Robert Schuman Centre

European Unemployment: Macroeconomic Aspects

Substituabilities vs Complementarities Between Structural and Macroeconomic Policies

JEAN-PAUL FITOUSSI

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Substituabilities vs Complementarities Between Structural and Macroeconomic Policies

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Introduction[*]

Since the end of World War II, social justice in European societies has been based upon the tacit agreement that State-designed mechanisms had to provide everyone «from womb to tomb» with security (see e.g. Shonfield,1982). While the feasibility of this social contract has been ensured by rapid growth until the mid-1970s, the slowdown that European nations have experienced since then, along with the rise of mass unemployment in the 1980s, has led to its unravelling.

To put things bluntly, unemployment is probably the greatest challenge to the post World War II European social contract. This explains the considerable attention that not only policy makers and economists, but the public at large, have paid in European democracies to finding ways towards a solution of the unemployment problem. Three questions have dominated the debate: How did we get there? Why do traditional solutions (i.e. macroeconomic policies) appear unable to reduce the size of the unemployment problem in Europe? And finally, in the absence of «macroeconomic» policies what can «structural» policies do?

Obviously, it is no place here to provide a full and detailed answer to these quandaries. Instead, our goal in this paper is the following: first, we would like to explain why, in recent debates, macroeconomic and structural policies have gradually appeared as substitutes; in other words, why is it that interest has shifted from attempts to boost output to attempts to carry on structural transformations, mostly aimed at providing labor markets with more flexibility as a solution to the unemployment problem. Second, we want to demonstrate that the range of structural policies available to policy makers is probably much wider than usually thought and is not limited to fostering flexibility. In particular, we claim that there is scope for «structural» reforms of the socioeconomic system which would also produce several of the effects that are traditionnally associated with macroeconomic policies. Our basic message is that «structural» and «macroeconomic» policies, far from being perfect substitutes, might exhibit complementarities.

The remainder of this paper is organized as follows. In the next section, we describe the extent of Europe's unemployment problem as well as the main recipies that have been proposed to moderate it. In the second main, we review the forecasts relating to the evolution of unemployment over the next decade, and show that no autonomous reduction of Europe's unemployment is to be expected as long as the current policy framework remains unchanged. In the final main, we

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* The author is grateful to Marc Flandreau for his help and his suggestions concerning this chapter.

provide a theoretical discussion of the relative merits of increased flexibility and of an alternative «structural reform» based on employment subsidies. We argue that the latter is probably the most capable of contributing to a solution of Europe's unemployment problem that would be consistent with the spirit of European social contracts as they have existed for about half a century.

The Rise of Mass Unemployment: Paving the Way for Structural Reforms as a Substitute for Sound Macroeconomic Policies

Today and yesterday

In the past twenty years unemployment has risen to unprecedented levels. By many aspects, this situation (which is accompanied with financial disorder, and more recently deflationary pressures), seems reminiscent of the crisis of the 1930s. In other ways the current situation is very specific because today's system differs so radically from yesterday's capitalism. Social protection and national budgets are powerful stabilizers for economic activity because they help maintain demand during recessions.

In the thirties by contrast, adjustment «by the market» could not operate because of the very absence of an adequate social protection system. However, economists who supported «laissez-faire» policies, like Jacques Rueff, thought at the time that the market was capable of automatic adjustment and that the existing rudimentary social protection, (such as unemployment benefits in the United Kingdom), were the real obstacles to full employment. Indeed, deflation was seen as part of a mechanism which contributed to the adjustment towards equilibrium. But far from bringing about a return to equilibrium, deflation in the thirties had the opposite effect. Keynes held that price decreases could not provoke an automatic increase in demand, *because the unemployed have no income*. This was the distinctively modern ingredient of the Keynesian diagnosis.

It could be argued however that today, adjustment by market forces relies on social protection, thus ruling out the need for discretionary intervention by governments. As a result, economic policies have to be *active* only where the social protection system is insufficient to maintain the consumption levels of the less wealthy (i.e. in the United States), and *passive* where the system is thought to be too generous (i.e. in Europe). This is the origin of the real contradiction we now face in the latter region.

Unemployment is developing here up to levels which it would have been difficult to imagine even a few years ago, precisely because it can develop

without, as yet, provoking a major crisis of under-consumption. If this had not been the case, action would have been taken without hesitation. In earlier times it would have led automatically to deflation. Our societies now continue to become richer, in living standards and particularly in personal wealth, while this was not the case in previous periods of mass unemployment. But this is partly a result of the normal functionning of social protection, which permits the unemployed ¾ even those who no longer receive unemployment benefits ¾ to have an income and therefore contribute to demand. The functioning of the system prevents demand from collapsing in periods of crisis. But recession obviously makes the system more expensive by increasing expenditure while limiting receipts at the same time. A curious inversion of logic then blames the system itself for unemployment. But the truth is that its very existence prevents recessions from becoming major crises of under-consumption. If social protection did not exist, economic policies would have to be much more active and none of the current objectives of economic policy could be pursued.

