increase investment in order to combat unemployment covers only one half of the strategy to be adopted; the other half is to increase flexibility – apart from collateral measures. If, until a few years ago, the relatively low flexibility of the labour market in many European countries did not hinder a situation of near full employment, this was because national and international conditions were favourable to the relatively rapid growth of income and investment. In fact, when income increases rapidly, a low flexibility (referring to the conditions of firing workers) does not prevent a relatively low rate of unemployment, since in such conditions the main problem is to hire, not to fire people. The difficulties have appeared more recently, owing to various factors, among which are the restrictions imposed by the Maastricht agreement. The outlook has improved considerably since the launch of the euro.

Three remarks. First: the relative rigidity of the labour market has stimulated the expansion of the informal economy in several

European countries, especially those in which a considerable share of the productive structure is relatively weak and finds it difficult to sustain the entire burden of taxation and the conditions agreed between industrialists and trade unions who represent the modern part of the economy. The informal economy – irregular self-employed workers and informal units – is particularly widespread in Spain and in Italy; at the same time, both countries have pathologically high unemployment rates. The two phenomena are closely related: there is little doubt that a large number of people working in the informal economy are included in the unemployment statistics: they should be considered not as unemployed, but as pathologically employed. I would even go as far as to say that a very rough estimate of the numbers working in the informal economy can be obtained by subtracting from the rate of unemployment the percentage – say, 5% – of frictional ('physiological') unemployment. Strictly speaking, the whole informal economy is pathological, since irregular self-employed workers and the organizers of informal units do not pay taxes or social security contributions; wages for employees are below official levels; moreover, informal units encounter serious difficulties in expanding beyond certain limits, exporting and introducing new technologies. Yet we find a great variety of situations, some of which verge on the physiological. From the standpoint of employment, the informal economy is better than nothing, but in increasing flexibility in the labour market, governments will do well simultaneously to adopt incentives to bring informal units into the formal economy.

Second. The I/Y ratio will be higher not only in countries in which productivity increases more rapidly, but also where the public component of investment is greater, since investment per worker is generally higher in the case of public investment.

Third. Having contributed, together with other economists, to the preparation of the "Manifesto" to combat unemployment in the European Union promoted by Franco Modigliani, I must point out that the strategy proposed there in fact includes the two main remedies mentioned above, i.e. investment and flexibility. However, Modigliani sees the second remedy as useful integration of the fundamental cure – investment –, whereas I see the two as interdependent and attach equal importance to both. Modigliani (1999) criticises Jacques Drèze for supporting a proposal (Drèze and Malinvaud 1994

and Drèze 1995) based on flexibility, a proposal that I had already elaborated out in a book of mine of 1989 where – in contrast to Drèze – I placed flexibility and investment on the same footing. The issue is indeed important, since Modigliani bases his reasoning on the premise that productivity is to be considered as an exogenous factor, whereas for me it should be viewed as an endogenous variable. The difference is relevant not only for analytical purposes, but also for the purposes of economic policy.

5. The effects of competition from developing countries on the mature industries of advanced countries. The case of Italy

Flexibility, and particularly the downward flexibility of wages, is relevant – so it seems – when competition from developing countries becomes acute. Increasing numbers of these countries are entering the international markets by exporting ever larger quantities of goods such as textiles and shoes, the production of which is constantly subject to improvements and adaptations while the basic technologies are largely standardized and change relatively little. The establishment of unsophisticated types of production in these industries becomes possible once a country has achieved a minimum level of efficiency in its public administration and a non-negligible number of workers has completed at least elementary education. Countries of this type are in a position to exert strong competitive pressure since their wages are a small fraction (1/10 or even less) of those paid to unskilled workers in advanced countries. In these circumstances any increase in the downward flexibility of wages in advanced countries can help very little: in the long run these types of production are doomed. Internal demand can be satisfied through imports from developing countries to which some firms will transfer their activities; other firms operating in mature industries will be compelled to set up new and more sophisticated production lines.

