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INEQUALITY AND
LABOUR-MARKET PERFORMANCE.
A SURVEY BEYOND AN ELUSIVE TRADE-OFF*

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Abstract

In this paper we assess the evolution of employment and wage inequality in Europe and the US labour markets over the past two decades. We find that the salient trends in wage structures are more complicated than implied by the so-called “unified theory”. Furthermore there is no clear cross-country correlation between changes in wage and employment rates by skill categories. This brings us to consider in detail other factors mentioned in the literature as contributing to poor labour-market performance in Europe. We find that strong unions, a factor often believed to bring about wage compression and poor labour-market performance, are not necessarily associated with the latter when bargaining is sufficiently coordinated. We also find that successful welfare reforms can bring about considerable improvements in performance without much impact on inequality. Finally we point out that the role of industrial structure and of the housing sector cannot be neglected when explaining cross-country labour-market performance.

Keywords

Cross-Country Labour-market Comparisons, Wage Inequality, Labour-market Institutions, Product-market Institutions.

1. Introduction

During the 1980s, the labour-market performance of most European countries showed clear signs of worsening vis-à-vis the US.¹ This situation was all the more surprising as it went against the experience of the previous two decades, when the US employment rate was consistently lower than that of most European countries (see Table 1).

Table 1 – Employment Rates in the US and Selected European Countries: 1964-2004

	1964	1974	1984	1994	2004
Austria	0.67	0.64	0.64	0.70	0.68
Belgium	0.58	0.59	0.52	0.54	0.58
Denmark	0.70	0.73	0.73	0.71	0.75
Finland	0.73	0.70	0.72	0.60	0.68
France	0.65	0.64	0.59	0.58	0.63
Germany	0.68	0.66	0.60	0.67	0.69
Italy	0.58	0.55	0.54	0.51	0.57
Netherlands	0.67	0.64	0.54	0.66	0.74
Norway	0.65	0.66	0.73	0.72	0.76
Portugal	0.65	0.68	0.64	0.65	0.71
Spain	0.57	0.58	0.45	0.46	0.61
Sweden	0.72	0.75	0.79	0.70	0.72
<i>Continental Europe (unweighted average)</i>	<i>0.65</i>	<i>0.65</i>	<i>0.62</i>	<i>0.63</i>	<i>0.68</i>
UK	0.69	0.69	0.64	0.67	0.71
US	0.60	0.64	0.67	0.71	0.71

Source: AMECO database

While some European countries have recently managed to improve their labour-market performance substantially, others appear to be still trapped at low employment rates.

¹ Our preferred measure of labour-market performance is the employment rate. However, our conclusions would be substantially unchanged if we considered unemployment rates. As pointed out by Saint-Paul (2004), in recent years countries with high unemployment rates also tended to have low labour-force participation rates.

Also since the 1980s, wage inequality increased markedly in the US (and the UK), while the wage structure remained much more stable in most of continental Europe (see Table 2, where each entry gives the average annual percentage change in the ratio of the average wage in the 9th decile to the average wage in the 1st decile for full-time workers).

Table 2 – Wage Inequality in the US and Selected European Countries; Annual Percentage Changes; 1979-2000

	men	women	all
Austria	--	--	--
Belgium	--	--	--
Denmark	--	--	0.1
Finland	0.1	-0.1	-0.2
France	-0.2	-0.1	-0.3
West Germany	0.9	-0.2	0.4
Italy	1.6	-0.6	0.8
Netherlands	0.9	0.2	0.6
Norway	--	--	-0.4
Portugal	--	--	--
Spain	--	--	--
Sweden	0.6	0.7	0.5
UK	1.3	1.2	0.7
US	1.4	1.6	1.0

Source: Glyn (2001)

These diverging labour-market trends captured the attention of citizens and analysts from several countries. A “unified theory” (Blank, 1997) centred on labour-market rigidities in Europe emerged to explain both the increase in US wage inequality and the rise in European unemployment. Attention in the Europe was drawn to strong unions, restrictive employment protection legislation, generous social-safety nets and large tax wedges (Layard et al., 1991). A slightly different argument was developed by Krugman (1994), who argued that technological change and globalization had altered the skill distribution of labour income in favour of relatively skilled workers. Hence, low unemployment rates could only be maintained at the price of a rising skill gap in wages (like in the US and the UK).