This makes the architecture of the current problem clearer. Macroeconomic policy is becoming unidimensional, i.e. only seeks to meet one single objective: price and/or exchange rate stability. It can therefore no longer be mobilized to promote employment. The abnormally high level of interest rates to which it leads, worsens recessions while weakening recovery at the same time. Expansionary shocks, where they appear, will be «softened» to prevent the emergence of inflationary surges. Trends towards employment imbalance can therefore only increase, with phases of expansion never being sufficient to wipe out the employment consequences of previous recessions. But this tendency can make itself evident without provoking a major crisis because the public sector acts as a of shock-absorber. It is carrying most of the burden of adjustment (i.e. it pays unemployment benefits), and is consequently in deficit. It is only too tempting to present deficits as the very source of the problem, thus pointing an accusing finger at the system itself.

In a way, the European economic system has become structurally «keynesian», through its social protection system. Some kind of macroeconomic policy is automatically activated when the activity level is too low. The paradox is that this «expansionary» macro-policy is put in motion whenever traditional macro-policies (fiscal and monetary) are too timid. If, then, the social protection system is disactivated, one has to have a terribly strong faith in market economics, to think that restrictive macro-policies will lead to increased employment, in a world where initial conditions are an historically low rate of inflation, mass unemployment and excess saving.

Technocrats dream of a different world, where each problem has a single solution and where what is needed is «merely» to break up an inherited structure or fabric of society in order to reduce economic imbalances. Economists have long known that in an open economy it is often possible to reduce unemployment by lowering wages. This basic solution is as old as the economy itself. However, they have never stopped looking actively for alternative solutions because they know that wage reduction (even if it were viable), could bring about much more serious imbalances than the ones it is supposed to combat, both at the societal level and for international relations. Competition through wage reduction or reduction in social protection coverage is just as dangerous as competitive devaluation: today's winners can be tomorrow's losers. Keynes was able to identify solutions which corresponded to the problems of his time. Today's economists have to find new ones. Otherwise they are faced with the task of justifying, in political and social terms, the fact that our societies continue to enrich themselves while asking their most vulnerable members to accept increased poverty.

It is of course true that the road to hell is paved with good intentions and that there are painful realities with which we are sometimes confronted; but why not try out other solutions before surrendering? Rueff was perhaps wearing the logician's cap when he argued that suppressing unemployment benefits would cure the unemployment problem in the UK during the twenties; but so was Keynes when he recommended abandoning the policy of overvaluing the pound:

> «The policy of gradually raising the value of a country's money to (say) 100 per cent above its present value in terms of goods amounts to giving notice to every merchant and every manufacturer, that for some time to come his stock and his raw materials will steadily depreciate on his hands, and to every one who finances his business with borrowed money that he will, sooner or later, lose 100 per cent on his liabilities (since he will have to pay back in terms of commodities twice as much as he has borrowed). Modern business, being carried on largely with borrowed money, must necessarily be brought to a standstill by such a process. It will be to the interest of every one in business to go out of business for the time being; and of every one who is contemplating expenditure to postpone his orders so long as he can. The wise man will be he who turns his assets into cash, withdraws from the risks and the exertions of activity, and awaits in country retirement the steady appreciation promised him in the value of his cash. A probable expectation of Deflation is bad enough; a certain expectation is disastrous. For the mechanism of the modern business world is even less adapted to fluctuations in the value of money upwards than it is to fluctuations downwards». John Maynard KEYNES[1]

1. John Maynard Keynes (1923): *A tract of monetary reform*, London, Macmillan, p. 144.

And once logic has spoken, we must turn to welfare criteria to assess the relative merits of alternative proposals. It does seem that Keynes' solution was superior to Rueff's and, as it turned out, it was more effective, too.

This episode of economic history has perhaps something to teach us today, and it may be useful to review it in more details, especially today where decentralised monetary union has a deflationary bias of which the unemployment rate may be a systemic measure (Fitoussi and Flandreau, 1994). This deflationary bias may be exacerbated if the leader country experiences a shock which implies a tightening of its monetary policy, as was the case with German unification. If, in spite of this shock, external stability of the value of money is given priority, it will be at the expense of the stability of the price level, and strong deflationary pressures will emerge. The only option then which is left to cope with the unemployment problem is structural reform. Structural remedies appear as the only way out, thus representing a substitute to macroeconomic policies (for instance because the social protection system prevents deflation to be fast enough to compensate for the overvaluation of the currency). It may well be that in certain circumstances, structural reforms are badly needed. But we have before to make sure that they are not mainly needed to compensate for bad macroeconomic policies.

The unemployment problem: theoretical notes

The various theories that seek to explain the unemployment problem may be interpreted as different diagnoses of a single illness. Each provides its own analysis of the rise of unemployment and offers remedies that are related to the assumed nature of the disease.

In the framework of a general equilibrium model, which describes a set of *interdependent* markets, there is no reason why the origin of the disequilibrium arising in one given market should be found in that market where the disequilibrium has appeared. The price vector may differ from its equilibrium level for a number of reasons of which only a few may have to do with a disfunctioning of the labour market. It remains true that the sheer existence of (unvolontary) unemployment implies that some prices are «false» in the hicksian sense, but this does not mean that the price of labour has to adjust downwards or that it is the only one that should adjust.

The search for efficiency often leads to reallocation of resources on *several* markets (Malinvaud, 1977). Consider for instance inefficiencies arising from asymmetric information or market imperfections. In this case, equilibrium prices will generally not lead to an efficient allocation of resources. For instance, this

may lead to a situation where real wages are high and some agents are unemployed. This does not mean, however that real wages «cause» unemployment, since both variables are endogenous (Solow, 1986). Alternatively, if prices and wages both exhibit downward rigidities, unemployment and high real wages might result from restrictions upon money supply. Indeed, one may argue that such a situation was probably responsible for the recent deterioration of employment prospects in Europe (GIPE, 1994).