A reflection on past trends can be illuminating. One hundred years ago, 34% of cotton – indicating the level of development of the textile industry – was utilised in Western Europe; in 1989 this share had fallen to 7%, whereas in Asia and Oceania the same share had in-

creased from 7 to 35%. The share of steel – an indicator of the level of development of the metalworking industries – processed in Western Europe was 45% one hundred years ago and 19% in 1989, whereas in Asia and Oceania the share rose from 0.3% to 26%. These and other similar figures, estimated by Fortis (1993), indicate gigantic shifts in the international division of labour that take a long time to become fully manifest. The most dynamic industry of our time, the electronics industry, was born in Western Europe and the United States and branched out into a variety of subsectors; at present the United States has become the leader in several subsectors, while certain firms that began in Asia as satellites of American corporations have recently become relatively autonomous as the result of a process of standardization. At the same time European and, even more, American corporations are developing new production lines within the electronics industry, which still retains its leading role in the process of change that characterizes modern capitalism and embraces all types of industry.

Limited aspects of this process can be detected by examining special cases. If, in an advanced country like Italy, we analyze industries in which the workforce comprises mostly unskilled workers and which are therefore vulnerable to competition from developing countries, we will expect to find imports increasing faster than exports and productivity increasing more slowly than the average, since the pressure of competition from developing countries will apply the brake to domestic production and therefore, due to the Smith effect, also to the increase in productivity. This particular brake does not operate in the case of dynamic industries, in which skilled workers prevail; in these we will expect to find productivity increasing more than the average and exports increasing more than imports. I have considered two mature industries, textiles and shoes, and one dynamic industry, mechanical industry. When considering real cases, we must remember that, although the majority of the workers are wage-earners, a good share of them (10-20%) are self-employed. As is well known, in Italy the overall share of self-employed (about 30%) is higher than in other European countries; but even in these countries it is by no means negligible and should not be ignored, as it is by most economists when elaborating models concerning the labour markets. In discussing the employment issue, it is interesting to observe the behaviour of self-employed in the industrial sectors we have selected. The following data seem to correspond to expectations.

TABLE 1

	Total	Textiles	Shoes	Machinery
1. Production	2.0	1.1	0.4	4.7
2. Employment	-0.7	-1.0	-0.1	-0.4
3. Productivity	2.7	2.1	0.5	5.1
4. Imports		2.5	4.2	3.7
5. Exports		1.7	2.2	5.4
6. Employment, 1996	85	77	98	92
– wage earners	83	70	92	90
– self-employed workers	101	102	131	119

1-5: 1970-1996 average rates of yearly changes; 6: 1970 = 100.

Sources: ISCO, *Quadri della contabilità nazionale italiana*, 1995, n. 2; ISTAT, *Statistiche del commercio estero*, various years.

A short comment is needed on the different behaviour of the numbers of wage-earners and of that of self-employed workers. In all industries wage-earners diminish – by 30% in the case of textiles –, while self-employed workers increase – by 31% in the case of shoes. This decline is attributable either to technological changes or to competition from developing countries, or both. The increase in self-employed workers is attributable, instead, to other factors, mainly two. In the first place self-employed workers are more inclined than wage earners – who are generally defended by trade unions – to accept reductions in their incomes, simply to defend their independence. Secondly, the activity of self-employed workers is more resilient than that of firms that hire employers; by differentiating their products, small firms can more easily find 'niches' in national and international markets. It is certainly worthwhile analyzing in depth the behaviour of the two categories of workers and of small firms. In doing so, a fundamental distinction must be made, from the outset, between traditional and modern units; this largely corresponds to the distinction between units that use simple, quasi-stationary techniques of production and those that use techniques closer to the technological frontier. Thus, in advanced countries we find in the production of robots and electromedical instruments and in certain segments of the electronics industry either self-employed workers or very small firms, created by groups of engineers, supplying highly sophisticated goods or services to large firms.

In any case, to return to the competition from developing countries, economists and politicians should be aware that, with the diffusion of education and with the spread of standardization in an increasing number of activities, competition is bound to become stronger: in the long run the only means of defence for advanced countries is to intensify their efforts to develop pure and applied research, with the aim of finding more and more economically efficient methods of production and of creating new products.