Much has been written about these diverging trends, as well as about their recent evolution (Nickell, 2003; Saint-Paul, 2004; Freeman, 2005). A consensus is emerging to the effect that there is no such a thing as a European labour-market problem, much of the unemployment in the EU being concentrated in four large countries: France, Germany, Italy and Spain.² Furthermore, it must be recognized that the improvement of the labour-market situation has not been accompanied in continental Europe by a rise in inequality comparable to that experienced by the US and the UK.

We try below to shed some light on these issues by taking stock of the available literature. First of all, we reassess Krugman's view and find that, by itself, it does not provide a satisfactory explanation of trends in inequality and employment (Section 2).³ Then we consider some of the factors most often mentioned in the literature as contributing to poor labour-market performance in Europe: strong unions (Section 3), generous social-safety nets and high taxes (Section 4), restrictive employment legislation (Section 5). In the latter section we also consider one of the major recent stylized facts of OECD labour markets: the rise of "non-standard" (part-time and temporary) jobs. In order to fully account for the labour-market trends, we evaluate structural and institutional differences between the US and Europe also outside the labour markets. This brings us to examine the role of industrial structure, financial markets, and the housing sector (Section 6). Some concluding remarks close the paper (Section 7).

² Actually, the situation significantly improved in Spain and, to a lesser extent, in Italy (Garibaldi and Mauro, 2002).

³ This is why we talk of an elusive trade-off, echoing the the fortunate title of Le Grand's (1990) paper. We hasten to add that we address the empirical, rather than philosophical, foundations of the trade-off under scrutiny.

2. *Technological Change, Globalization and Inequality*

There appears to be considerable evidence in numerous OECD countries that the relative wage of skilled workers has increased, along with a rise in their relative employment levels (OECD, 1997). The magnitude of these changes, however, varies significantly from one country to another. There have been large increases in wage inequality in the US and in the UK, while other countries (especially those in continental Europe) have had more stable wage structures.

In both the US and the EU, various studies provide evidence in favour of capital accumulation and technical change as the mainsprings of the skill upgrading that occurred in manufacturing during the 1980s. New technologies, embodied or disembodied in the capital stock, are skill-biased, either because of technological requirements or because of induced internal organizational changes in firms. Many papers (including, for the US, Bound and Johnson, 1992; Berman et al., 1994; and for several developed countries, Berman et al., 1998; Machin and Van Reenen, 1998) document the rising relative employment of skilled workers within industries despite rising relative skilled wages. Other papers (Krueger, 1993; Berman et al., 1994; Autor et al., 1998) document the correlation between skill upgrading and measures of technological change such as computerization and expenditures on research and development.

The other oft-mentioned motive power of skill upgrading is the growth in international trade. Trade with countries having a comparative advantage in unskilled-labour-intensive production stimulates specialization in skill-intensive industries (between-industry effect). On the other hand, firms reorganize their activities by outsourcing to foreign countries (where labour is cheaper) the less skill-intensive tasks of production (a within-industry effect). The natural framework for analyzing the impact of trade on labour markets, at least from a maintained assumption of competitive markets, is the Stolper-Samuelson theorem and its various generalizations. Burfisher et al. (1994) find small effects for the US of liberalized trade with Mexico as a result of the North American Free Trade Agreement. Krugman (1995) concludes that the effect

on unskilled wages in developed nations of plausible levels of increased trade with developing countries is small (but negative), and is swamped by other, positive effects. Leamer (1998) and Feenstra and Hanson (1999) extend this framework to incorporate technological change. Leamer concludes that technological change dominated price changes in the 1980s, but that the reverse was true for the 1970s. Feenstra and Hanson find that only under assumptions of exogenous commodity prices and exogenous sector-specific wage differentials does outsourcing play a large role in generating wage inequality.

The conclusion that the impact of globalization on the rising skill premium is negligible may be sensitive, however, to the competitive-markets assumption. Studies allowing for imperfect competition generally find that increased trade has played some role in the deterioration of the relative wage of unskilled labour (Gaston and Nelson, 2000). Globalization is thought to have reduced union density and the bargaining power of trade unions, leading to higher wage inequality (OECD, 1997). We will come back to this point in Section 3. However there is also evidence that these developments are directly related to stronger demand for welfare-state provision. It has been observed that, despite increases in the dispersion of earned incomes, inequality in post-tax income has not grown in many small open economies (Gottschalk and Smeeding, 1997; Aaberge et al., 2000).