More generally, the very nature of problems associated with information asymmetries suggests that it is precisely in those markets which are in charge of coordinating intertemporal decisions that rigidities and inefficiencies are most common. Equilibrium interest rates might not coincide with full employment: since investment decisions (which in turn determine labor demand by firms) are made on the basis of signals sent by these typically inefficient markets, it is only too natural to expect that they lead to distortions. As a result, the burden of adjustment will fall upon *other markets*. For instance, a high rate of interest, by generating a reduction in profitability, will in turn produce a contraction of real wages if full employment is required.

This basic insight was spelt out in Fitoussi-Phelps (1988). The Fitoussi-Phelps monograph focused on the impact of the interest rate upon labor demand in several kinds of models, each of them exhibiting a negative effect (on labor demand) of real interest rate hikes[2]. While the exact channel through which the real interest rate affects labor demand may vary, all go in the same direction. And their implications are important because they point to a neglected short-run as well a long-run supply effect of the real rate of interest. Taking this effect into account may serve two purposes:

- The new transmission mechanism through which the real rate of interest affects supply may constitute the building block of a new «structuralist» theory of unemployment (Phelps, 1994).

- Alternatively it could be added to existing standard economic theory, say the Keynesian-neoclassical model, to weaken or even reverse its main conclusions regarding employment.

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2. These models include: (1) the customer-market model in which a firm's market share ¾ or customer base ¾ is considered to be an asset, (2) the model of turnover of employees, with current trained workers being the asset and (3) the two-sector model in which firms invest in physical capital, the production of which is labor-intensive, in order to reduce the costs of producing the consumer good.

The basic insight is the following: consider for instance a customer market whose distinctive feature is that informational frictions on the buyer's side lead each firm to consider its market share as an asset (i.e. it will provide the firm with a future flow of purchases that are partly irresponsive to price changes)[3]. In such a market, it is obvious that prices are not fully competed down to cost level. A firm's mark-up policy makes each firm's selling price a function of the price of other firms and of the real interest rate. As a result, the amount supplied at a given price by a given firm is a decreasing function of price rises in other firms (since this acts in a way that increases the monopoly power of that firm). Similarly, an increase in the real interest rate, by lowering the present value of attracting more customers from other firms, leads managers to reduce their current output.

Hence the capital market is the essential transmission mechanism, since asset prices are inversely related to interest rates. A high level of interest rate lowers the price of assets and thus reduces the demand for labor. This produces an increase in the equilibrium rate of involuntary unemployment. The reasonning is consistent with standard profit maximisation in an imperfectly competitive environment. In such a setting there is a trade-off between present profits and market shares, or equivalently between present profits and future profits, which is controlled by the real rate of interest. Quite importantly, this mechanism is activated by the structure of the policy mix at work. Consider for instance the effects of an expansive budgetary policy along with monetary tightening. While fiscal expansion tends to rise nominal interest rates, monetary tightening keeps prices down. As a result, real interest rates rise (Fitoussi & Phelps (1988) p. 60). Firms thus modify their time arbitrage towards current profits, raise prices, reduce output and increase unemployment.

If we believe in such a theory the policy conclusion is straightforward: in the presence of unemployment, the policy mix should never imply a too expansionary budgetary policy, nor a too restrictive monetary policy since both will lead to an increase in unemployment. This finding is quite important, especially in view of the policies adopted in Europe during the 1980s, where expansionary budgetary policies and very restrictive monetary policies dominated. The situation has further deteriorated since German unfication. From that date on, the policy mix in Europe was exactly the reverse of what was required: short term real interest rates have been historically high, as well as budget deficits. As a result, the prospects for potential growth have deteriorated, and income inequalities have increased.

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3. Consumer markets may be taken as emblematic of other transmission mechanisms (from real interest rates to unemployment) that are developed in Fitoussi-Phelps (1988).

A clear and strong inversion of the policy mix in Europe will undoubtedly ease the burden which is put on structural reforms, even this should not suffice to solve the unemployment problem.

The unemployment problem: current proposals

The previous theoretical considerations have suggested that while it is certainly on the job market that the pathology of European economies is most clearly observed, nothing can lead us to reject that the source of the disequelibrium can be traced to other markets. Such a conclusion seems to deserve particular attention: indeed, the rise of mass unemployment in the 1980s has been paralleled by a second striking event, i.e. the shift, since 1980, of world real interest rates to historically high levels. This observation fits very well with the previous conclusion that high real interest rates might be the cause of the rise of unemployment rates in Europe, and of the depreciation of certain categories of labor elsewhere.

Of course, other authors have come to a quite different conclusion. They have argued that labor market imperfections have been to some extent responsible for the unemployment problem. According to them, minimum wage arrangements are the main inefficiency that contributes to rationing on labor markets. In this view, such arrangements should be removed as part of a general solution to Europe's unemployment problem.

Finally, there is quite a range of opinion relative to what should be done. The menu of recommendations that are most often debated range from enhancing flexibility in the labour market to activating passive expenditures on social protection. A more active employment policy is desirable *per se*, but the evaluation of the effets of these kind of policies in the countries where they are pursued leads to mixed feelings. The results that can be expected do not match the dimensions of the problem of mass unemployment which has been building up progressively for two decades. This even seems to be true for employment-cost reduction policies, particularly for the unskilled, upon which several countries have placed high expectations. Does this mean that governments are heading for a dead-end? Of course there are grounds for thinking that it is still too early to reach this conclusion, but what is really missing when it comes to resolving the problem of employment in Europe is time. We can no longer put off the solution to a problem which threatens the very foundation of our societies. Mass unemployment changes the behavior of the actors involved and leaves permanent scars on both social cohesion and economic efficiency.