6. Small firms, industrial districts and the organization of research

Static and dynamic economies of scale, which dominated until recently the evolution of modern industrial capitalism and provided the stimulus for the formation of large corporations (in both national and international terms), no longer predominate: dynamic small- and medium-sized firms have acquired greater importance. Large firms continue to play a crucial role in applied research and innovation, as well as contributing to the growth of output. But they no longer lead the field and in terms of employment, though not of output, their impact is generally negative, in the sense that they often exploit technological progress to 'restructure' their organizations cutting their labour force. The tendency towards a diminution in the labour force employed in large units has been accelerated by the recent trend towards mergers which is creating continental giants in certain industries, like motorcars, and in certain sectors, like credit and banking. Apart from the slow and difficult process of reducing working hours, the task of absorbing the new generations of workers is being increasingly left to small- and medium-sized firms.

The reasons for the revival of the small firm are several. First, the gradual but significant improvement in the standard of living of consumers in general has determined an increasing differentiation of needs, thus creating new scope for small firms. Second, the improvement in the standard of living of large masses of workers has translated into a refusal of routine work such as that offered by an assembly line, a typical instance of economies of scale. Third, certain new

technologies, such as microelectronics, mean that activities previously not suitable for small firms are now economically attractive.

Economies of scale belong to the broad category of internal economies that offer not only methods of mass production, but also the advantages of permitting the vertical and horizontal integration of different operations. However, some new technologies have transformed a number of internal economies into external economies accessible to small firms, provided they have the advantage of territorial proximity and, therefore, of auxiliary services and specific infrastructure; such conditions are present in industrial districts.

It is well to emphasise that the Marshallian distinction between internal and external economies, which are at the basis of industrial districts, can already be found in Adam Smith, witness chapter III of Book I of his *Wealth of Nations*. Marshall's merit is to have accomplished a modern analysis of the two types of advantage. However, Marshall forced these phenomena, which are essentially dynamic, into a static theory of the firm, whereas Smith included them in his analysis of the division of labour, which he conceived as a complex and dynamic process, the conclusion of which is very different from the over-simplified or even trivial interpretations of most contemporary economists.

From the point of view of the growth of production, large firms still have certain advantages over of small ones. These include a higher export capacity, increased possibility of obtaining bank loans and credit at favourable terms, and the ability to promote applied research by building laboratories within their organizations. As a rule, small firms are unable to produce innovations; they are, at best, in a position to exploit and adapt those produced by others. Small firms can progressively reduce the above drawbacks, even without the need for special public intervention, through associations of various types; but public support is helpful, especially in the form of fiscal measures. In organizing research, however, public intervention is not only helpful: special institutions and laboratories are necessary. This approach has been adopted by public authorities in all the advanced countries, especially after the second world war; special agencies have been created to spread information about technological innovations among small firms; or special organisms have been promoted, such as the 'business incubators' in the United States, created through the co-operation of local authorities, private firms and universities. Some countries, such

as Italy, would like to follow suit, but to date their efforts have been insufficient.

All things considered, the principal efforts of public authorities should consist in the strong promotion of industrial districts by accelerating spontaneous trends already under way. Thus, each district should be endowed with several centres, one to simplify and harmonise bureaucratic and fiscal requirements, another to promote the expansion of exports, still another to strengthen the guarantees for credit and, finally, a centre to spread information concerning innovations and to permit their production by special laboratories. The promotion of industrial districts calls for the building up of specific infrastructures.

7. Economic policy measures and the question of timing

The recommendation to launch a programme of specific infrastructures in order to promote the development of industrial districts fits naturally into a Keynesian type of strategy. Yet, there are important differences between this and a true Keynesian approach, partly because Keynes' policy was conceived at a very specific point in time, during the Great Depression, when the fundamental problem, after years of stagnation and high unemployment, was to promote an expansion in aggregate demand, by any means. Today in Europe there is an urgent need to adopt measures to combat unemployment, which especially in certain parts of Europe has reached dimensions and a duration of tragic proportions. But if we choose the path of promoting an expansion in aggregate demand, we need to be very selective. We have to recognize that some of the criticisms directed toward Keynes were well founded: not only the criticism concerning admittedly unproductive expense, which Keynes considered *faute de mieux*, but also his generic recommendation of public investment. Rather, it is necessary to define the precise terms of the problem concerning productive effects and the timing of public investment. Europe today is emerging, with great difficulty, from a very serious crisis in public finances, and we cannot risk re-creating past problems. To avoid this risk, we would do better to recommend not just public investment in general, but investment directed towards specific purposes, such as infrastruc-

