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Evaluating Unemployment Policies: What do the Underlying Theories Tell Us?

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Abstract

The paper surveys unemployment policies for advanced market economies and evaluates them by examining the predictions of the underlying macroeconomic theories. The basic idea is that, for the most part, different unemployment policy prescriptions rest on different macroeconomic theories, and our confidence in the prescriptions should depend--at least in part--on the theories' ability to predict some salient stylized facts about unemployment behavior. The paper considers four types of policies: laissez faire, demand-management, supply-side, and structural policies.

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Contents

Summary

This survey is based on a simple idea that has received lamentably little attention in the literature on unemployment policy: different unemployment policies are generally based on different theories of unemployment, and confidence in a policy should depend--at least in part--on the ability of the underlying theory to account for some prominent empirical regularities in unemployment behavior. In particular, the paper evaluates unemployment policies in advanced market economies by examining the predictions of the underlying macroeconomic theories.

The paper considers four types of policies. First, the laissez-faire policy stance implies that the government should do little or nothing to influence unemployment. This stance is supported by the natural rate theory, the intertemporal substitution theory, and the real business cycle theory.

Second, demand-management policies, based on Keynesian and New-Keynesian theories, as well as on recent developments concerning transmission mechanisms between labor and product markets, cover both government employment and macroeconomic policies aimed at changing product demand.

Third, supply-side policies, designed to raise the productivity of workers across the board, comprise a variety of measures, including reductions in payroll taxes, government infrastructure investment, and improvements in information dissemination. The paper shows how the market failures addressed by these policies are analyzed through search theory, implicit contract theory, and efficiency-wage theory.

Fourth, institutional policies aim to change labor market institutions to reduce unemployment. Labor union theories, bargaining theories, and insider and outsider theories can shed light on how these policies operate. The policies include reform of wage-bargaining systems, measures to reduce labor turnover costs, job search support for the long-term unemployed, worksharing, early retirement, actions to reduce barriers to the creation of new firms, profit sharing, reform of unemployment benefit systems, recruitment subsidies, training subsidies, and benefit transfers.

I. Introduction

This paper is motivated by a simple idea that has received lamentably little attention in the literature on unemployment policy: different unemployment policies are generally based on different theories of unemployment, and our confidence in a policy should depend--at least in part--on the ability of the underlying theory to account for some prominent empirical regularities in unemployment behavior.

Some theories depict unemployment as the efficient outcome of market activity. These usually serve to rationalize a laissez faire policy stance. Others depict unemployment as the product of market failures. Here unemployment must be seen as the symptom of many possible diseases: many different market failures can produce the same problem of joblessness. And just as different diseases require different treatments, so different market failures may call for different government policies. 1/ It is because different theories of unemployment focus on different market failures that different policies are generally based on different theories.

It is difficult to evaluate the various unemployment policies through a direct empirical assessment of the market failures identified by the underlying theories. After all, market failures arise when people are not fully compensated for the costs and benefits they impose on one another, and uncompensated costs and benefits are inherently difficult to measure. For this reason, it is natural to evaluate unemployment policies by investigating the predictive power of the underlying theories. And a first step in this direction is to examine the degree to which these theories are able to account for some generally recognized regularities in the movement of unemployment rates in OECD countries over the postwar period. This approach would perhaps be too obvious, were it not so frequently at variance with the standard rationalizations of unemployment policies.

Admittedly, the suggested criterion is highly simplistic. In practice, unemployment may generally be expected to arise from several different causes operating simultaneously. Then it would not be reasonable to expect any single theory to explain all the salient empirical features of unemployment behavior in the OECD. But all that this paper claims is that confronting unemployment policies with these empirical features can give a useful preliminary indication of how significant these policies are likely to be. It would surely be unwise to have a heavy stake in a policy whose underlying theory explains little of how unemployment has evolved in the postwar period.

1/ However, these failures need not call for government intervention at all, since it may not be feasible to correct some market failures through government unemployment policy, and even when it is possible to do so, the gains from correcting the market failures may fall short of the losses from the "government failures" (*viz*, policy-induced inefficiencies).

The paper is organized as follows. Section II deals with the laissez-faire policy stance, based on theories of voluntary unemployment. Section III deals with demand-management policies, resting on Keynesian theory. Section IV turns to supply-side policies, aimed at raising workers' productivity. Section V considers the interaction between demand- and supply-side policies. Section VI surveys institutional policies, designed to change labor market institutions. Finally, Section VII concludes.

II. Laissez Faire

The laissez-faire policy stance--for the government to do little or nothing to influence unemployment--is based primarily on models in which swings in unemployment are viewed as the outcome of the optimizing decisions by job-seekers and job-providers in efficient markets. In this context, active unemployment policy is generally undesirable since it only disturbs the workings of well-functioning markets and interferes with people's free choices to accept or reject employment.

There are two main types of laissez faire stances. One argues that government interventions aimed at influencing the long-run equilibrium unemployment rate would be ineffective or undesirable, but acknowledges the possible effectiveness and desirability of policies to deal with cyclical swings in unemployment. In particular, it advocates predictable policies, whose effects can be readily foreseen by economic agents. This view receives its most forceful expression in the market-clearing variant of the natural rate theory. The other laissez faire stance discourages intervention not only with the long-run equilibrium unemployment rate, but also with cyclical unemployment swings. It rests primarily on intertemporal substitution theory and real business cycle theory.

1. Policy predictability

The market-clearing variant of the natural rate theory is an obvious vehicle for rationalizing the importance of policy predictability. In this theory, unemployment is at its "natural rate" when people's expectations about wages and prices are correct. Under conditions of perfect competition and perfect information, this natural rate depends only on people's tastes,

technologies, and resource endowments. 1/ When people's wage-price expectations are out of line with actual wages and prices, then unemployment deviates from its natural rate.

Provided that tastes, technologies, and endowments do not fluctuate cyclically, fluctuations in unemployment--according to this theory--must be explained by fluctuations in expected wages and prices around their actual values. 2/ In order for this theory to have predictive power, it needs to be combined with a theory of how expectations are formed. The dominant one is the rational expectations theory, which asserts--quite plausibly--that people are not fooled in ways that they themselves could have predicted. To test this hypothesis, a description of people's "information sets" is required, from which expected wages and prices could be inferred. In practice this is, of course, an impossible task; so empirical models generally assume that everyone has the same information as the authors of the models, except that the authors have more recent data.

The combination of the natural rate theory with this variant of rational expectations theory has a well-known implication: since people make no systematic expectational errors (errors they could have predicted), then unemployment cannot diverge systematically from its natural rate. Just as expected wages and prices will fluctuate randomly around their actual values, so unemployment will fluctuate randomly around the natural rate.

It is not hard to see why policy predictability is advisable in this context. With well-functioning markets, there is clearly no efficiency case to be made for interfering with the natural rate of unemployment. Policies which have no influence on this natural rate--such as monetary policies--can affect unemployment only by driving a wedge between actual and expected wages and prices. This can be done through unexpected policy variations,

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1/ See, for example, Lucas (1972, 1975). Some economists use the term "natural rate of unemployment" more broadly, letting it stand for any short-term equilibrium unemployment rate, regardless of whether the labor market clears (e.g., Phelps (1970, 1994)) and regardless of the underlying institutional structure (e.g., Friedman (1968)). In that view, the natural rate clearly rests on much more than tastes, technologies, and endowments; it could also depend on the existence of credit constraints, degree of competition in labor and product markets, the nature of wage bargaining institutions, the level of labor turnover costs, and the size of the incumbent workforces, just to give a few examples. Then, however, the natural rate theory becomes so all-inclusive that it can no longer be distinguished from labor union, insider-outsider, efficiency wage, and other theories.

2/ Taking the wider view of the natural rate theory, summarized in the previous footnote, it is worth observing that the degree of competition and the economic institutions governing behavior in the labor, product, credit, and international markets are generally not subject to cyclical fluctuations either. Thus cyclical fluctuations in unemployment remain to be explained by fluctuations in expectational errors.

such as unexpected changes in the money supply. Put simply, demand-management policies are effective only when they are deceptive. But deceptive policies are generally not in the public interest: if people were initially pursuing their own interests in well-functioning markets--and thereby promoting the public interest as well--unexpected changes in policy will only reduce individual and social welfare. Thus stabilization policy is reduced to the limited task of being predictable.

The problem with this theory is that it fails to address many of the features of European unemployment over the past decade. In many OECD countries over the 1980s, union density remained constant or even declined, the expansion of unemployment benefits and other forms for welfare state support was arrested or even reversed, and deregulation, privatization, and liberalization of labor markets were not uncommon. On this account, it is difficult to argue that the natural rate of unemployment could have risen significantly. Some have maintained that the expansion of the welfare state in Europe over the 1950s, 1960s, and the first part of the 1970s may have been responsible for the growing unemployment in the 1980s since people adjusted their behavior only gradually to the more generous social provision. 1/ But it is hard to imagine that these lagged responses should have been so powerful and so delayed as to be responsible for the large increases in European unemployment over a decade after most welfare states had ceased to expand.

Furthermore, given the stable rates of inflation over much of the decade, it cannot be argued that people's wage-price expectations were getting further and further out of line with actual wages and prices; nor is it plausible to suppose that these misperceptions could have persisted for so long.