Gloomy Prospects

What are the prospects for the «spontaneous» evolution of unemployment in the coming years? These can be assessed under the assumption that the international framework shaping national economic policies remains unchanged. This seems a reasonable assumption: the persistence of these policies, throughout the 1980's and early 1990's suggests that no major change is in sight. In particular, one should expect that the basic features of current macroeconomic policies in Europe ¾ i.e. internal and external monetary stability, and strict controls on budget deficits and public debts' according to Maastricht's convergence criteria ¾ will be kept in force. Such an exercice will provide a useful benchmark that will allow us to derive the most likely evolutions, if no change occurs in the current stance of economic policy.

With this in mind a group of economists from OFCE and CEPII[4] has attempted to determine what would be the «natural» evolution of the world economy until 2002. Their predictions draw quite gloomy perspectives for the unemployment front ¾ especially in Europe. Table I as well as Chart I and II summarize the evolution of unemployment prospects for a number of countries (Germany, France, Italy, United Kingdom and United States) as they emerged from the MIMOSA study.

The profiles result from the combination of a number of factors affecting both labor supply and labor demand. On the supply side, the growth of the population willing to work will be quite rapid in the U.S. (1%), more moderate in France (0.5%) and Japan (0.4%) and relatively limited in Germany (0.3%), Italy and the United Kingdom (about 0.25%).

Productivity gains on the other hand will be quite small. They range between 2% per year (Japan) and 1% (United States). In the long run, potential economic growth is of about 2% only. As a result employment will increase at a 0.6% annual rate in Germany, France, and the United Kingdom, and perhaps slightly quicker in Italy (0.8%) and in the United States (1.2%).

The combination of these various factors imply that the United States will experience a relatively low unemployment rate, hovering around 5.5% in 2002. Similarly, Japan will experience a decreasing unemployment rate, down to 2% by 2002. It is in Europe that prospects are much less encouraging. The German unemployment rate will move down to 5.9% in West Germany (8% for unified

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4. Equipe MIMOSA. See «Une projection de l'économie mondiale à l'horizon 2002», *Observations et diagnostics, Revue de l'OFCE*, n°55, 1995, pp. 95-150.

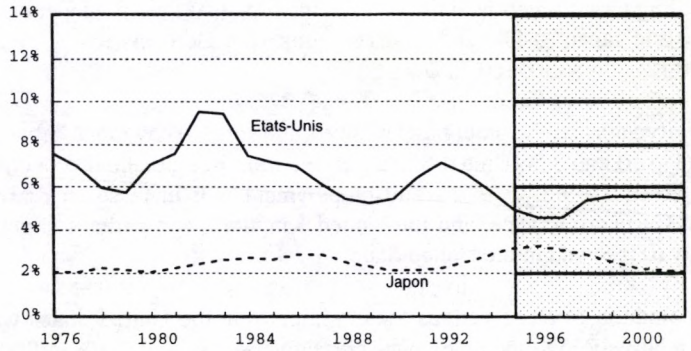
Germany), to 7.2% in the United Kingdom, and to 8.3% in Italy. In France, the unemployment rate will remain a two digit number (down to 11%)[5].

Table 1. The evolution of unemployment until 2002

	1990	1994	1995	1996	1997	2002
UNEMPLOYMENT RATE						
WEST GERMANY	6.2	8.3	8.4	8.4	8.2	5.9
GERMANY	-	9.6	9.6	9.8	9.8	7.5
FRANCE	8.9	12.4	12.0	11.9	11.9	11.1
ITALY	11.5	11.3	11.1	10.4	9.4	8.4
UNITED-KINGDOM	5.5	9.4	8.5	7.8	7.6	7.2
E.U NORTH	8.3	9.8	9.4	9.2	9.1	9.5
E.U SOUTH	12.6	18.3	18.0	17.4	16.7	17.2
UNITED-STATES	5.5	6.1	5.2	4.8	4.8	5.8
JAPAN	2.1	2.9	3.1	3.2	3.0	2.0

SOURCE: MODÈLE MIMOSA CEPII-OFCE.

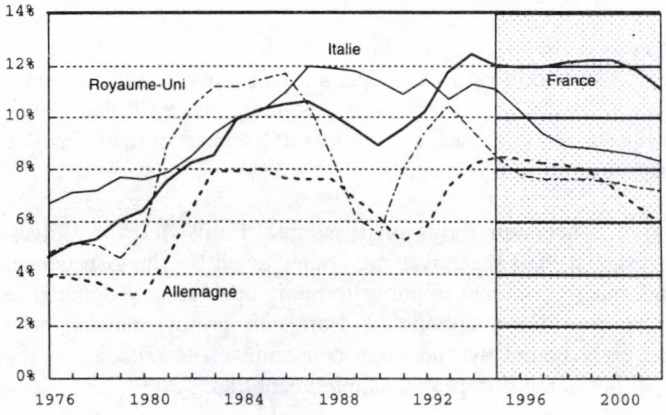
Chart I. Unemployment rate



Source : modèle MIMOSA, CEPII-OFCE.