tures to support the development of industrial districts. In this case the complementarity of public and private investment is absolutely clear, so that it is virtually certain that the completion of the infrastructure will be followed in the short run by an expansion in private investment. This means that the list of direct incentives intended to promote private investment will have to include not only a reduction in corporation taxes and of interest rates, but also the creation of specific infrastructure. Naturally, if other infrastructure is planned – such as that recommended by Jacques Delors, for instance – there can be no objections, provided that their productive nature be clearly visible and ascertained. Specific public investment such as that just described belongs to the output-increasing category: it is certainly not labour-saving.

Any programme including the creation of specific infrastructure raises the problem of rapid decisions and tangible results. It seems to me that interminable bureaucratic delays can only be overcome by unifying all the decisions concerning each public works contract in one centre, under a director whose contract envisages the payment of a bonus if the job is done well and completed on schedule.

The basic idea in the "Manifesto" quoted above is that the European partners should agree on a common strategy, which would enable the actions of individual governments to reinforce each other; in this way an expansion in demand in one country could promote the expansion of exports and imports in the others, thereby multiplying the positive effects on output and on employment. Our "Manifesto" recommends primarily measures to promote an expansion in demand using state budgets, the European Funds and an appropriate monetary policy, similar to that adopted by the Federal Reserve System, to overcome the paralysing fear of inflation, which has no reason to exist today, with the trade unions' acceptance of wage moderation and relative stability in the prices of raw materials.

In this paper I have tried to explain my endorsement of the recommendation to promote an expansion. The "Manifesto" also recommends measures to increase flexibility in the labour market, including the unpopular measure of facilitating the firing of redundant workers. However, we also warn the politicians first, that it would not be wise to imitate the conditions prevailing in the United States and, second, to prepare these measures with a view to applying them not immediately, but in a situation approaching full employment.

Thus, in Veneto, to give an instance taken from Italy, measures intended to facilitate the firing of redundant workers would not, even today, meet with too much resistance, since that region already enjoys near full employment. In any event, further progress towards greater flexibility in the labour market is to be recommended right now, precisely because the measures to be adopted are many and their impact cannot be achieved in the short term.

Our "Manifesto" contains a special recommendation: to transform subsidies whenever possible into incentives to production. If we reflect on the variety of subsidies devised to help the unemployed and the considerable cost incurred in disbursing them, it is easy to appreciate that this recommendation is by no means a secondary one.

APPENDIX

The productivity and the employment equations: some econometric estimates

I have estimated the above equations for several countries and different periods, with satisfactory or very satisfactory results. The countries are: Italy, Germany, France, Sweden, USA, Canada, Japan (see Sylos Labini 1993, chap. 8). As an example, I present below the estimates of the three equations for Italy, for the period 1960-85:

$$\hat{\Pi} = \quad 0.36\ \hat{Y} + 0.15\ (\hat{L} - \hat{P})_{-1} + 0.45\ (\hat{W} - \hat{P}_{m.})_{-2.3} \qquad R^2 = 0.84$$
$$\phantom{\hat{\Pi} =} \quad 2.81 \qquad 3.21 \qquad\qquad 3.22 \qquad\qquad\qquad DW = 1.98$$

$$\hat{N} = 0.64\ \hat{Y} - 0.15\ (\hat{L} - \hat{P})_{-1} - 0.45\ (\hat{W} - \hat{P}_{m.})_{-2.3} \qquad R^2 = 0.84$$
$$\phantom{\hat{N} =} \quad 9.39 \qquad 3.21 \qquad\qquad 3.22 \qquad\qquad\qquad DW = 1.98$$

$$\hat{UN} = 1.17\ \hat{FL} - 2.07\ \hat{Y} + 0.55\ (\hat{L} - \hat{P}) + 1.86\ (\hat{W} - \hat{P}_{m.})_{-3} \qquad R^2 = 0.77$$
$$\phantom{\hat{UN} =} \quad 2.47 \qquad 8.22 \qquad 2.89 \qquad\quad 7.55 \qquad\qquad\qquad DW = 1.45$$