In short, there is nothing in the market-clearing variant of the natural rate theory that provides a clue as to why European unemployment should have risen so massively through the 1980s. Nor does this theory shed useful light on why unemployment has been so much more persistent in Europe than in the United States, or why European unemployment rose with each major recession of the 1970s, 1980s, and early 1990s while U.S. unemployment has always tended to return to its pre-recession level. Can we honestly believe that Europeans are much slower than Americans to adjust their expectations, so that expectational errors are more persistent in Europe than the U.S.? Beyond that, theories based on expectational errors tell us little, if anything, about why unemployment spells tend to be longer in Europe than the U.S. (for given unemployment rates), why U.S. unemployment rates are more variable than most European ones, why unemployment falls unequally among different population groups, and why labor and product markets move so much more closely in tandem in the United States than in Europe.

1/ See, for example, Grubb (1994) for a discussion of the lagged responses to changes in unemployment benefits.

2. Noninterference with business cycles

The case against stabilization policies in the labor market is made quite explicit in the intertemporal substitution theory and the real business cycle theory.

As the name implies, the *intertemporal substitution theory* 1/ is concerned with workers' desire to engage in intertemporal substitution of work for leisure in response to changing economic incentives. For example, if workers believe that real wages are temporarily depressed and will rise in the future, they may wish to take more leisure now and work harder later. The same may be true if they perceive real interest rates to be temporarily low, since that means that their current wage income cannot be transferred into the future at an advantageous rate.

The implication is that cyclical swings in employment may be the optimal response--by individual agents and society at large--to temporary shocks to tastes, technologies, and endowments. 2/ Whereas most economists used to see business cycles as undesirable, needing to be damped through stabilization policies, the intertemporal substitution theory suggests that this is not so. It is not in the public interest to implement counter-cyclical monetary and fiscal policies, since these would prevent people from making their optimal dynamic responses to external shocks.

Although this theory can be used to generate an empirical account of much of the unemployment persistence and variability observed in the United States and other OECD countries, 3/ it is hard to see how it could provide a reasonable explanation of European unemployment over the past 25 years. Is it plausible to believe that the many millions of Europeans who joined the unemployment register in the mid-1970s, early 1980s, and early 1990s were merely trying to take advantage of high real wages or high real interest rates expected to occur in the future? Regarding the upward trend in European unemployment rates since the mid-1970s, is it plausible to believe that we are observing a very long-term intertemporal substitution, whereby workers have decided to enjoy a lot of free time for two decades, perhaps with the intention of working very long hours for the next two decades?

1/ See, for example, Barro (1981) and Lucas and Rapping (1969).

2/ The real business cycle theory, discussed below, incorporates this view in a model that emphasizes technological shocks.

3/ Inter-country differences in persistence and variability are motivated by differences in preferences and technological opportunities.

Furthermore, the available empirical evidence indicates that people's hours of work are unresponsive to real wage and real interest rate variations, 1/ and that much of these variations tend to be permanent rather than temporary.

The *real business cycle theory* 2/ builds on the intertemporal substitution theory and identifies technological shocks as the main source of macroeconomic fluctuations. Much effort has been expended attempting to establish that these fluctuations arise when perfectly informed individuals, all maximizing their utility subject to technological and resource constraints, respond to technological shocks by intertemporally substituting labor, leisure, and consumption. But beyond the predictive problems of the intertemporal substitution theory, it is hard to get an intuitive interpretation of the technological shocks. Whereas technological advances (that the real business cycle theory associates with the booms) are relatively easy to identify, the technological setbacks (that allegedly give rise to the recessions) are not. 3/ It is hard to see how knowledge and expertise gets lost, particularly on the large scale that is necessary to account for the deep recessions we have witnessed over the past two decades. Some argue that the negative technological shocks reflect such adverse macroeconomic events as oil price hikes or inappropriate investment (such as machinery that turns out not to work or that produces goods for which demand did not materialize). But the downturns in European labor market activity over the past two decades have lasted much longer than the price hikes for oil and other resources did, and it would be strange--in the real business cycle world of rational expectations in clearing, perfectly functioning markets--for these shocks to generate investment fluctuations that are large enough to pull the massive OECD recessions in their wake.

Beyond that, the long-term increase in European unemployment since the mid-1970s cannot plausibly be explained as the market-clearing outcome of technological shocks.

1/ However, measures of the elasticity of labor supply can be raised substantially if one assumes that the choice between work and inactivity is usually a discrete one. Then, to account for observed cyclical swings, the theory must require that people's decisions about whether or not to participate in the labor force be very sensitive to variations in real wages and real interest rates.

2/ See, for example, King and Plosser (1984), King, Plosser, and Rebelo (1988a,b), Kydland and Prescott (1982), and Long and Plosser (1983).

3/ The technological shocks in the real business cycle models are measured by Solow residuals, for example, the differences between the growth rate of output and a weighted average of the growth rates of factor inputs. But technological regress is not the only conceivable explanation of the negative Solow residuals; labor and capital hoarding is another.

III. Demand-Management Policies

Demand-management policies to reduce unemployment fall into two broad categories: (i) government employment policies, whereby the government stimulates employment directly by hiring people into the public sector, and (ii) product demand policies, which stimulate employment by raising aggregate product demand (e.g., through tax reductions, increases in government spending on goods and services, or increases in the money supply).

For the "short run," in which wages and prices respond sluggishly to demand fluctuations, the main underpinning for both types of policies is Keynesian theory. 1/ Here recessions are characterized by deficient labor and product demand reinforcing one another: workers are unemployed because firms are not producing enough goods and services; firms are not doing so because there is too little demand; and demand is deficient because people are unemployed. In short, deficient demand in the labor market originates in the product market, and deficient demand in the product market originates in the labor market. Activity in these two markets thereby goes up and down together. The mechanism that couples these two markets is wage-price sluggishness. A fall in product demand will reduce labor demand if wages don't fall sufficiently; a fall in labor demand will reduce product demand if prices are sluggish downwards.

This interaction between product and labor markets gives demand-management policy a lot of leverage in the Keynesian theory. A rise in government employment will raise the purchasing power the newly employed people who, in turn, will demand more goods and services, thereby inducing firms to employ yet more people, and so on. In the same vein, a stimulus to product demand (resulting, say, from a tax reduction) gives firms the incentive to raise employment, which creates more purchasing power, which raises product demand even further, and so on. The more sluggish wages and prices are, the greater these multiplier effects become.

Of course, in practice wages and prices are not sluggish indefinitely, and thus the critical question is how short the Keynesian "short run" really is. Clearly, if it were shorter than the time it takes for most firms to make and implement their employment and production decisions, then we could not expect the Keynesian employment repercussions of demand-management policies to be significant. Wage-price sluggishness in excess of the relevant production and employment lags is required before Keynesian policies come into their own.

1/ See Keynes (1936). A microeconomic rationale for these effects, based on exogenously given wages and prices, was proposed by Barro and Grossman (1976) and others.

The Keynesian quantity-rationing theory 1/ provides no guidance in this respect, since it merely *assumes* wages and prices to be indefinitely rigid. The New Keynesian theories of nominal sluggishness move beyond this primitive assumption. They seek to *explain* why wages and prices don't change sufficiently to obviate the need for substantial output-employment adjustments in response to changes in demand. In shedding light on the degree of wage-price sluggishness, the ultimate aim is to help determine the length of time over which Keynesian policy effects are operative. The three dominant New Keynesian theories in this area are the "menu cost" theory, 2/ the theory of "near rationality," 3/ and the wage-price staggering theory. 4/

According to the *menu cost theory*, small fixed costs of changing prices induce firms to adjust quantities, instead of prices, in response to a sufficiently small change in demand. The same holds even in the absence of price-adjustment costs if firms are "nearly rational," changing their prices only when that has a substantial effect on profits. There are, however, a number of obstacles to using these theories to derive the degree of wage-price sluggishness. First, the existing menu cost models show how product demand variations affect employment when the costs of price change are the only adjustment costs. In practice, however, employment adjustment costs (such as hiring, training, and firing costs) generally exceed the price adjustment costs by a large margin, and then it is no longer clear why product demand changes should have Keynesian effects on employment. Second, the menu cost theory implies that prices are either rigid or completely responsive to demand shocks, for the cost of small price changes is generally no different from the cost of large ones. This means that the theory is unable to explain an important feature of wage-price sluggishness in practice, namely, that many firms change their prices frequently, but not by sufficiently large amounts to make significant quantity adjustments unnecessary. These two difficulties make it difficult for the menu cost theory to predict the degree of wage-price sluggishness and the short-run effectiveness of Keynesian demand management policy.

The *theory of near rationality* is subject to the first of these two difficulties: to explain the effectiveness of Keynesian demand management policy, the deviation from complete rationality must be sufficiently large to outweigh the costs of adjusting employment and production. Moreover, since it is hard to see how this deviation could be measured empirically, this theory also does not yield firm quantitative predictions on the degree of wage-price sluggishness.

1/ For example, Barro and Grossman (1976), Malinvaud (1977), and Muellbauer and Portes (1978).

2/ For example, Mankiw (1985).

3/ Akerlof and Yellen (1985).

4/ For example, Taylor (1979), Blanchard (1983), and Calvo (1983).