5. A similar pattern is observed for Spain and other South European countries, but figures are not reported here.

Chart 2. Unemployment rate



Source : modèle MIMOSA, CEPII-OFCE.

Obviously, there is nothing in these conclusions that should lead us to be overly optimistic. This is quite worrying especially in light of the fact that the hypotheses upon which the previous predictions are based are relatively favorable.

Part of these disappointing results reflect the sluggishness of demand which appears to be the weak side of the market. Indeed the supply side seems comparatively healtly, with high profits that represent in some countries like France a very large fraction of national income compared to earlier years. Similarly, the fraction of investment financed out of retained earnings is everywhere pretty high.

On the other hand, the high rate of unemployment, by pushing wages in European countries down, acts as a break on aggregate consumption, which in turn checks any acceleration of investment. The result is that unemployment exhibits a high degree of persistence.

The previous analysis, while quite pessimistic, may raise some afterthoughts. After all, from a theoretical point of view, it is much easier to cure (through macroeconomic policies) demand side problems than supply side difficulties. This is in turn highlights the fact that the full thrust of Europe's unemployment problem comes from the constraints upon budget deficits and public debts: these constraints arise from markets asking for credibility, or from

Maastricht asking for convergence criteria, at a time where monetary policy remains extremely restrictive.

Indeed, in a recent study by Cornilleau et al., it was shower that if France would slightly relax its budget deficit constraint, this could lead to a reduction of its unemployment by about 250 000. And it is likely that a similar result would also hold for Europe at large. Such a claim was at the heart of the Drèze-Fitoussi-Malinvaud proposal, about a year ago[6].

The overall conclusion seems pretty simple. Firms find themselves more willing to invest, but their incentives are counteracted by sluggish demand. On the other hand, macroeconomic solutions to pump up aggregate demand seem to be outside the considered options of European policy makers, who find themselves severely bound by budgetary constraints. The outcome is that it is very hard to get out of the European unemployment trap.

But since there does not seem to exist any way to increase the size of the cake, it becomes more and more likely that the forthcoming years will be devoted to debating on how to share it. In fact, some authors have argued that this might be a way to increase the size of the cake. Among proposals aimed at generating a more favorable evolution of the unemployment rate, some authors ¾ especially in France ¾ have argued that reducing the number of hours worked of wage and salary earners would be a great step towards solving the unemployment problem with the existing work being shared among more people. By reducing the financial burden of unemployment benefits, this would in turn stimulate aggregate demand and thus lead to a further reduction of unemployment. While the economic validity of such a reasoning may be debated, we believe that its practical implementation raises considerable difficulties. Indeed, it means that employed individuals will have to accept a short term reduction of their income, to be compensated in the long run by increased wages generated through higher growth and a reduction of unemployment.

This of course requires a quite substantial level of solidarity, which seems a bit at odds with current evolutions. As argued later, high interest rates and a riskier future renders cooperative behavior (even when Pareto superior) rather hard to implement. While it seems obvious that given the current constraints upon budgetary and monetary policies, any solution to Europe's unemployment problem has to go through a reallocation of incomes, the exact way through

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6. Similar conclusion were reached by Gordon («Macroeconomic Policy in the Presence of Structural Maladjustment», OCDE, 1996) who shows that the French unemployment rate is well above the NAIRU.

which these reallocations should be implemented remains undecided. This is why we now turn to a theoretical assesment of the comparative properties of various «structural» policies.

Structural Utopias

As argued in the introduction, «structural» remedies to European unemployment problems may appear at first sight as an obvious challenge to the European model of Social Contract as it emerged after World War II. From an economic point of view, this contract developed upon the agreement that a pure market economy was unable to deliver equity and efficiency at once, and that a system of transfers was necessary to complement [ ] and to "correct" the income consequences of these forces [the forces of competition]. It is obvious that the sirens advocating structural remedies are the heralds of the unravelling of the European Social Contract. Hence time may be ripe for a reexamination of the foundations of «traditional» structural policies: this will lead us to restate their limits as well, as to argue that alternative structural policies (that would leave the basic core of Europe's social pact unharmed) should be considered.

«Traditional» structural policies

As we know, Europe's unemployment problem does not affect the work force homogeneously. Instead, it tends to fall disproportionately on the less qualified or the unqualified workers. According to the «pure» walrasian theory, the price of factors such as labor should equal their marginal productivity. In this view, minimum wage arrangements may be considered as obstacles to full employment, for they may raise real wages above less qualified workers' productivity. The seemingly logical conclusion of this analysis is thus that minimum wages and unemployment benefits represent obstacles to solving Europe's unemployment problem.

This apparently reasonable inference is a bit oblivious however of a deeper theoretical problem that was hotly debated a few decades ago. While we know since Walras that the general equilibrium of a perfectly competitive economy does exist *under some assumptions*, it is not obvious that this equilibrium has a system of prices that guarantees a minimum standard of living to all agents ¾ or even a *survival* standard of living.

The problem was brushed away by Arrow and Debreu[7] in a classic paper. If the agents' initial endowments are such that they have enough resources to survive without working, then any equilibrium wage is admissible. Of course this solution did not address the heart of the matter ¾ namely what would happen if agents do not have the required initial endowments.