The specular behaviour of the two curves, UN and I/Y, can be observed in the following diagrams, drawn by Stefano Sylos Labini, who proposed the interpretation summarized at the end of section 2 of my paper. The same specular behaviour can also be observed in the cases of Germany and the USA; the interpretation in the latter country is probably attributable to the behaviour of real compensations.
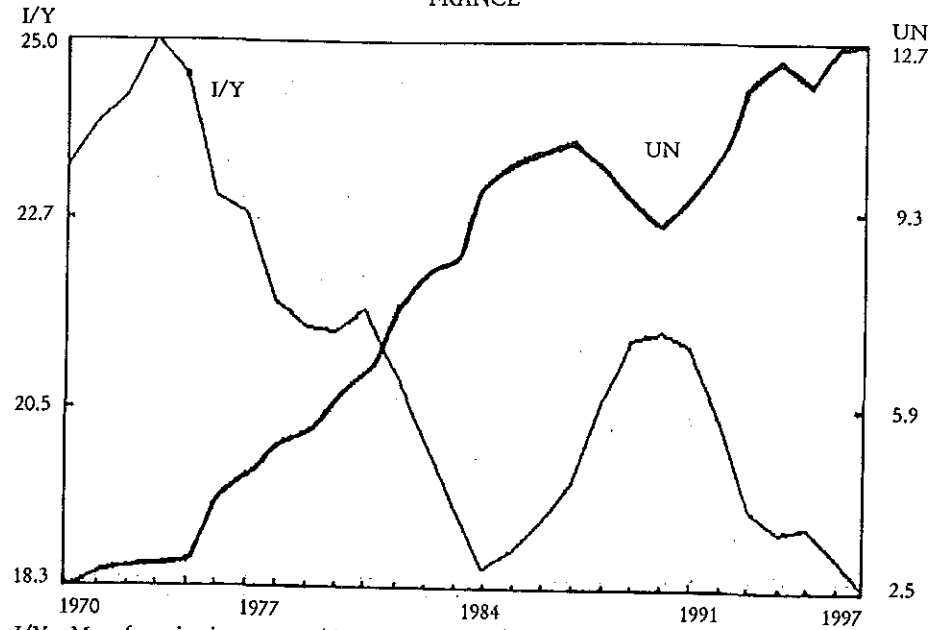
ITALY
CENTER NORTH
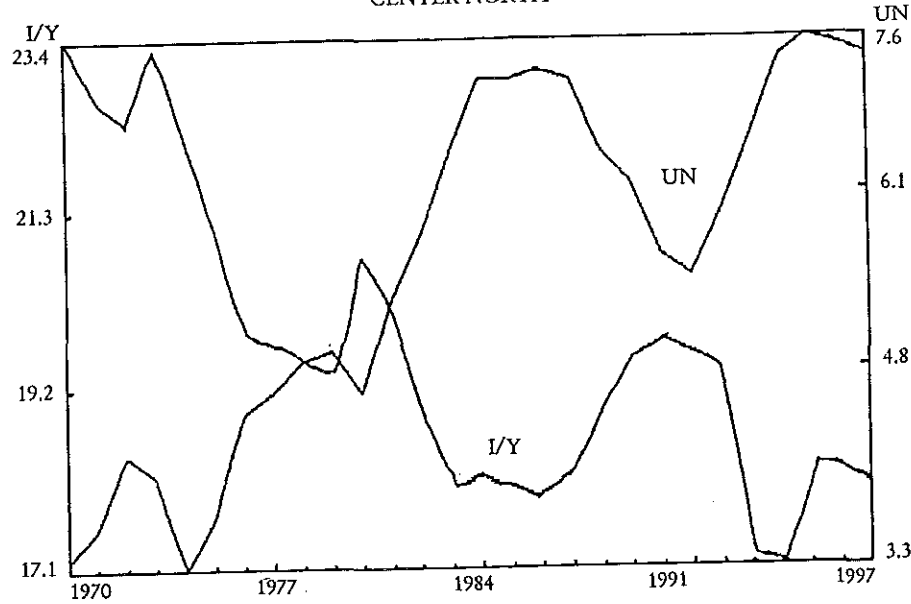
I/Y= Manufacturing investments/GNP x 100.
UN= Unemployment rate.