The *wage-price staggering theory* demonstrates that if wages and prices, once set, are fixed over substantial contract periods and if different wage-price decisions are staggered (rather than set simultaneously), then a current change in aggregate product demand will affect production, employment, and unemployment well beyond the expiry of the current contract period. Several important lacunae in this theory, however, keep it from providing a firm basis to predict the degree of wage-price sluggishness. First, the theory does not identify the wage-price adjustment costs that keep wages and prices fixed over substantial intervals. Without a handle on these costs, we cannot derive the length of the contract periods that play such an important part in determining the degree of wage-price sluggishness in this context. Second, the theory rests on the assumption that wages and prices are set in advance in nominal terms; it does not explain why wage-price setting rules generally do not involve indexing. If people have no money illusion and if simple indexation schemes (such as making the wage depend on an aggregate price index) are easy to formulate and monitor, it remains an open question why so many wages and prices are set in nominal terms. 1/ Third, the theory does not tell us what determines the degree to which wage-price setting rules are time-dependent (changing as a function of time) versus state-dependent (changing as a function of external contingencies). 2/ This is an important issue because the rules have very different implications for the degree of wage-price sluggishness following a change in product demand. 3/ Fourth, little attention has been given to the question why wage-price decisions are staggered rather than synchronized. Ball and Romer (1989) attribute it to firm-specific shocks, whereas Ball and Cecchetti (1988) suggest that staggering can arise from firms' incentives to set their prices after they have gained information about their rivals' price changes. As these examples show, different sources of staggering imply radically different staggering structures and also, presumably, radically different degrees of wage-price inertia. And finally, different sectors of the economy are characterized by vastly

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1/ See, for example, Carlton (1986), who finds significant price rigidities in manufacturing. Gordon (1990) has argued that, in the context of a complex input-output system, complete indexation may be difficult due to "the informational problem of trying to anticipate the effect of a currently perceived nominal demand change on the weighted average costs;" but it is hard to see why some (albeit imperfect) indexing should not be better than none.

2/ In practice, some wage-price setting rules appear to involve both time- and state-dependence, such as the provision in wage contracts to renegotiate at specified intervals but only under specified conditions--for example, if the inflation rate exceeds a certain magnitude. It has been suggested that if the major cost is that of learning the state, a time-dependent rule is desirable; whereas if the major cost is a menu cost, a state-dependent rule will be chosen. However, menu costs and learning costs are notoriously difficult to measure.

3/ Compare, for example, the nonneutrality of money under the time-dependent contracts of Taylor (1979) with the neutrality under the state-dependent contracts of Caplin and Spulber (1986).

different periods of nominal adjustment in practice; the resulting patterns of staggering are enormously complex--perhaps too complex, at the requisite level of disaggregation, to be a convenient predictive tool.

Nevertheless, many economists agree that the Keynesian view sheds some light on unemployment behavior during deep recessions. When economies suffer from high unemployment and low capital utilization, increases in aggregate demand generally lead to increases in employment, and demand reductions usually lead to declines in employment. But the 1980s have exposed an important shortcoming of the Keynesian theory: for most of that decade, European labor and product markets did not move together at all. Product demand started to pick up towards the end of 1982, but employment did not start to improve until 1986 in the United Kingdom and even later in most other EC countries. This gap is simply too large to be explained by inventory dynamics or lags between inputs and outputs in production processes. The Keynesian vision of tightly linked labor and product demand is called into question here. It turns out that the link was much stronger in the United States than in most European countries over the 1980s. This disparity is too large to be rationalized simply in terms of greater wage-price sluggishness in the United States than in Europe. Consequently it becomes difficult to account for the serial correlation in OECD unemployment rates--and the greater degree of serial correlation in the EC than in the United States--through the serial correlation in aggregate demand.

Nor does the Keynesian theory provide a ready explanation for why unemployment durations over the past two decades have been much longer in the EC than in the United States or Japan, even after normalizing for differences in unemployment rates.

Lastly, the various New Keynesian theories of wage-price sluggishness can do no more than explain why unemployment can respond to variations in aggregate demand for a limited period of time. The long-run rise of European unemployment over the past two decades clearly cannot be rationalized on this basis. This does not mean that demand management policies cannot conceivably influence unemployment over the longer run, but merely that such longer-term effectiveness must rest on something other than wage-price sluggishness. Several possibilities will be considered in Section V.

IV. Supply-Side Policies

1. Job search support and information dissemination

This general policy approach covers such measures as counselling the unemployed, assisting them with personal problems such as alcoholism and

drug addiction, and alerting them to available training opportunities. 1/ It also involves disseminating information about available labor services to firms and about available vacancies to workers.

Many of the market failures addressed by these policies can be analyzed effectively through the *theory of search and matching*. 2/ In this theory, workers are not perfectly informed about the available jobs, and firms are not perfectly informed about the available workers. Thus both sides of the market engage in search. Each agent acquires information up to the point at which the cost of searching for an additional job (or worker) is equal to the discounted stream of expected future returns from that job (or worker). Unemployment arises because jobless workers know that there are vacant jobs with wages sufficiently high to make the return from search exceed the cost, but since they don't know precisely where these jobs are, they may not find them right away. The result is "frictional unemployment," which is never eliminated in aggregate since there are always some workers getting fired, some quitting, some entering the labor force, and some retiring from it. At center-stage in all search models lies a "matching function," which specifies how the expected number of matches is related to the number of unemployed workers and the number of vacant jobs.

It is not possible, of course, to attribute the rise in European unemployment to a deterioration of this matching technology, because the dissemination of labor market information has, if anything, improved with the passage of time. Nor are the recent periods of high unemployment related to comparatively high degrees of labor market "turbulence," i.e., sectoral imbalances responsible for job creation and job destruction. 3/

Thus, if imperfect information about vacant jobs and unemployed workers were the only problem for job search support and information dissemination to overcome, its potential would probably be quite limited. However, this policy may also be useful in overcoming the discouragement and demoralization that prevents many long-term unemployed people from seeking jobs effectively. The search and matching theory views this problem as the consequence of a decline in unemployed people's returns from job search as their unemployment spells lengthen. The declining returns could be due to the depreciation or obsolescence of their skills and to a resulting fall in firms' efforts to attract these workers. Another reason why workers' search

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1/ The EC Commission has laid stress on these measures in combatting European unemployment. For example, the Council Resolution of 29 May 1990 recommended that counselling interviews be made available to all long-term unemployed people. There is also wide recognition that these measures have a chance of being particularly effective only if they are combined with other active labor market policies, such as training programs.

2/ See, for example, Blanchard and Diamond (1989), Diamond (1982), Mortensen (1986), and Pissarides (1986).

3/ The turbulence hypothesis has been formalized by Lilien (1982), but has found no significant empirical support; see, for example, Abraham and Katz (1986).

intensity may decline is that their preferences gradually change. In particular, the long-term unemployed can become accustomed and reconciled to remaining jobless, adopt it as a way of life, and stop searching seriously at all. 1/ Counselling and personal assistance may help to mitigate these problems by restoring the attitudes and expectations necessary for successful job search strategies.

The potential importance of this policy approach may be highlighted by the recognition that the decline of search intensity with unemployment duration undoubtedly plays a significant role in explaining unemployment persistence (*viz*, the dependence of current unemployment rates on past unemployment rates). 2/ It also helps explain why the burden of unemployment is distributed unequally. If people's search intensity falls the longer they remain unemployed, and if the corresponding search intensity of potential employers falls as well, then the expected future length of these workers' unemployment spells will depend positively on how long they have been unemployed already.

Aside from the search and matching theory, another rationale for job search support and improving information dissemination--as well as various other policies to be discussed below--comes from the *efficiency wage theory*. Here firms are assumed to have imperfect information about individual employees' productivities and are thus unable to make their wage offer contingent on their employees' performance. The firms, as wage setters, observe that by raising their wage offers they are able to increase the average productivity of their workforce, because higher wage offers enable a firm to recruit more highly qualified employees or motivate employees to work harder. 3/ In other variants of the theory, higher wages discourage workers from quitting the firm, thereby reducing the firm's labor turnover costs. 4/ Consequently firms may have an incentive to keep the wage above the level that would be necessary to ensure full employment. The unemployed

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1/ They have been said to become "addicted" to being unemployed. The theory of addiction provides some useful insights here. See, for example, Becker and Murphy (1988).

2/ This is, of course, not the only conceivable explanation of unemployment persistence. Other, comparably important, causes are employment adjustment costs, wage-price staggering effects, insider membership effects, and labor force participation adjustment costs.

3/ In Weiss (1980) a higher wage offer encourages workers of high skill, who were previously self-employed, to join the firm. In Shapiro and Stiglitz (1984) the firm randomly samples workers' effort and fires those who shirk; thus a higher wage offer raises effort by raising the expected penalty for shirking. In Snower (1983a) a higher wage offer discourages workers from searching on the job and thereby promotes productivity. In Akerlof (1982) workers agree to work more than what is specified in their contract and firms, in return, pay more than the minimum amount that would be necessary to attract them.

4/ See, for example, Salop (1979) and Stiglitz (1985).

are unable to get jobs by offering to work for less than the prevailing wage, because it is not in the firms' interests to allow the wage to fall.

In this context, policies that improve the dissemination of information about workers' ability, motivation, and quit behavior would enable firms to base their wage offers more closely on workers' individual productivities and potential labor turnover costs, thereby reducing the role of wages as an incentive mechanism and bringing down the associated level of unemployment.