Carrying on this line of thinking raises additional questions. While it is possible to argue that a narrowly defined concept of «survival level» corresponds to a rather low minimum wage, a more properly defined concept would include items relating to the building and amortization of human capital, such as training (or re-training in case of knowledge obsolescence due to technical progress). It is clear that these basic necessities, which are especially substantial for less skilled workers who might find themselves unable to get a new job after having been laid off, adds to support costs, thus raising the «minimum survival level». Hence the «minimum survival level» is a social concept, which varies with time and space and which refers to the requirements of social stability rather than biological survival.

This is what the founders of the European social pact had in mind when they thought of providing all agents with minimum wages and unemployment benefits: the market solution may not be sustainable. It is thus necessary to amend it, and to make it sustainable[8].

Realizing this crucial fact sheds light on the most basic rationale for social contracts involving minimum wage provisions. The key issue is of course not to «subsidize iddleness» as the classical view would have it, but rather to rule out equilibria that would leave part of the nation on the side of the road. This suggests that the *exact* form of the post World War II social contract is no holy cow. Any other arrangement that would deliver the same features (i.e. that would eliminate equilibrium incomes below the minimum level) would do just as well, and perhaps better.

This is why we now turn to the formal discussion and comparison of various institutional regimes.

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7. Arrow K.J., Debreu G. (1954), «Existence of an Equilibrium for a Competitive Economy», *Econometrica*, 22, p. 265-290.

8. For a classic statement of this well-known but too often forgotten problem, see e.g. N. Georgescu-Rogen «Limitationality, limitativeness and economic equilibrium» in Georgescu-Rogen, *Analytical Economics*, HUP (1967).

The minimum wage, and employment subsidies regimes

In what follows we discuss the respective properties of the free market equilibrium, of a minimum wage cum unemployment benefits equilibrium, and of an employment subsidies equilibrium.

Our goal is to show that the market solution is not the only «structural reform» that may help Europe out of its unemployment problem. Actually, it is probably even the worst solution because of the poverty it may generate. On the other hand, we show that the current minimum wage regime is clearly inferior to the employment subsidies solution.

The model below is an aggregated version of a general equilibrium model analyzed by Dehez and Fitoussi (1993)[9]. In the more general version, there are several categories of labor each characterized by an inelastic labor supply and a specific level of productivity; a minimum wage is also explicitly introduced. Two results of that model are relevant for the present discussion.

First, an increase in the minimum wage will always cause an increase in unemployment; it will lead to a decrease in the real wage of the more highly skilled labor categories when the types of labor are complementary and to an increase when they are substitutes[10].

Second, nothing guarantees the uniqueness of the solution in terms of unemployment and the real wage level, unless a very strong condition is imposed, namely, whenever there is unemployement in one category (even a high-skill one), the real wage in that category equals the minimum wage. Even if one accepts this stringent assumption, full employment can still be obtained through a wage-subsidy scheme if, and only if, the minimum net income received by a wage earner is strictly less than the weighted average of marginal productivities.

Such a solution may be spontaneously achieved if the wage structure is such that the degree of inequality in the wage distribution is smaller than the degree of inequality in marginal productivities. Social norms may impose such an implicit system of subsidies: in effect, the set of relative wages is as much the result of social conventions as the result of spontaneous economic forces, as great economists like John Maynard Keynes and J.R. Hicks have pointed out. A sense

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9. Rahim Loufir was of great help in the design of this aggregated version.
10. Two types of labor are complements when the productivity of one category increases when the other category is used more intensively. They are substitutes if the converse is true.

of fairness cannot be totally absent from the process of income distribution. Hence a move toward a great degree of individualism, with each category trying to strictly maximize the quasi-rent from its human capital, can lead to an increase in unemployment in the low-skilled segment of the labor market. Whether the minimum wage is binding or not may depend in this case on social conventions. This implies that increased inequality and unemployment may go hand in hand, and that curing the second may require reducing wage inequality.

Hence, to reach full employment, a wage-subsidy scheme may have to be imposed explicitly through taxation, and it will achieve its aim if the high-skilled workers do not reduce their labor supply by a critical amount (as assumed in that model) because of the increased taxation.

The latter result may explain why different patterns of wage distribution across countries are consistent with a similar evolution in the structure of unemployment. On the basis of the former result, one should expect, *ceteris paribus*, a smaller increase in inequality of wage distribution in countries characterized by a binding system of minimum wages.

Let's consider a simple macro-model of the economy that allows to compare the out comes of minimum wages with those of employment subsidies schemes. The model has three sectors: production, consumption and government.

The production sector:
We consider the equilibria of an economy populated by two types of workers (skilled and unskilled, S and U respectively); workers may be either employed or unemployed. They produce one consumption good and hold money which will be used to implement transfers. The consumption good is produced through a technology of a Cobb-Douglas production function type[11]. Q stands for output.

$$(1)\quad Q = S^{\alpha_1} U^{\alpha_2} \qquad 0 < \alpha_1 < 1 \quad 0 < \alpha_2 < 1 \qquad \alpha_1 + \alpha_2 \leq 1$$

The producer maximizes:

$$(2)\quad \Pi = pQ - w_1 L - w_2 N \qquad \text{with} \quad w_1 = p\omega_1 \quad \text{and} \quad w_2 = p\omega_2$$

11. Note that the analysis could also be conducted with a constant elasticity of substitution CES function. However, recent empirical studies suggest that the elasticity of substitution between the two kinds of labor is close to one.

Where p is the price level, w_1 and w_2 are the nominal wages of skilled and unskilled workers respectively. Moreover we assume that the supply of labor is price-inelastic.