Finally, most studies of the effect of immigration on wage inequality have found extremely small effects. Borjas (1994) concludes that there is no evidence that immigrants have had an adverse impact on the earnings and employment of native workers. This conclusion has been subsequently upheld by Borjas et al. (1997) and Friedberg (2001).

Let us now consider in greater detail the cross-country evidence on the evolution of wage dispersion. Each entry in Table 3 gives the average annual percentage change in the ratio of the average wage in the numerator decile to the average wage in the denominator decile for all full-time workers.

Table 3 – Wage Inequality in Upper and Lower Halves of the Distribution in the US and Selected European Countries; Annual Percentage Changes; 1979-2000

	All (9/1)	All (9/5)	All (5/1)
Austria	--	--	--
Belgium	--	--	--
Denmark	0.1	0.3	-0.2
Finland	-0.2	0.1	-0.4
France	-0.3	0.0	-0.3
West Germany	0.4	0.6	-0.2
Italy	0.8	1.4	-0.6
Netherlands	0.6	0.4	0.2
Norway	-0.4	0.3	-0.6
Portugal	--	--	--
Spain	--	--	--
Sweden	0.5	0.2	0.3
UK	0.7	0.6	0.1
US	1.0	0.7	0.3

Source: Glyn (2001)

Consider the second and third columns of Table 3, which decompose the change in overall wage dispersion into changes in upper-half (9-5) and lower-half (5-1) dispersion. It turns out that most of the increase in overall wage dispersion arises from changes in its upper half. For Italy, France, and Germany, lower-half wage dispersion actually decreased. As pointed out by Atkinson (2003), the unified theory links technical change and globalization with reductions of relative wages in the lower half of wage distribution. We must conclude that there is more to trends in wage structures than implied by the unified theory.

It is also often maintained that unemployment remained fairly low for high-skilled workers, while it increased considerably for less-skilled groups. Krugman (1994) points to the rise in relative unemployment rates for unskilled workers in Europe. However, Nickell and Bell (1995) examine trends in relative unemployment rates by quartile in the skill distribution, and note that relative unemployment rates by skill show similar trends across industrialized countries and within the OECD. Further light on this issue can be

shed by Table 4, where changes in the wage structure are considered in conjunction with changes in the *employment* distribution.

Table 4 – Labour-market Inequality in the US and Selected European Countries; Annual Percentage Changes; 1979-2000

	9 th decile / 1 st decile of the wage distribution		4 th quartile – 1 st quartile of the employment distribution	
	1980s	1990s	1980s	1990s
Austria	--	--	--	--
Belgium	--	--	--	--
Denmark	0.1		0.6	0.6
Finland	0.8	-1.3	0.5	0.9
France	0.3	-0.8	1.3	-0.4
West Germany	-0.6	0.9	0.6	0.6
Italy	-0.1	1.1	0.9	1.1
Netherlands	0.4	-0.6	0.4	-0.6
Norway	-0.4		0.5	0.5
Portugal	--	--	--	--
Spain	--	--	--	--
Sweden	0.3	1.3	-0.1	-0.6
UK	2.2	0.7	1.3	0.3
US	2.1	0.9	0.0	-0.2

Source: Glyn (2000)

If growing wage dispersion actually was the main influence on the evolution of employment dispersion, there should be a negative relationship among changes in wage and in employment inequality. However, there is no significant correlation between these two variables, shedding much doubt on the “unified theory” argument that rising wage dispersion was the necessary price to pay for a high unskilled employment rate. This evidence is supported by the more detailed comparisons carried out in Card et al. (1999) and in Freeman and Schettkat (2001a). Thus, the “unified theory” does not provide a satisfactory explanation of trends in wage inequality and employment. In the following sections we consider in greater detail some of the factors most often mentioned in the literature as contributing to poor labour-market performance in Europe. We hope in this manner to probe more deeply the al-

leged relationship between wage inequality and labour-market performance.