The great strength of the efficiency wage theory is that it provides one conceivable explanation for why, even under perfectly flexible wages, people may be unemployed even though they would prefer to do the jobs of the current job holders at less than the prevailing wage. 1/ Beyond that, however, it is not clear that the theory can shed much light on why EC unemployment has risen over the past two decades. It might be argued that with the decline in assembly line production, which is fairly easy to monitor, firms have placed increasing reliance on wages as an incentive mechanism. But if that were an important consideration, it would apply to both the EC and the United States, leaving us with the open question of why unemployment in the EC has risen so much relative to that in the United States. Moreover, the advance of computer technology has improved firms' monitoring capabilities in many sectors of the economy, making them less reliant on wages to motivate and attract employees.

It could also be argued that the use of wages as an incentive mechanism is more important in countries with more stringent job security legislation. After all, the more costly it is for firms to fire their employees, the lower are the chances a shirking or incompetent worker will be dismissed, and thus the greater the wages that firms have to pay (relative to unemployment benefits) in order to stimulate productivity. However, if this interaction between labor turnover costs and efficiency wages were significant in practice, it would be hard to explain why the EC unemployment rate averaged less than the U.S. unemployment rate over the 1950s and 1960s, even though job security legislation tended to be more stringent in the EC than in the United States over the entire postwar period.

Nor does the efficiency wage theory explain why the average duration of unemployment in Europe has significantly exceeded that in the United States and Japan since the mid-1970s, why labor and product market activities tend to move together in the United States but not in Europe, or why unemployment in many countries varies less within a business cycle than from one cycle to

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1/ Sufficiently steep intertemporal wage scales or sufficiently large "exit fees" for employees may help firms stimulate productivity and discourage quitting, thereby giving firms less of an incentive to raise the wage above the market-clearing level. It can be shown that if these devices are practicable, they can eliminate some--but not all--sources of unemployment arising from the imperfect information analyzed by the efficiency wage theory.

the next. These phenomena clearly cannot be ascribed to differences in monitoring technologies through time and across countries.

Of course many efficiency wage models also explain how unemployment may rise in response to a drop in labor productivity, a rise in the real interest rate, or a rise in the unemployment benefit. But as with the search models, the efficiency wage models cannot lay unique claim to these predictions. The efficiency wage models do not add much to what other theories have to say in this respect. Similarly, the inclusion of labor turnover costs in an efficiency wage setting can provide an explanation of why unemployment rates tend to be serially correlated, and differences in the magnitude of these costs can help account for inter-country differences in such serial correlation as well as inter-country differences in unemployment durations. But labor turnover costs are not an intrinsic building-block of efficiency wage models. These models can rationalize the existence of unemployment even in the absence of labor turnover costs, and the addition of these costs to a wide variety of other theories would yield equivalent insights into unemployment dynamics.

2. Policies to stimulate worker mobility

Some policies that are meant to reduce the burden of housing costs to the poor--such as rent control or low-cost public housing--reduce worker mobility by inhibiting workers from moving to the available jobs, thereby creating unemployment. This is a potentially significant problem in a number of OECD countries containing both booming and slumping regions and large house-price and rent differentials across these regions.

These differentials may be incorporated in models of search and matching to provide an explanation for regional differences in unemployment rates. Although there is little if any evidence, as noted, that the rising European unemployment rates over the past two decades can be attributed to greater volatility of sectoral labor market shocks or to reduced availability of information about unemployed people or vacancies, house-price and rent differentials can become an especially serious source of "mismatch" in the labor market, since they often expand when the degree of sectoral imbalance rises. 1/ In particular, the greater is the discrepancy between the excess of vacancies over unemployment in the booming regions, and the excess of unemployment over vacancies in the slumping ones, the greater these differentials are likely to be. The reason, of course, is that the greater is the discrepancy in excess demand across regions, the greater will the house-price and rent differentials across these regions be as well. Thus, as the degree of mismatch rises, the impediments to matching may rise in tandem.

Rent control and housing subsidies tied to the current place of residence give further leverage to this obstacle to matching. Replacing these policy interventions by more efficient ways of redistributing income

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1/ See, for example, Bover, Muellbauer, and Murphy (1989).

(such as conditional negative income taxes, discussed in Section V.3) could therefore help reduce unemployment. A similar argument can be made for policies that increase the portability of health insurance and pensions between firms.

3. Policies centering on human capital formation

Policies which focus on human capital formation include government training programs, training subsidies to firms or workers, 1/ as well as policies that reduce the rate of interest and thereby reduce the rate at which future returns to human capital formation are discounted. 2/

These policies may be analyzed through a special breed of search and matching models that explain how unemployment can arise on account of market failures in the demand for and supply of training. 3/ First, since unemployed people have relatively few firm-specific skills, training them may involve a relatively large poaching externality. Specifically, if unemployed people were given training, a relatively large share of the benefits from that training, in imperfectly competitive labor markets, would fall neither on the firms supplying the training nor on the workers receiving it, but on third parties, namely, the firms that may poach the workers after they have been trained. In that event, the social benefit from training will exceed the private benefit, regardless of how the costs of training are distributed between the trainer and trainee. Then the market will generate too few matches between firms and currently unemployed workers, whereby the workers are made productive and profitable through training. As result, an inefficiently large number of these workers remains jobless. 4/ This problem may become magnified considerably through the "low-skill, bad-job trap:" a deficient supply of trained job seekers induces firms to create an excessive number of unskilled vacancies, and these in turn further reduce workers' incentives to acquire training; this leads to even more unskilled vacancies, and so on. 5/

1/ In general, training programs, whether in the public or private sector, may be divided into two broad categories: vocational training and "employability training." The latter focuses on a limited number of basic skills that enable people to adjust to a worker environment and adapt to the requirement of semi-skilled jobs. In some countries, Germany in particular, vocational training is integrated within a formal system of basic education.

2/ Policies centering on physical capital formation are discussed in Section V.

3/ There are a variety of market failures in training provision that apply to all classes of workers. See, for example, Becker, Murphy, and Tamura (1990) and Booth and Snower (1995, forthcoming). Some of these market failures fall with particular severity on the unemployed. It is these latter failures that make the case for using training subsidies as an instrument for combatting unemployment.

4/ See Snower (1994b).

5/ See Snower (1994a).

These market failures are likely to be especially pronounced with regard to the long-term unemployed. They tend to be particularly poorly endowed with firm-specific skills and thus particularly prone to the poaching externality and the low-skill, bad-job trap.

Some of the rise in European unemployment over the past two decades might arguably be due to the interaction between these market failures on the one hand, and the joint pull of skill-biased technological change and international trade on the other. Both technological developments that raise the productivity of skilled relative to unskilled workers, as well as rising trade with countries that have a comparative advantage in producing goods which are relatively intensive in unskilled labor, reduce the demand for unskilled labor relative to the demand for skilled labor. And if the market failures above are responsible for a deficiency in the acquisition of skills and an excessive number of unskilled workers without jobs, then these two factors could lead to a rise in unemployment.

In addition, an expansion of trade or an increased rate of technological change could generate unemployment by raising the amount of labor market "turbulence," particularly by increasing the rate of job creation and destruction. 1/ This, of course, is not an argument for policies limiting the degree of technological change or trade, for--as is well-known--the latter generally permit a given amount of goods and services to be produced with less labor input, and thereby could improve everyone's material standard of living, provided that the appropriate redistributions from the winners to the losers can be made without substantial loss of efficiency. Rather, the above diagnosis is an argument for job search support in order to improve the effectiveness of the matching process.

Thus, government training programs or training subsidies to the unemployed--particularly the long-term unemployed--may have a role to play in combatting unemployment. Many government training programs, however, are ill-suited to firms' needs. This is scarcely surprising, since these needs are extremely diverse while government training programs are inevitably standardized and limited in variety. In this regard, training subsidies granted to firms appear preferable, for the firms then have the incentive to make the resulting training maximally appropriate to their available jobs. To keep firms from illicitly diverting the training funds to other purposes, it may be necessary to provide the training subsidies only for programs leading to nationally recognized qualifications, granted by institutions independent of the firms receiving the subsidies. 2/

1/ As noted, however, there is little evidence that this has actually happened in advanced industrialized countries over the past two decades.

2/ The German apprenticeship system has both of these ingredients.

V. The Interaction Between Demand- and Supply-Side Policies

1. Policies centering on physical capital formation

These policies range from government infrastructure investment to policies that raise the rate of capital utilization, stimulate the entry of firms, or promote physical capital formation by reducing the user cost of capital. What they all have in common is that they raise the level of capital services provided in the economy and consequently, if labor and capital are complementary in the production process, they increase the marginal product of labor, thereby raising employment and reducing unemployment. By simultaneously increasing investment demand and capital supply, these policies work on both the demand- and supply-side. In so doing, they illustrate how demand management policies can be effective in the "longer run," that is, over a time span long enough to permit full adjustment of wages and prices.

A growing number of economists has come to suspect that the effectiveness of demand-management policy is undersold by the short-run Keynesian mechanisms described in Section III, which rest on wage-price sluggishness. Many believe that aggregate demand had a role to play in sustaining the periods of prolonged low European unemployment in the 1960s and prolonged high European unemployment in the 1980s. But for that to be the case, of course, the influence of aggregate demand on employment must extend well beyond the span over which wages and prices can be presumed sluggish.

The long-run effectiveness of demand management policy may be analyzed through theories of imperfect labor market competition. In this vein, it is useful to picture labor market equilibrium in terms of the intersection of a downward-sloping aggregate labor demand curve and an upward-sloping wage setting curve in real wage-employment space. The aggregate labor demand curve depicts the horizontal sum of firms' profit-maximizing relations between labor demand and the real wage under imperfect competition, and the wage setting curve represents the real wage that emerges, at any given level of employment, from wage bargaining or efficiency wage minimization. Furthermore, picture the labor supply curve as lying to the right of the wage setting curve. The difference between labor supply and equilibrium employment is the equilibrium level of unemployment.