SOUTH
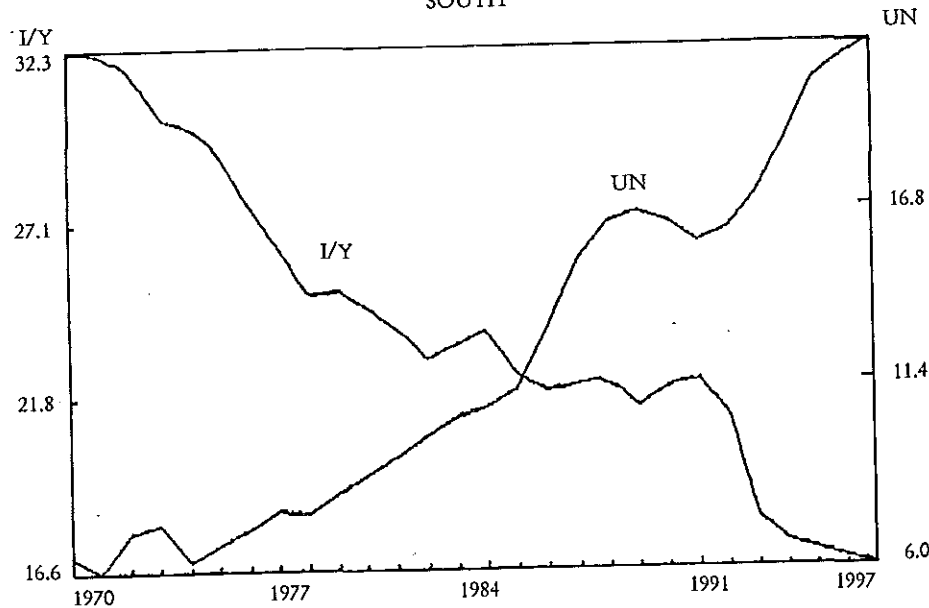
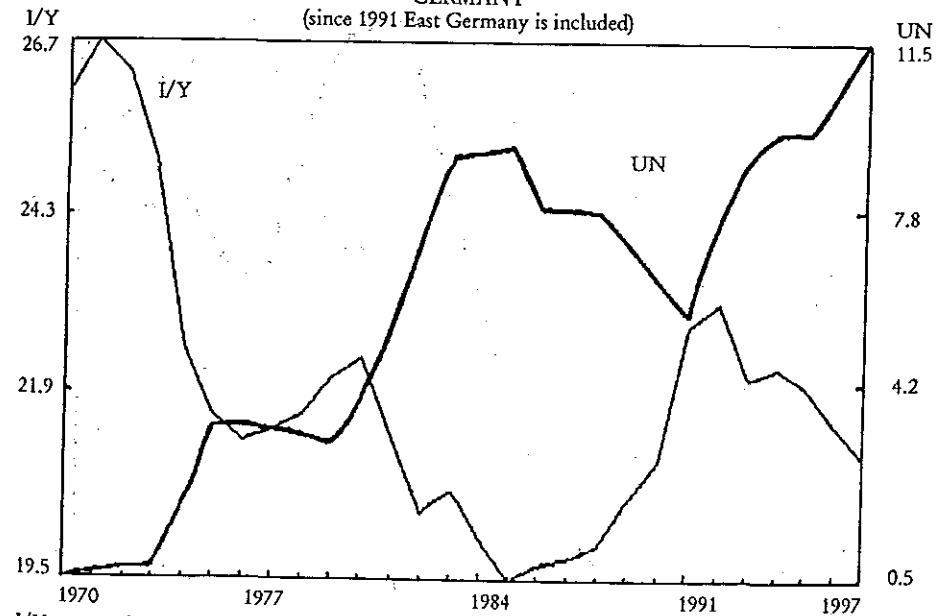I/Y= Manufacturing investments/GNP x 100.
UN= Unemployment rate.