3. Unions and Wages

A sizable empirical literature is consistent with the view that unions raise wages (Lewis, 1986), and, in most OECD countries, trade unions are highly relevant in wage negotiations. As shown in Layard and Nickell (1999, p. 3041, Table 7), even if union density (the percentage of workers who belong to a trade union) is very low, union coverage (the percentage of workers covered by a collective agreement) can be substantial. For instance, in France and Spain most workers have their wages set by union agreements despite very low union density because, customarily, firms grant to non-union members the same contract terms obtained by union members, or because laws extend union wages to non-unionized firms and workers. The US is an exception as it is a country with both very low union density *and* very low coverage.

The supply-side-oriented macroeconomic literature of the 1980s and the 1990s (Bruno and Sachs, 1985; Layard et al., 1991) has made clear that a very important aspect of collective wage agreements is the extent to which unions and/or firms coordinate their actions. Co-ordination is distinct from centralization, which strictly identifies the most dominant level at which wages are negotiated, plant, firm, industry, or economy. Obviously, nationwide wage agreements must be highly coordinated, but highly coordinated bargaining need not be centralized. For example, in Germany and Japan employers' associations are deeply involved in preparing and organizing wage negotiations even when these negotiations ostensibly occur at the firm level. There are well-known and established country rankings of bargaining co-ordination and centralization (Layard and Nickell, 1999, p. 3041, Table 7, provide indices of union co-ordination and employers' co-ordination, including the Calmfors and Driffill, 1988, index of centralization). Clear cross-country patterns do emerge: the Scandinavian countries and

Austria have the most coordinated and centralized systems, followed by continental Europe and Japan. By contrast, Anglo-Saxon countries have largely non-coordinated systems, despite having appreciably higher levels of union density and coverage in general.

There is abundant evidence that the extent of coordination or centralization in bargaining has an impact on the relationship between unions and wages. Wages set nationwide are more responsive to variations in aggregate labour-market conditions if wage agreements are highly coordinated (Layard et al., 1991, Ch. 9, Table 7). Similar evidence can be gleaned from OECD (1997, Ch. 3), Layard and Nickell (1999, pp. 3053, 3067), Nickell et al. (2002), and Belot and Van Ours (2004). It also turns out that coordinated bargaining tends to be unstable in absence of supporting institutions (such as the local employers' federations in Germany) or strong competitive pressures in the product market. This is well in agreement with the results from Stewart (1990), Abowd and Lemieux (1993), and Nickell et al. (1994), suggesting that greater competition in the product market lowers the union-wage premium.⁴

On the other hand, if wage agreements are less coordinated or less centralized, firm or industry wages are more responsive to specific shocks (Layard et al., 1991, Ch. 4, Table 4). It follows that highly coordinated or centralized wage agreements may compress the distribution of wages too much relative to the distribution of skills (OECD, 1997, Ch. 3, Table 3.B.1). Indeed, there is little doubt that wages are relatively more compressed in continental Europe, even within education levels. However, as already pointed out in Section 2, there is no convincing evidence that rising unemployment in Europe was brought about by greater wage rigidity in the face of a shift in demand towards skilled labor. A possible answer to this puzzle is that observable measures of education are not appropriate, and that the wage distribution follows the true skill distribution. The available evidence is not however fully consistent with this interpretation (Devroye and Freeman, 2001).

It may be that our understanding of the relationships between wage inequality and unemployment is still incomplete. For

⁴ See however Checchi and Lucifora (2002) for evidence that deregulation in product markets does not lead to lower union membership across Europe.

example, Acemoglu and Pischke (1998) and Agell (1999) suggest that, in the presence of market failures, a more compressed wage structure is conducive to *lower* unemployment. Summing up the weight of the empirical evidence on these matters is not easy. Yet, a recent and complete survey (Aidt and Tzannatos, 2003, Ch. 5) concludes that, on the whole, coordinated bargaining provides better macroeconomic outcomes than decentralized bargaining. This is consistent with the results from wage equations estimated over recent samples, according to which real-wage flexibility is highest in continental Europe (Cadiou et al., 1999; Peeters and Den Reijer, 2003). Indeed these results even suggest that a significant *increase* in the degree of real-wage flexibility took place in countries (among which Italy and the Netherlands) where the use of incomes policies contributed to raise bargaining coordination.