In this context, an increase in product demand can reduce unemployment by shifting the wage setting curve or the labor demand curve outwards. If it was only the wage setting function that shifted (along an unchanged labor demand curve), then the real wage would move countercyclically. But since real wage movements are often acyclical or even pro-cyclical (particularly in the United States), it is important to explore how demand-management policy can shift the labor demand curve, thereby allowing for the

possibility of pro-cyclical real wage movements. 1/ It turns out that the most likely channels whereby demand management could affect unemployment in the long run involve significant supply-side effects. Moreover, the interaction between demand- and supply-side policies becomes crucial in this regard.

Since the labor demand curve is the set of real wage-employment combinations at which the real marginal value product of labor is equal to the real wage, a change in product demand can shift the labor demand curve only if it affects the real marginal value product of labor at any given level of employment. It is easy to show that this occurs whenever the product demand change affects (i) the price elasticity of product demand, (ii) the imperfectly competitive interactions among firms, (iii) the user cost of capital, (iv) the degree of capital utilization, (v) the number of firms in operation, and (vi) the marginal product of labor. 2/

Of the channels whereby product demand changes can be transmitted to employment, the first two do not appear to provide a firm foundation for the effectiveness of product demand management policy:

- *Price elasticity of product demand*: Some authors have suggested that changes in government spending can affect employment by changing the composition of product demand and thereby changing the associated price elasticity of aggregate demand. 3/ There are, however, good reasons to

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1/ There are, of course, a number of other ways whereby changes in product demand could affect employment, such as income effects on labor supply (e.g., Dixon (1987), Mankiw (1988), and Startz (1989)), increasing returns (e.g., Cooper and John (1988) and Chatterjee and Cooper (1989)), search with strategic complementarities (e.g., Howitt (1985) and Pissarides (1985)), union-induced labor immobilities which make the employment level sensitive to the allocation of government spending across sectors (Dixon (1988)), and unemployment persistence mechanisms in operation after a change in product demand temporarily reduces the real wage due to a temporary nominal wage rigidity (e.g., Lindbeck and Snower (1988)).

2/ Formally, the labor demand curve is given by $F \cdot (1-m) \cdot h_n = w$, where the left-hand term is the real marginal revenue product of labor and w is the real wage. Specifically, F is the number of firms, $h_n = h_n(n, k)$ is the marginal product of labor (where n and k are each firm's use of labor and capital, respectively) and $m = c/(\eta \cdot F)$ is Lerner's index of monopoly power (where c is the conjectural variation coefficient and η is the price elasticity of product demand). Thus channels (i) and (ii) work through the degree of monopoly power, channels (iii) and (iv) work through the effect of the capital stock on the marginal product of labor, channel (v) deals with shifts of the labor demand curve due to changes in the number of firms (which also affects the degree of monopoly power), and channel (vi) is concerned with the direct effect of product demand on the marginal product of labor. Lindbeck and Snower (1994) provide a formal analysis of all these channels of transmission.

3/ A useful survey is contained in Dixon and Rankin (1993).

believe that this would be a tenuous basis for government policy. First, an increase in government spending would shift the labor demand curve outwards through this channel only when the public-sector price elasticity of demand exceeds the private-sector elasticity, but there is no evidence that in practice this is consistently the case across sectors and through time. Second, this transmission mechanism has the implausible implication that if an increase in government expenditures shifts the labor demand curve outwards, then a tax reduction must shift that curve inwards; for whereas the former policy raises public-sector spending relative to private-sector spending (thereby raising the aggregate price elasticity), the latter policy has the opposite effect. Affecting the price elasticity through changes in the composition of domestic versus foreign expenditures does not put us on firmer ground. In fact, if--as appears plausible--the foreign price elasticity exceeds the domestic one, an increase in domestic demand will reduce the aggregate elasticity and thereby move the labor demand curve inwards!

- *Imperfectly competitive interactions among firms*: Others have suggested that oligopolists may behave more competitively in a boom, so that a rise in product demand could shift the labor demand curve outwards via its influence on competition. 1/ But Rotemberg and Saloner (1986) that show this effect holds only when firms are implicitly colluding oligopolists, and this induced-competition channel is a weak foundation for demand management policy.

That leaves the other four channels, which appear to be more promising avenues for the transmission of product demand management policies to employment. What these four channels have in common is that they all make the employment impact of demand management policies depend on their supply-side effects. Supply-side policies therefore gain a special role in enhancing the effectiveness of demand management.

- The *degree of capital utilization*: It can be shown that when there is excess capital capacity, demand management policy can affect the marginal product of labor by influencing the degree of capital utilization. 2/ To fix ideas, consider the following sequence of labor market decisions. First, each firm sets its supply of physical capital and determines, from the range of its available technologies, those that are to become accessible through its capital stock (where, say, the range of accessible technologies may be characterized by an interval of capital-labor ratios within its *ex ante* production function). Next, the nominal wage is determined (say, through bargaining between the firms and its employees). Then the firms observe the position of their product demand curves and, finally, they make their employment decisions. Under these circumstances, an unanticipated,

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1/ See, in particular, Rotemberg and Saloner (1986). This approach is in line with a long-standing tradition, characterized by Pigou (1927), Kalecki (1938), and Keynes (1939), who asserted that firms' market power may vary counter-cyclically.

2/ See Lindbeck and Snower (1994).

adverse product demand shock could make it unprofitable for firms to operate at full capacity. 1/ A subsequent, favorable demand shock would induce firms not only to hire more labor at the existing level of capital services, but also to raise the degree of capital utilization. When economies emerge from recessions in this way, with workers recalled to man vacant machines and restart idle assembly lines, the capital brought back into use is often highly complementary to labor. Through this channel expansionary demand management policy may raise the marginal value product of labor, leading to pro-cyclical movements of the real wage.

- The *user cost of capital*: It is widely recognized that if an increase in product demand reduces the real interest rate, it will thereby reduce the user cost of capital, increasing the size of the capital stock and shifting the labor demand curve outwards, provided that labor and capital are Edgeworth complements in production (so that the marginal product of labor depends positively on the capital stock). This could happen either through expansionary monetary policy, or through a decline in the risk premium on investment 2/ brought about by the expansion of demand. Naturally, if the rise in demand takes the form of an increase in government spending, the real interest rate may rise (rather than fall), shifting the labor demand curve inwards through the above mechanism. Moreover, even if the real interest rate falls, the labor demand curve still will shift inwards when labor and capital are Edgeworth substitutes.

- *Entry and exit of firms*: Increases in product demand can induce entry of new firms, which shifts the labor demand curve outwards--both directly and indirectly by increasing the degree of product market competition. 3/ Specifically, if nominal wages are temporarily rigid, a rise in product demand can reduce the real wage by raising prices, leading to the entry of new firms. Once nominal wages adjust, this entry ceases, but the recently entered firms remain operative. In this way, a temporary nominal wage rigidity can give product demand management policy an influence on employment in the longer run. 4/

- The *marginal product of labor*: If the increase in government spending takes the form of industrial infrastructure investment, there may obviously be a direct stimulus to the marginal product of labor. In this case, expansionary demand management policy shifts the labor demand curve outwards through its effect on the capital stock.

The policy implications regarding these four channels are potentially of considerable significance: the longer-term influence of product demand management policy on employment depends on the availability of a limited number of supply-side channels of transmission. Supply-side policies--such

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1/ In other words, the real marginal revenue product of labor at full capacity may fall short of the real wage.
2/ See Greenwald and Stiglitz (1988).
3/ See, for example, Pagano (1990) and Snower (1983b).
4/ See Lindbeck and Snower (1989).

as those which reduce barriers to the entry of new firms, 1/ or those which augment industrial infrastructure--can help open these supply-side channels and thereby improve the long-term effectiveness of demand management. In the long run, therefore, demand- and supply-side policies are interdependent.

Although it is always difficult to assess the empirical importance of long-term policy effects, the analysis above does offer some potentially interesting explanations of some long-run stylized facts about OECD unemployment. First, the relatively low unemployment rates experienced in Europe and the United States during the 1950s and 1960s came at a time of significant build-up of industrial infrastructure, whereas the period of higher unemployment since the mid-1970s was associated with a general run-down of this infrastructure in these areas. The analysis above suggests that these two developments may in some degree be related to one another. Second, the analysis also implies that the greater ease of entry and exit of firms in the United States than in Europe may help, in part, to explain why the rise in aggregate demand in the aftermath of the recent recessions has had a greater impact in reducing unemployment in the United States than in Europe. And finally, the theory helps explain why the influence of demand-management on unemployment appears to be particularly pronounced when this policy is associated with a decline in real interest rates and the availability of ample excess capital capacity.

2. Low-wage subsidies and payroll tax reductions

This set of policies is meant to address the problem that, in many OECD countries, the relative position of workers at the bottom of the earnings distribution has worsened over the past two decades. 2/ This deterioration has taken the form of lower relative real wages in the United States (and, to a lesser degree, in the United Kingdom) and higher relative unemployment rates in many continental European countries. Providing subsidies or payroll tax reductions to low-wage workers is meant to raise firms' demand for these workers, thereby reducing their unemployment rates and raising their take-home pay. 3/ It has been suggested that these policy measures be financed through a rise in VAT or the CO_2 tax.