FRANCE

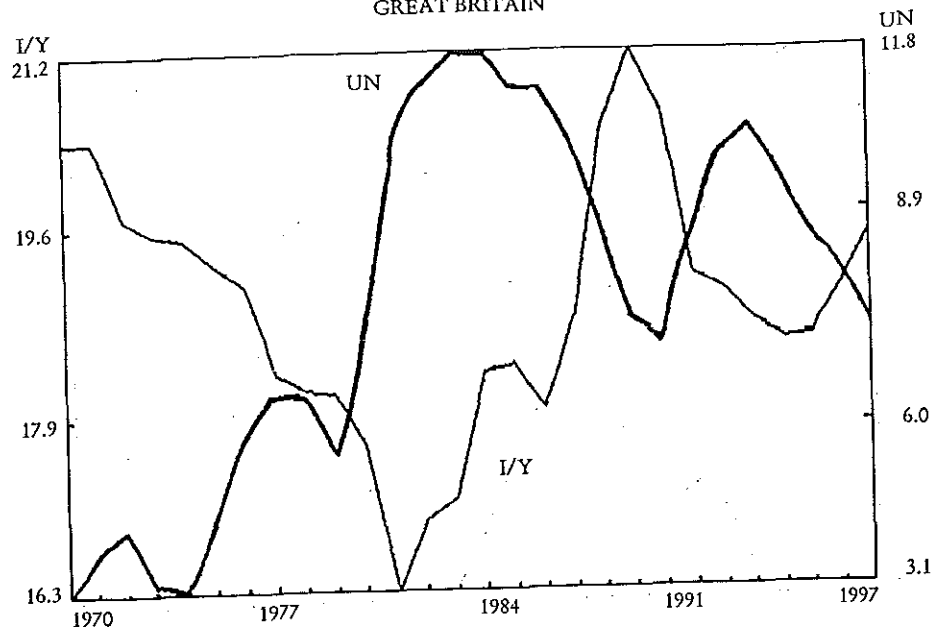I/Y= Manufacturing investments/GNP x 100.
UN= Unemployment rate.

GERMANY
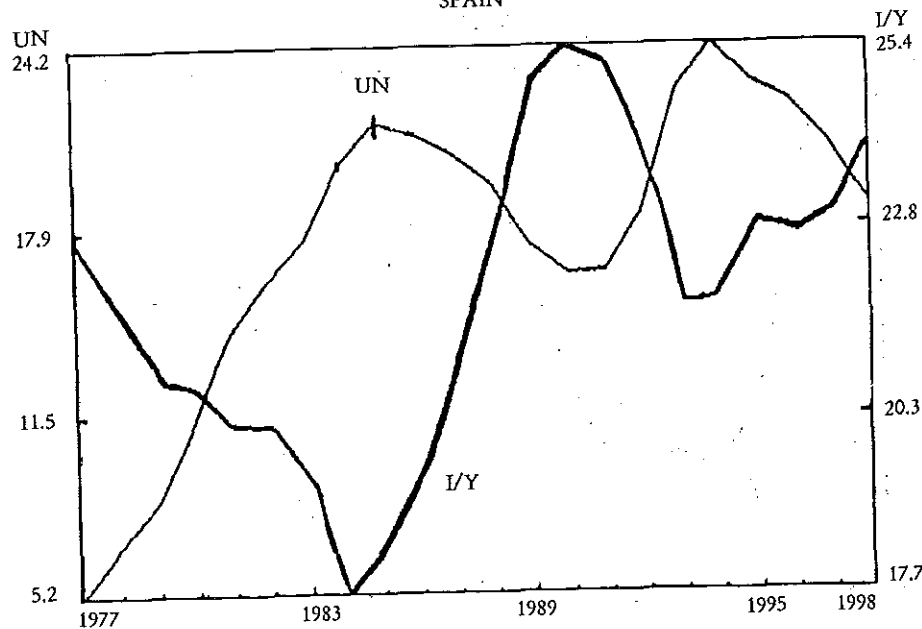### (since 1991 East Germany is included)