The consumer sector:

The consumer maximizes the following utility function (s refers to employee's status i.e. either employed: E or unemployed: N)

(3) $\text{MaxW}\left(c_{i,s}, m_{i,s}\right) = \log\left(c_{i,s}^{\beta} m_{i,s}^{1-\beta}\right) \qquad 0 < \beta < 1 \quad i = S,U \quad \text{and} \quad s = E,N$

under the budget constraint: $pc_{i,s} + m_{i,s} = m_i + e$

where $c_{i,s}$ denotes per head demands of employed and unemployed skilled and unskilled workers, $m_{i,s}$ stands for their demand for money, m_i denotes their initial money stock, and e stands for the per head income. Profits are distributed at the end of each period; hence m_i includes the profits from the last period.

It follows that per head consumption is:

(4) $c_{i,s}(p,e) = \beta(m_i + e) \; / \; p \qquad i = S,U \quad \text{and} \quad s = E,N$

Finnaly, we assume that the government taxes the economy with a tax rate t. These taxes will be used to finance transfers when desired.

The first run with this model is aimed at providing us with the «market» benchmark, i.e. we assume that markets clear in a walrasian way: there is no unemployment. The model is then solved in (5) - (8).

a) «Free Market» Benchmark

Exogenously given labor supply determines the real wage for both skilled and unskilled labor, as well as output and the price level.

(5) $L = \alpha_1 / \omega_1 (\alpha_1 / \omega_1)^{\alpha_1/(1-\alpha_1-\alpha_2)} (\alpha_2 / \omega_2)^{\alpha_2/(1-\alpha_1-\alpha_2)}$

(6) $N = \alpha_2 / \omega_2 (\alpha_1 / \omega_1)^{\alpha_1/(1-\alpha_1-\alpha_2)} (\alpha_2 / \omega_2)^{\alpha_2/(1-\alpha_1-\alpha_2)}$

(7) $\hat{Q} = (\alpha_1 / \omega_1)^{\alpha_1/(1-\alpha_1-\alpha_2)} (\alpha_2 / \omega_2)^{\alpha_2/(1-\alpha_1-\alpha_2)}$

(8) $\hat{\omega}_1 = \alpha_1 \hat{Q} / L \qquad \hat{\omega}_2 = \alpha_2 \hat{Q} / N \qquad \hat{p} = \beta M / \left(1 - (\alpha_1 + \alpha_2)\right) \hat{Q}$

The aggregate net income is then: $\hat{Y} = (\alpha_1 + \alpha_2)\hat{Q}$

and the government budget surplus is: $\hat{G} = 0$ since there is no tax at that stage.

b) Minimum wage

Let's now assume that there does exist a minimum level of subsistence defined by a positive quantity μ expressed in terms of the aggregate consumption good. Assume further that the equilibrium real income for unskilled workers falls below the minimum level. A minimum wage $\hat{\omega}_2$ has to be introduced.
As a result, a fraction of the unskilled workers will be unemployed (and will then get the unemployment compensation ω_2

The demand for unskilled workers is:

$$(9)\quad \overline{N} = N\left(\hat{\omega}_2 / \omega_0\right)^{\alpha_2/(1-\alpha_2)}$$

Output is then:

$$(10)\qquad \overline{Q} = \hat{Q}\left(\hat{\omega}_2 / \omega_0\right)^{\alpha_2/(1-\alpha_2)}$$

The real wage of skilled workers, and the price level are:

$$(11)\qquad \overline{\omega}_1 = \hat{\omega}_1\left(\hat{\omega}_2 / \omega_0\right)^{\alpha_2/(1-\alpha_2)} \qquad \overline{p} = \beta M / \left[(1-\beta(1-t)\alpha_1)\overline{Q} - \beta\mu N\right]$$

The net income is: $\overline{Y} = (1-t)\alpha_1\overline{Q} + \mu N$

and the budget surplus is: $\overline{G} = \left[t(\alpha_1 + \alpha_2) + (1-t)\alpha_2\right]\overline{Q} - \mu N$

c) Employment subsidies

To ensure full employment of unskilled workers whose marginal productivity is less than the minimum of subsistence, the government induces firms to employ all unskilled workers by providing them with a subsidy that makes up for the difference between the walrasian wage and the minimum wage.

Since: $(1-t)\hat{\omega}_2 \;<\; \mu \;<\; (1-t)\hat{\omega}_1$

It follows:

$$\overline{\overline{\omega}} = \hat{\omega}_1 \quad , \quad \overline{\overline{\omega_2}} = \mu / (1 - t) \quad , \text{and} \qquad \overline{\overline{p}} = \beta M / \left[(1 - \beta(1 - t)\alpha_1)\hat{Q} - \beta\mu N \right]$$

The net income is then: $\overline{\overline{Y}} = (1 - t)\alpha_1 \hat{Q} + \mu N$

and the budget surplus is: $\overline{\overline{G}} = (t\alpha_1 + \alpha_2)\hat{Q} - \mu N$

It is now time to summarize the conclusions of the previous analysis. When the existence of a minimum level of subsistence is taken into account, the «free market» solution is no longer feasible because it leads to the «death», (at least the social death) of the unskilled population, and thus to the collapse of output. Society at large has an advantage in finding a way to help the unskilled out.