1/ These policies involve measures to dismantle government regulations restricting the creation of new firms; reforming the system of profit, income, capital gains, and wealth taxes to put new firms at less of a disadvantage in comparison with established firms; increasing competition among financial institutions so as to reduce credit constraints on new firms; and reducing the coverage of collective bargaining wage agreements so as to permit new firms to hire new recruits on competitive terms.

2/ See, for example, Drèze, Malinvaud, et al. (1994) and Phelps (1995, forthcoming).

3/ The effectiveness of these policies clearly depends on the elasticity of labor demand. The greater the elasticity, the more the unemployment rates of the low-wage workers will fall and the less their take-home pay will rise.

Econometric simulations, such as those reported in Drèze, Malinvaud, et al. (1994), suggest that the expansionary employment effect of a drop in the payroll tax on low-wage earners may substantially outweigh the contractionary effect of a corresponding rise in the VAT.

Since these policies reduce unemployment by reducing employers' labor costs at the bottom of the wage spectrum, their effectiveness does not appear to be very sensitive to the precise underlying cause of the unemployment (in contrast to profit-sharing subsidies). For example, regardless of whether unemployment is generated by union pressures, efficiency wage considerations, or insider-outsider conflict, a drop in labor costs is bound to raise employment, since it permits firms to substitute labor for capital and enables them to reduce product prices and thereby create more demand.

There are, however, three major factors limiting the effectiveness of these policies: (i) "deadweight" (subsidies or tax reductions received by workers who would have become employed anyway), (ii) "displacement" (incumbent employees displaced by the subsidized new recruits), and (iii) "substitution" (firms that benefit from the policies driving firms that don't benefit out of business). Clearly, the more closely the subsidies and the payroll tax reductions are targeted at the low-wage workers, the smaller is deadweight and substitution, but the larger is displacement.

Another potential drawback of these policies is that, by raising the take-home pay of unskilled workers relative to skilled workers, they reduce the returns to training. Insofar as labor and capital are complementary in production, the resulting fall in human capital acquisition may also lead to a fall in physical capital formation. For this reason, it appears desirable that these policies be supplemented by subsidies to education and training. This additional element, however, would substantially increase the cost of the intervention. Another drawback is that these policies may encourage excessive creation of unsatisfying, dead-end jobs, providing little potential for advancement. In that event, the unemployment trap would be replaced by the "trap of the working poor." But even so, workers would experience a rise in their living standards: since the take-up is voluntary, workers and firms will avail themselves of these policy measures only if it is to their advantage.

3. Recruitment subsidies

The case for recruitment subsidies is similar to that for low-wage subsidies and payroll tax reductions: they bring down labor costs and thereby promote employment and reduce unemployment. 1/ In fact, they are better targeted, since they are granted only to new recruits.

1/ See, for example, Bishop and Haveman (1979), Kaldor (1936), and Layard and Nickell (1980).

Once again, deadweight, displacement, and substitution limit the employment effect of recruitment subsidies. Obviously, deadweight is generally lower for recruitment subsidies than for low-wage subsidies or payroll tax reductions, but the displacement and substitution effects are likely to be higher. In any event, the aggregate employment impact of recruitment subsidies is invariably less than the number of jobs subsidized. Beyond that, their effectiveness is likely to be further reduced by the ways in which they are financed. Employer-based taxes will directly discourage employment, and income taxes will reduce product demand and thus indirectly discourage employment. In either case, however, the positive effect of the recruitment subsidies on employment will generally outweigh the negative effect of the taxes.

It is sometimes alleged that another deficiency of recruitment subsidies--once again shared by low-wage subsidies and payroll tax reductions--is that they distort firms' decisions concerning factor composition, encouraging labor at the expense of capital, for example. This matter is quite unlikely to be macroeconomic significance. The inefficiencies resulting from a distorted labor-capital mix are generally insignificant in comparison with the inefficiencies associated with long-term unemployment. Besides, as the efficiency wage, insider-outsider, and union theories suggest, free market activity may often be associated with market failures that give rise to excessive wages and deficient unemployment. In this context, recruitment subsidies may correct for an existing distortion, rather than create a distortion itself.

4. Benefit transfers

The "benefit transfers program" involves giving long-term unemployed people the opportunity to use part of their unemployment benefits to provide vouchers for firms that hire them. 1/ The longer a person is unemployed, the greater is the voucher. Larger vouchers are also granted to firms that use them entirely on training. Once the worker finds a job, the voucher gradually falls as the period of employment proceeds.

In this way, benefit transfers are a combination of several different structural policies: the vouchers are equivalent to a special type of recruitment subsidy; the voucher supplement for training is a special type of training subsidy; and the transfer of unemployment benefit amounts to a reform of the unemployment benefit system.

The rationale for benefit transfers are various. First, they permit people to transfer funds out of a system that discourages employment in order to give firms an incentive to create employment. Second, they extend the choice sets of workers and firms. Workers offer the vouchers to potential employers when their expected wage offers are sufficiently high; the employers accept the vouchers when the resulting labor costs are sufficiently low. Thus the scheme is used only when both parties are made

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1/ See Snower (1995a, forthcoming).

better off. Third, the scheme is costless to the government, since the vouchers are financed through the foregone unemployment benefits. Fourth, it is not inflationary, since the long-term unemployed have no significant effect on wage inflation, and since the voucher reduce labor costs and thereby exerts downward pressure on prices. Fifth, the scheme functions as an automatic stabilizer, since a fall in unemployment reduces the amount spent on unemployment benefits, which in turn reduces the funds available for the employment vouchers. Sixth, by providing generous vouchers to firms that use them for training, the scheme gives these firms an incentive to maximize the productivity-enhancing effect of this training. Finally, the scheme could help to overcome regional unemployment problems. Regions with high unemployment would command a disproportionate share of training subsidies, which may give firms an incentive to relocate there and give the unemployed the requisite skills, even in the face of existing barriers to mobility.

In view of these advantages, benefit transfers appear desirable as a first line of attack against long-term unemployment. Once the employment-creating potential of unemployment benefits has been exploited in this way, further measures may well be necessary to bring European unemployment down to socially acceptable levels.

VI. Institutional Policies

Institutional policies, as their name suggests, aim to change labor market institutions to reduce unemployment. These policies come in many guises, of which only the most prominent will be considered here.

1. Policies to reduce the power of labor unions

Policies to reduce the power of labor unions include restrictions on secondary picketing, laws prohibiting closed shop agreements, regulations restricting the coverage of union wage agreements, and much more. These policies may be analyzed straightforwardly through the theory of labor unions. In the traditional variants of this theory, 1/ all union members are assumed to have identical preferences and an equal share in the available work. Then the union represents the interest of its members by exerting its monopoly power in wage setting, much like sellers of goods or services exert their monopoly power in price setting. The resulting wages will be higher and employment will be lower than would otherwise have been the case. If all workers in the economy belong to unions, then aggregate employment will be less than it would have been under full employment. The difference is unemployment (or under-employment).

More recent theories recognize that unions take greater account of the interests of their employed members than of the unemployed and that the employed workers have greater access to work than the unemployed do. The

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1/ See, for example, McDonald and Solow (1981) and Oswald (1982, 1985).

unemployment arising in this setting may be voluntary from the vantage point of the employed union members, but is generally involuntary from the vantage point of the unemployed, since the latter could be made better off by a wage reduction associated with a rise in employment.

The main theoretical weakness of this theory lies not in what it tells us, but in what it doesn't. It doesn't tell us why the unemployed don't leave unions that don't represent their interests, and start new unions making lower wage claims. Nor does it tell us what gives unions their clout. Since union coverage in most market economies is far below 100 percent, why don't employers simply throw out high-wage union members and hire low-wage non-members instead? 1/

On the empirical front, there is some evidence of an inverse relation between inter-country differences in unemployment rates (on the one hand) and inter-country differences in indexes of union power and union coverage (on the other) over the postwar period. Yet the union theories have not performed well over the past decade in predicting movements of unemployment through time. In the first part of the 1980s, for example, union membership in the United Kingdom and several other European countries fell while unemployment rose. For this reason, it is certainly premature to say that unemployment policies designed to reduce union power are on a firm predictive foundation.

2. Reforming the wage bargaining system

In recent years there has been a growing call to strengthen firm-level and national-level bargaining at the expense of bargaining at the sectoral level. 2/ This policy strategy is based on the analysis of Calmfors and

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1/ This question is answered by the insider-outsider theory, discussed below. But if the answer of the insider-outsider theory is accepted--namely, that it is labor turnover costs that prevent firms from replacing union members by nonmembers--the traditional union theories must undergo substantial revision; see, for example, Lindbeck and Snower (1987a).

2/ This issue can be addressed through labor market bargaining theory, which deals with the question of how employers and employees split the economic rent from employment activity. There are two broad approaches: in one, employers and employees bargain over wages and, once the wages have been set, the employers make the employment decisions unilaterally; in the other, the employers and employees bargain over wages and employment simultaneously. The former are called "right-to-manage models" (since the firms make the employment decisions by themselves), and the latter are usually known as "efficient bargaining models." There are also models that straddle these two extremes, e.g., Manning (1987). It can be shown that the bargaining outcome from the right-to-manage models is inefficient, in the sense that it is possible to find wage-employment combinations that make one party to the negotiations better off without making the other party worse off. This is a common feature of institutional setups in which the price

(continued...)