It thus appears that strong unions, when in conjunction with coordinated bargaining, can achieve a satisfactory labour-market performance with a stable wage structure. In this sense, the spontaneous move toward decentralization that has been characterizing European industrial relations in the last decade (Calmfors, 1999) should be evaluated with care. Channeling this evolution within the bounds of economy-wide coordinated bargaining seems a noteworthy policy priority. Two-tier systems as the Swedish one are interesting examples in this respect (Dell'Aringa, 2005).

Minimum-wage laws are another labour-market institution widely believed to have an important impact on wage determination (Card and Krueger, 1995; the papers in the July 1995 issue of the *Industrial and Labour Relations Review*; Brown, 1999; Dolado et al., 2000). Here, too, there are some noteworthy cross-country patterns: the Scandinavian countries and Austria rely on collective-bargaining agreements covering most of the workforce to enforce minimum wages, while most other countries rely on statutory provisions. In any case, the available evidence suggests that in most OECD countries statutory minimum wages are too low to have any impact on unemployment, at least for adult males. Only in countries where minimum wages for young workers are not adjusted downwards (for instance France and Spain), or in countries where payroll taxes are very high (for instance France and Italy), is there some evidence that minimum wages adversely affect youth unem-

ployment.

4. *Social-Safety Nets and Taxes*

Among the factors believed to have hampered labour-market performance in continental Europe during the 1970s and the 1980s, generous social-safety nets are perhaps most often blamed. In the US, lifetime entitlements to cash assistance for employable nonworking adults were eliminated in August 1996. The Temporary Assistance to Needy Families (TANF) programme replaced the Aid to Families with Dependent Children (AFDC). However, many features (time limitations, work requirements, etc.) that ultimately became part of the federal law had already been introduced by a number of individual US states prior to 1996. Other notable changes in the US included the expansion of the Earned Income Tax Credit (EITC) in the early 1990s. The EITC is a refundable tax credit operating through the federal tax system which subsidizes low-wage workers in low-income families. Alongside with an increase in minimum wages, the EITC provided a substantial increase in the returns to work for families with children, as non-workers receive no subsidy. Finally, child-care assistance and the availability of health insurance to low-income families became more generous in the US during the 1990s.

As individual US states experimented with welfare-to-work programmes throughout the late 1980s and the 1990s, many of these policy measures were evaluated through randomized assessments. The resulting evidence points to the effectiveness of welfare-to-work programmes in reducing welfare costs and increasing labour supply (most of the evidence is summed up in Bloom and Michalopolous, 2001). The EITC proved in particular to be an effective policy measure also because, being tied into the tax system, it can be limited to low-wage workers in low-income families, rather than being extended to all low-wage workers.

Arguably the most interesting state-specific study is the study of the Minnesota Family Investment Program (MFIP), which

is carefully analyzed in Miller et al. (2000). MFIP was implemented in 1994 and provided a strong earnings disregard, allowing women to receive cash assistance until their earnings reached about 140 percent of the US poverty line. It also required participation in mandatory job search programmes. A randomly assigned control group remained in AFDC without work requirements or substantial earnings disregards. Hence, MFIP involved both strong negative and positive work incentives. A subset of the treatment group (also randomly assigned) was provided with the earnings disregards but not the mandatory work requirements, allowing assessment of the separate and joint effects of mandatory job search and earnings disregards. The results from the assessment procedure show that earnings disregard has by itself little effect on labour supply, but the additional income provided by these disregards had a strong income-enhancing impact. Once mandatory work requirements are also included in the programme, labour supply also increases, but with little further effect on income. Hence the “stick” of mandatory work requirements increases labour supply, and the “carrot” of greater earnings disregards enhances income. When the two measures are used together, both work and income increase .

Also within Europe, labour-market performance has improved following either the shortening of the unemployment-benefit entitlement period or the enforcement of a stricter entitlement test. The experience of welfare-to-work programmes in Northern European countries, assessed in de Koning et al. (2004), is particularly relevant in this respect. However, in Nordic countries (as opposed to the UK), this experience has not dented a commitment to income equality, which has been enacted not only through the fiscal system, but also through active labour-market policies and generous unemployment benefits (Fischer and Matthiessen, 2005).