I/Y= Manufacturing investments/GNP x 100.
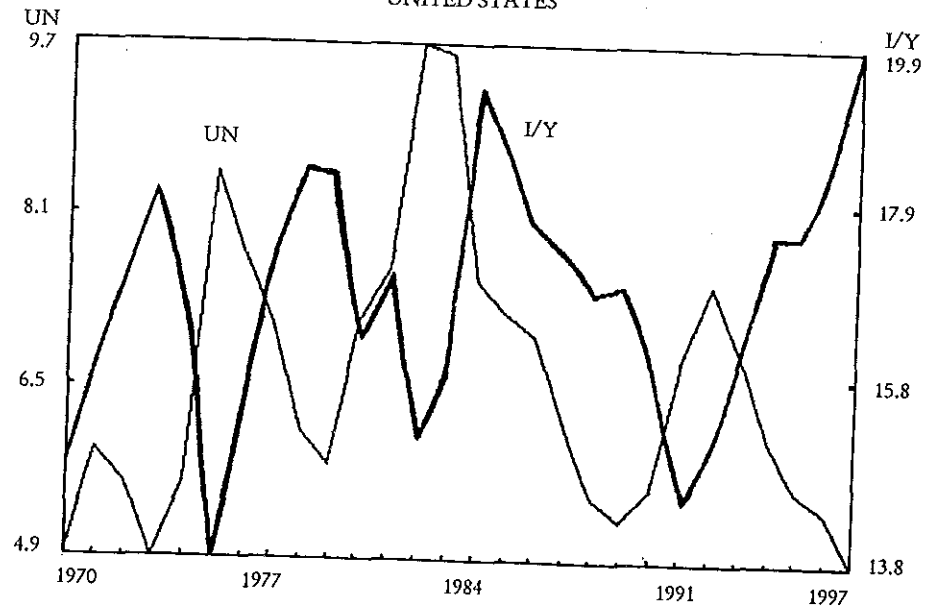UN= Unemployment rate.

GREAT BRITAIN

I/Y = Manufacturing investments/GNP x 100.
UN = Unemployment rate.

SPAIN

I/Y = Manufacturing investments/GNP x 100.
UN = Unemployment rate.

UNITED STATES

I/Y = Manufacturing investments/GNP x 100.
UN = Unemployment rate.

REFERENCES

DRÈZE, J. and MALINVAUD E. (1994), "Growth and employment. The scope for a European initiative", *European Economy, Reports and Studies*, no. 1.

DRÈZE, J. (1995), *Pour l'emploi, la croissance et l'Europe*, De Boek Université, Bruxelles.

FORTIS, M. (1993), *Competizione tecnologica e sviluppo industriale. Fasi dell'economia mondiale dal 1850 al 1990*, il Mulino, Bologna.

MODIGLIANI, F. *et al.* (1998), "An economists' manifesto on unemployment in the European Union", *Banca Nazionale del Lavoro Quarterly Review*, September.

MODIGLIANI F. (1999), *Avventure di un economista. La mia vita, le mie idee, la nostra epoca*, a cura di Paolo Peluffo, Laterza, Roma-Bari.

RICARDO, D. (1951), *On the Principles of Political Economy and Taxation*, edited by P. Sraffa, Cambridge University Press, Cambridge.

SMITH, A. (1961), *An Inquiry into the Nature and Causes of the Wealth of Nations*, Cannan edition, Methuen, London.

SYLOS LABINI, P. (1989), *Nuove tecnologie e disoccupazione*, Laterza, Roma-Bari.

SYLOS LABINI, P. (1993), *Economic Growth and Business Cycles – Prices and the Process of Cyclical Development*, Edward Elgar, Aldershot.

SYLOS LABINI, P. (1998), "Nuove tecnologie e occupazione", Accademia Nazionale dei Lincei, *Atti dei Convegni Lincei*, Roma.

THIRLWALL, A.P. (1983), "A plain man's guide to Kaldor's growth laws", *Journal of Post Keynesian Economics*, Spring.

VERDOORN, P.J. (1949), "Fattori che regolano la produttività del lavoro", *L'industria*, n. 1.