Driffill (1988), who explore how the economic efficiency of wage bargaining depends on the number of independent agents engaged in bargaining. They argue that when there is a high degree of centralization in bargaining--with few unions confronting few employers confederations, such as in Austria and Sweden--the negotiating partners internalize most of the effects of their claims; in particular, the unions take account of the price increases associated with their wage claims, and the employers take account of the wage increases associated with their employment and pricing decisions. The resulting wage-employment outcome is therefore reasonably efficient. On the other hand, when there are large number of negotiating workers and firms, each occupying a small portion of the market, the resulting activity is efficient for the standard competitive reasons. The United States approximates this setup. Calmfors and Driffill claim that it is only in the intermediate range, where the independent negotiators are sufficiently few in number to have market power, but sufficiently numerous to ignore the external effects of their decisions, that gross inefficiencies arise. Calmfors and Driffill adduce some empirical evidence in favor of this thesis, and Layard, Nickell, and Jackman (1991, p. 55) provide cross-section evidence that the unemployment rates in 20 OECD countries tend to be inversely related to the degrees of union and employer coordination.

On this account, it has been argued, wage bargaining systems need to be either highly centralized or highly decentralized. 1/ Policies that reduce the power of labor unions, reduce labor turnover costs, and promote international trade are all likely to strengthen decentralized, firm-level bargaining. Government sponsorship of "social pacts"--whereby unions accept targets for nominal wage growth (based on productivity growth and price inflation), firms accept targets for price increases (based on wage inflation), the central bank sets the growth of the money supply with a view to non-inflationary growth, and fiscal authority aims to control unemployment--encourages centralized, national-level bargaining. As a practical matter, however, wage bargaining systems are very difficult to reform and thus this structural policy should be seen more as a long-term desideratum than as a short-term tool.

2/ (...continued)
and quantity decisions are made by different agents. The inefficiency of course does not arise in the latter models, which are therefore called "efficient bargain models."

1/ However, in a more recent article, Calmfors (1993) distances himself somewhat from this simple policy conclusion. He acknowledges that centralization is a multi-facetted feature of bargaining systems and that labor market performance is likely to respond quite differently to changes in the degree of centralization across occupations, sectors, unions, employers confederations, and geographic regions. He also notes that the degree of centralization is likely to be particularly significant for labor market performance only in the non-tradeable sectors, where foreign competition is weak.

3. Reforming the unemployment benefit system

The main deficiency of all unemployment benefit systems is that, in helping to cushion the blow of unemployment, they make the underlying problem worse. The reasons are that unemployment benefits (i) discourage job search because when an unemployed person finds a job the unemployment benefits are withdrawn and taxes are imposed, and (ii) put upward pressure on wages by improving incumbent workers' negotiating positions. The first effect lies in the domain of search and matching theory, the second is the province of bargaining theory. Together, these effects make unemployment benefit systems inherently inefficient and inequitable.

In reforming unemployment benefit systems, it is important to distinguish carefully between the equity and efficiency objectives of these systems. The equity goal is simply to redistribute income from the rich to the poor. The efficiency goal is to respond to market failures in the provision of unemployment insurance. 1/ But unemployment benefits are generally a very poor tool to accomplish these objectives.

With regard to equity, it is worth keeping in mind that, for most poor people, employment is the best--often the only--way to overcome poverty. Thus it is particularly unfortunate that unemployment benefits discourage employment, since they thereby make the distribution of employment opportunities more unequal. Clearly, a more effective way to redistribute income from rich to poor is to use income as the criterion of redistribution; the employment criterion is obviously a blunt instrument for this purpose since some employed people are poor while some unemployed people are well-off.

With regard to efficiency, the gains from provision of unemployment insurance must be set against the efficiency losses that arise when unemployment benefits discourage employment and encourage unemployment. It is by no means a foregone conclusion that the efficiency gains will invariably exceed the associated losses. In any case, the unemployment benefit schemes that predominate in Europe--characterized by either flat-rate components or ceilings on benefits that depend on past wages--have much less in common with optimal unemployment insurance schedules than with standard redistributive schemes. In short, the unemployment benefits encountered in practice are not designed to yield major efficiency gains by correcting for failures in the unemployment insurance market.

But that is nowhere near the end of the problem. The efficiency wage, labor union, and insider-outsider theories identify market failures that

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1/ Under free market conditions, the private sector generally has deficient incentives to provide unemployment insurance, due to moral hazard and adverse selection problems (providing unemployment insurance increases the chances of being unemployed and those with a greater chance of being unemployed will tend to purchase more insurance) and credit constraints (which prevent workers from purchasing the optimal amount of insurance).

give free market activity a tendency to yield excessively high wages and excessively low employment. Unemployment benefit systems exacerbate these market failures by driving wages up further and discouraging employment even more. Furthermore, these market failures are perpetuated through various dynamic effects. As noted above, the longer people are unemployed, the more their skills depreciate and become obsolescent, the more discouraged and ineffective they become in the process of job search, and the more wary firms become of hiring them. When the government rewards unemployment through unemployment benefits and penalizes employment through income taxes, it amplifies these dynamic effects by keeping unemployed people from competing for jobs and becoming "enfranchised" in the wage determination process. As result, their unemployment becomes less effective in moderating wages or raising firms' return from searching for new recruits. In this way, unemployment benefit systems make unemployment more persistent, and put the long-term unemployed at a greater disadvantage in competing for jobs.

For all these reasons, unemployment benefit reform has become a topic of growing policy interest throughout Europe. But while it is relatively easy to recognize the need for reform, it is frightfully difficult to agree on its content. The critical question is how to provide a safety net for the disadvantaged and the unfortunates without dramatically reducing people's incentives to fend for themselves, thereby creating more disadvantaged and unfortunates in the process.

A growing number of European economists argue that unemployment benefits should be generous, but for a limited period of time. 1/ The generosity is allegedly required to give people the opportunity to make judicious job matches, which credit constraints may keep them from doing. Limited benefit duration, it is claimed, is necessary to induce people to find work quickly, before they become discouraged, stigmatized, and deskilled. This advice sounds eminently sensible, but little attempt has been made thus far to explore whether the theory behind this advice captures empirically important determinants of unemployment. It seems doubtful that workers' credit constraints are an important aspect of the European unemployment problem. If they were, then the problem would be that unemployment durations are too short, resulting in over-full employment. This, it appears, is the least of Europe's worries.

Beyond that, the prescription to shorten benefit duration characteristically becomes vague once we ask what happens to people who remain jobless after their unemployment benefits have expired. Some recommend that they be given training, while others put more emphasis on job counselling. But that still leaves us with the question of how to treat those who are left unemployed even after the training and counselling. At that point many European economists revert to the popular European opinion that the social safety net cannot be withdrawn from these hapless individuals; income support and a range of welfare state benefits are then required to keep them from destitution. But then a nominally short benefit

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1/ See, for example, Layard, Nickell, and Jackman (1991).

duration may cease to give unemployed people an effective incentive to find jobs promptly.

This is in fact the problem that the current, unreformed European benefit systems face. Many European countries--such as Germany, France, Greece, Ireland, and the Netherlands--grant some form of unemployment insurance of limited duration, followed by unemployment assistance that is frequently unlimited. It is hard to see how the disincentive effects generated by these systems could be overcome simply by shortening the time span for unemployment insurance and inserting a period of training and counselling prior to the receipt of open-ended unemployment assistance.

Overall, it is safe to say that unemployment benefit reform should be guided by the objective to overcome its two biggest deficiencies, namely, the disincentive effects and the imperfections in targeting the poor. It is arguable that both could be mitigated by simply replacing unemployment benefit systems by a conditional negative income tax program, 1/ whereby people's receipt of negative income taxes is made to depend on their ability to pass stringent tests on their willingness and readiness to work. 2/

4. Worksharing and early retirement

Worksharing and early retirement has begun to look attractive to an increasing number of European policy makers, particularly in Germany. It is based on the view that there is a fixed amount of work to be done in an economy in any given period of time, and thus it is the job of the policy makers to decide how this work is to be distributed across the available workforce. If it is currently distributed unequally, with most people in the workforce working full-time and some remaining unemployed for prolonged periods, worksharing and early retirement could spread the job opportunities more equitably.

But to call this a "theory" is an overstatement. Most economists would rather call it the "lump-of-labor fallacy," since it is well understood that the amount of work to be done in an economy is not a fixed number of hours, beyond the influence of the policy makers. 3/ Keynesian theory drives this point home particularly forcefully: the more people are employed, the more they earn, the greater their purchasing power, the more they spend, and the more people firms will seek to employ.

1/ See, for example, Coe and Snower (1995, forthcoming) and Snower (1995b, forthcoming) for more detail on this policy approach.

2/ Handicapped people and those who are likely to be more productive in the household sector than in the labor market (like single mothers with several infants) would be exempted from this condition; see Snower (1994c).

3/ Of course, economies may generate something like a "lump of labor" over the very short run, that is, over a time span short enough to preclude readjustments in the size of firms' workforces. But this time span is of little interest for the design of unemployment policy.