Let's now turn to the comparison of cases (2) and (3). It is obvious that employment subsidies lead, by construction, to full employment and therefore to a higher level of production. What about real net income and real budget surplus? Obviously, the same intuition holds because with a higher level of production more resources can be shared between agents and thus a higher level of welfare is reached. Finally it is obvious that employment subsidies are clearly superior unemployment compensations.

Towards a new social contract?

What emerges from the previous discussion is that it is possible to draw a one-for-one correspondence between economic regimes and implicit social contracts.

The implicit contract embedded in the free market regime is obviously one where *any* equilibrium price vector is considered as acceptable. The implicit contract embedded in the minimum wage regime is one where society values the fact that every agent is provided with resources above the socially accepted survival level. The implicit contract embedded in the employment subsidies regime is one where society values the fact that every agent is provided with both minimum resources *and* a job. Intuitively, this regime is one where the basic payroll system is supplemented by a set of transfers going top down, from the highest pay jobs to the lowest ones, thus reducing their spread. Such a system might appear quite reasonable, especially because wage distribution within a firm or industry always include element of arbitrariness. It is well known that individual productivities are difficult to measure leading managers to focus on the global outcome of team (or firm) effort . While it is possible to rank jobs in terms of productivity, it is never easy to assign to each agent a precise cardinal

measures of productivity. Again, this suggests that every system for assigning shares of aggregate income to individual jobs is to a certain extent a matter of social convention. And indeed even today the actual systems that we do observe in Europe differ quite substantially from country to country.

Since we have argued that a case can be made to show that the implicit contract embedded in the «employment subsidies» regime dominates that embedded in the minimum wage regime, we will restrict our attention to comparing «employment subsidies» (E.S.) to «free market type» (F.M.) solutions. Our claim is that there are strong reasons to believe that the employment subsidies regime is preferable.

Most of the advantages accruing to the E.S. solution can be related to the externalities that it generates in terms of human capital. The first and most obvious externality arises from the benefits associated with providing everybody with a job. While no «free» human capital accumulation can take place for agents that are unemployed, economic activity goes along with skill acquiring, training, and knowledge building, at a rate at least comparable to the free market solution and perhaps even larger, since it goes along with a better standard of life.

Moreover, employment subsidies, by reducing the risk of becoming unemployed, favors the development of long term job relations. Agents are more willing to invest larger ressources in collective action and in counterpart, firms are ready to provide them with long run contracts.

This has several effects. First, it leads firms to devote larger ressources to workers' training and education, because they know that they will be able to derive benefits from their employees' improved abilities. Again, it is obvious that human capital accumulation is favored.

A second effect relates to the fact that the cross-sectional transfers associated with employment subsidies have dynamic effects as well. The existence of long run relations provides a way to introduce built-in incentives to work efficiently precisely because income increases along with the stock of achievements. This also eases intergenerational transfers because young workers subsidize old retired ones, before being themselves subsidized by a new generation. Finally, in the E.S. solution, both firms and employees can derive all sort of externalities that cannot be achieved as efficiently through the walrasian solution.

Of course, the trend that has developed in the past 20 years has pushed towards a quite different direction. Rising unemployment, along with high real

interest rates have led to the unravelling of long run economic relations. Faced with an increased risk of being laid off and with a more discounted future, agents have asked for higher pay whenever possible, and have been drawn away from intertemporal contracts. To protect themselves against economic risks they have saved more. Young and less qualified workers have been laid-off. This has tended to increase competition for lower pay jobs. In turn, the situation of older and now «overpaid» workers has been contaminated.

Some have advocated to go further along the same path by increasing flexibility. But the increased flexibility might only increase discrepancies between agents, further dissolving the glue which has bound together European societies since 1945. The emerging social contract is such that reduced solidarity is less and less perceived as an evil. Instead of changing our societies, we change our norms.

By contrast, our claim is that an explicit system of employment subsidies between categories and between generations might be part of an efficient solution to Europe's unemployment problem.

Conclusion

In this paper, we surveyed the rise of Europe's unemployment problem, its prospects, and discussed several of its proposed solutions.

We demonstrated that among the various options, the employment subsidies scheme should retain some attention. The basic insight that motivates the desirability of such arrangements is that it is always better to provide people with a job rather than providing them with income compensations. This arises for two reasons. First any economic activity somehow contributes to improving GNP. Second, there is a number of externalities that are derived through being employed, for economic activity is always favorable to human capital building.

Moreover, it should be emphasized that such solutions might receive relatively wide political support. First, it is obvious that compared to the job-sharing-with-payroll-reductions solution, employment subsidies could be more easily accepted by employees, because it is a pure State policy that does not require active cooperation. Second, it must be remarked that a dose of employment subsidies has received favorable review even by proponents of structural policies (see for instance the 1995 OECD Report which favors «active measures to fight unemployment»).

Obvioulsy, both the choice and the actual implementation of such schemes will raise a number of difficulties. As pointed out in the OECD Report, several questions will have to be examined form a view about which specific form of employment subsidy would be the most efficient: Do these programs generate [ ] for the newly employed (or re-employed) [enough human capital accumulation] so that their employment prospects will improve? Do these programs reduce aggregate unemployment, rather than prompting companies to substitutions that would offset part of the initial benefits? Equally important, would the country's macroeconomic performance be improved?

It is never easy to answer such questions, and the road to full employment in Europe will be a rocky one. Nevertheless we believe that the suggestions spelt out here might go some way towards solving Europe's unemployment problem.

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