Moving beyond their nonexistent theoretical foundation, job sharing and early retirement schemes suffer from a number of serious problems. First, they tend, in practice, to increase nonwage labor costs, particularly those associated with hiring, screening, training, and administration. Thus they may be expected to discourage employment and create more unemployment. Second, insofar as they are successful in reducing the pain from unemployment by distributing it among more people, they lessen the political pressure on governments to address the unemployment problem through more promising means. Third, in reducing the number of unemployed people competing for jobs, they may well drive up wages and stimulate price inflation. This may induce governments to implement restrictive macroeconomic policies, which would raise unemployment, possibly creating a further perceived need to redistribute job opportunities through yet more worksharing and early retirement. The main advantage of worksharing and early retirement schemes is that they may "enfranchise" a larger number of people in the wage determination process and thereby moderate the insiders' wage demands. It appears unlikely, however, that this advantage would dominate the disadvantages above.

5. Policies centered on labor turnover costs

Policies to reduce unemployment by mitigating the harmful effects of labor turnover costs are as varied as the turnover costs themselves. Some involve dismantling job security legislation (such as laws reducing statutory severance pay or simplifying mandated firing procedures); others reduce the ability of incumbent workers to exploit existing labor turnover costs in order to boost their wages (such as legal restrictions on strikes and picketing); yet others help the unemployed surmount the obstacles created by turnover costs (such as training subsidies, recruitment subsidies, profit-sharing schemes, policies to reduce the barriers to the entry of new firms, and reform of wage bargaining systems). This section focuses attention on the first two groups of policies; policies in the third group have been discussed in Section V.

What the first two groups of policies have in common is that they reduce the market power of the "insiders" (incumbent employees whose jobs are protected by significant labor turnover costs) and thereby strengthen the position of the "outsiders" (who are either unemployed or have jobs that are not protected in this way). In the process, insiders become less insulated from the forces of labor demand and supply and firms find it easier to hire and fire employees. The upshot is that insider wages face downward pressure, since insiders now face greater competition from outsiders, and that employment becomes more responsive to variations in revenue and cost conditions. The first effect stimulates employment, 1/

1/ Of course, a reduction in labor turnover costs also has a direct effect on employment. This effect could be either positive (as when a reduction in hiring costs stimulates hiring) or negative (as when a reduction in firing costs leads to more firing). See, for example, Bentolila and Bertola (1990).

for as insiders' wages fall, firms raise their demand for new recruits, who eventually turn into insiders. The second effect reduces the degree of employment and unemployment persistence.

This policy approach lies in the domain of the insider-outsider theory. 1/ Here labor turnover costs, falling at least in part on firms, give market power to the insiders, who know that their employers would find it costly to replace them. The insiders are assumed to use this power to pursue their own interests in the wage setting process. Although the resulting insider wages are higher than they otherwise would have been, the labor turnover costs discourage firms from firing the insiders. Of course, firms are also discouraged from hiring new entrants by the excessive wages.

Some of the labor turnover costs (such as training costs) are an intrinsic part of the production process; others (like severance payments) are primarily associated with rent-seeking activities. The rent-related turnover costs give the insiders preferential conditions of employment over the outsiders. Then unemployment can arise on account of the outsiders' inferior employment opportunities. In this context, policies that reduce labor turnover costs, or that check insiders' ability to exploit them in wage setting, will generally lead to a reduction in unemployment.

The insider-outsider theory is able to account for a variety of empirical regularities in unemployment behavior. The relatively high labor turnover costs in Europe--both in their own right and through their influence on insiders' wages--play a role in making European unemployment more persistent (serially correlated) than U.S. unemployment. Since high labor turnover costs make firms reluctant both to hire and to fire employees, they raise the duration of unemployment. In this way, Europe's relatively high labor turnover costs can lead to its relatively high unemployment durations and relatively low unemployment variability, in comparison with the United States. Furthermore, since labor turnover costs raise insiders' job retention rates relative to outsiders' job acquisition rates, they imply that unemployment falls relatively heavily on population groups whose work patterns are relatively unstable (with relatively high entry and exit rates in the job market), such as young people.

Insofar as many of the full-time unskilled jobs in the traditional industrial sectors are associated with significant labor turnover costs, the insider-outsider theory also accounts for why wages in these sectors have not fallen with falling demand. It also helps explain why much service-sector employment and temporary employment--associated with relatively low turnover costs--has been buoyant in comparison with industrial employment in the OECD.

When business cycles are short-lived and mild, most European countries--facing comparatively high labor turnover costs--may be expected to do relatively little hiring or firing, hoarding labor in the slumps and

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1/ See, for example, Lindbeck and Snower (1986, 1988a).

bringing it back into use in the booms. But in the face of deep, prolonged recessions, these countries will stop hoarding and start firing labor. In the subsequent recovery, firms will then be comparatively slow to rehire, fearing that they may incur further firing costs should the recovery not materialize. Investment in labor-saving capital equipment may then take the place of new employment. This helps explain why unemployment rates in Europe were significantly lower than in the United States in the 1950s and 1960s (when business cycles were short-lived and mild), but significantly higher since the mid-1970s; why U.S. unemployment has been more variable than European unemployment; and why production and employment move together to a greater degree in the United States than in Europe.

6. Profit sharing

Under profit sharing contracts, a part of workers' remuneration is paid as a fraction of the profits earned by their firms (or specific teams within those firms). 1/ For any given level of remuneration, it is clear that a firm's marginal cost of employment is lower under profit sharing than under a fixed wage, since (under diminishing returns to labor) the profit share declines as employment rises, whereas a fixed wage, by definition, doesn't. Consequently, it is alleged, profit-sharing contracts lead to lower unemployment than do wage contracts. Weitzman has suggested that, in a world where wages seldom involve profit sharing, firms have deficient incentives to offer profit sharing contracts, and thus government subsides for profit sharing are called for.

The claim that profit sharing contracts reduce unemployment is less general than it may appear at first sight. It turns out that the effectiveness of profit sharing depends crucially on what is generating the unemployment. If, for instance, the unemployment is an efficiency-wage phenomenon, the switch from wage contracts to profit-sharing ones will do little, if anything, to reduce unemployment, since workers' incentives to shirk and quit depend on the total amount of remuneration, but not on how this amount is divided between wages and profit shares. The same may be said of firms' ability to attract workers of relatively high productivity.

Yet if the unemployment is predominantly generated by insider-outsider considerations, profit sharing may have an effective role to play. In the insider-outsider theory, the outsiders are unable to "bribe" insiders to forego the rent-seeking activities that keep the outsiders from getting jobs. The insiders may, for example, boost their wages and protect themselves from competition with outsiders by refusing to cooperate with them in the process of production, thereby creating an insider-outsider productivity differential; or they may harass outsiders who offer to work for less than the prevailing wages and thereby make the available jobs more disagreeable for those outsiders than for the insiders. Alternatively, the insiders may be involved in determining the wages of new entrants, and may use their market power to drive entrant wages up, thereby discouraging the

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1/ See Weitzman (1983, 1984).

employment of entrants that would drive down the insiders' marginal products.

In this context, profit-sharing contracts may be construed as a device that permits the outsiders to bribe the insiders to stop these activities, so that everyone--the insiders, the outsiders, and their employers--can be made better off. In particular, if insiders were given a bonus for consenting to profit-sharing contracts for new entrants, the firm's marginal cost of hiring new entrants would fall, the entrants would receive more than they did when they were unemployed, and the firm's profits would rise. In the process, of course, unemployment would fall.

But while profit-sharing schemes are promising in this context, it is important to be aware of some potential difficulties. First, it may be impossible to induce the insiders to consent because their renting-seeking activities--like their harassment activities--may not be objectively monitorable. Second, to make profit sharing operational may require implementing costly monitoring procedures that enable workers to gain access to profit information. 1/ Third, the extra profit generated through the introduction of profit sharing may be insufficient to compensate the insiders for their loss of market power resulting from the inflow of new entrants. Fourth, the extra profit generated may be insufficient to pay the premium that the new entrants would require to induce them to bear the income risk associated with profit sharing. And finally, the insiders may refuse to be bribed because that would create a two-tier remuneration system that would give firms an incentive to lay off the insiders and retain the entrants, once the latter had been fully trained.

VII. Concluding Remarks

It has become a platitude to say that every sensible piece of economic policy advice rests on a reasoned analysis of the underlying policy problem, and every reasoned analysis is based on a theory of how the economy functions. Politicians may believe that their policy proposals rest simply on "common sense;" but if there is any sense underlying this common sense, it exists in the form of a coherent, self-contained theory. As Keynes (1936) put it, "The ideas of economists and political philosophers, both when they are right and when they are wrong, are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist."

But given that this is obvious, it is surprising that so little is done to explore the predictive power of a theory, before that theory is used as basis for policy formulation. This survey is a tentative first step towards evaluating unemployment policies in this light.

1/ Firms may not wish to disclose this information in order to preserve the confidentiality of their business strategies.

It goes without saying that such an evaluation alone is not sufficient for the design of unemployment policies but, as we have seen, it can provide a variety of useful insights about where promising policy approaches are to be found. For example, we have examined how differences in labor turnover costs across sectors (e.g., services versus manufacturing) and regions (e.g., the EC versus the United States) may help account for differences in the level, variability, duration, persistence, and distribution of unemployment. This analysis suggests that policies to reduce the harmful effects of these labor turnover costs--such as reductions in statutory severance pay, training and recruitment subsidies, benefit transfers, and policies to lower the barriers to the entry of new firms--may have a significant role to play in combatting unemployment. These and the variety of other insights adduced above show why it is important to evaluate unemployment policies through the predictions of the underlying theories.

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