Several recent studies (including Prescott, 2004) argue that higher European income and payroll tax rates help explain why hours of work are significantly lower in Europe. However, the bulk of the empirical labour-supply literature suggests that tax rates can explain only a small part of this difference (Alesina et al., 2005). In Europe, an influential study by Daveri and Tabellini (2000) found that virtually all the rise in European equilibrium unemployment rates was to be ascribed to increasing payroll taxes. However, according to Layard and Nickell (1999), a reasonable estimate would

imply that a 5% reduction in the tax wedge (including income, consumption and payroll taxes) lowers the unemployment rate from 8% to 7%. Nickell (2003) concludes that there is considerable uncertainty about the impact of these taxes on unemployment.

As far as inequality is concerned, the huge rise in top income shares taking place in English-speaking is sometimes related to changes in the fiscal system lowering the marginal tax rates for high incomes. In his extensive analysis, Saez (2006) does not find conclusive evidence on this phenomenon. There is however some evidence (mainly from Swiss data) that, in a secular perspective, progressive tax systems have driven down top incomes.

5. *Employment Flexibility*

During the last two decades employment protection legislation has been extensively modified in most European countries. However this was not so much true within regular employment (see Table 5) as in the field of temporary employment and fixed-term contracts (see Table 6). As a consequence, reforms in employment flexibility mostly consisted in favouring the development of non-standard forms of employment.

At any rate, while the share of non-standard employment has generally increased, OECD countries still considerably differ in their share of non-standard jobs over total employment. A strong rising trend between 1985 and 2000 was observed for some European countries, such as France, Italy, the Netherlands, Portugal, and Spain. However, many other countries show no clear trend. Non-standard jobs are disproportionately held by younger and less-educated workers, and are more easily found in low-skill occupations, agriculture, and small firms. Women are overrepresented among non-standard workers, but gender differences are seldom large.

**Table 5 - Strictness of employment protection legislation
regular employment**

	Late 1980s	Late 1990s	2003
Austria	2.9	2.9	2.4
Belgium	1.7	1.7	1.7
Denmark	1.5	1.5	1.5
Finland	2.8	2.3	2.2
France	2.3	2.3	2.5
Germany	2.6	2.7	2.7
Italy	1.8	1.8	1.8
Netherlands	3.1	3.1	3.1
Norway	2.3	2.3	2.3
Portugal	4.8	4.3	4.3
Spain	3.9	2.6	2.6
Sweden	2.9	2.9	2.9
UK	0.9	0.9	1.1
US	0.2	0.2	0.2

Source: OECD (2002)

**Table 6 - Strictness of employment protection legislation:
temporary employment**

	Late 1980s	Late 1990s	2003
Austria	1.5	1.5	1.5
Belgium	4.6	2.6	2.6
Denmark	3.1	1.4	1.4
Finland	1.9	1.9	1.9
France	3.1	3.6	3.6
Germany	3.8	2.3	1.8
Italy	5.4	3.6	2.1
Netherlands	2.4	1.2	1.2
Norway	3.5	3.1	2.9
Portugal	3.4	3.0	2.8
Spain	3.8	3.3	3.5
Sweden	4.1	1.6	1.6
UK	0.3	0.3	0.4
US	0.3	0.3	0.3

Source: OECD (2002)

Generally speaking, empirical support for an impact of strict

labour-market regulations on labour-market performance appears to be weak. Since employment protection legislation reduces both job destruction and job creation, the relation between protection and unemployment is theoretically ambiguous. The existing evidence (OECD, 2002, 2004) suggests that stricter employment protection does not raise aggregate unemployment, while increasing the duration of unemployment and reducing worker turnover. There is some evidence that employment protection legislation lowers employment rates for youth and women, while increasing them for prime-age men. These relationships however fade away when allowance is made for various control variables. The same reasoning applies for temporary jobs, whose development equally favours both job creation and job destruction (Cahuc and Postel-Vinay, 2002). There is no consistent evidence either of an association between aggregate employment rates and the incidence of part-time work (Garibaldi and Mauro, 2002).

The above considerations cannot however exhaust the appraisal of the rise in non-standard employment. To some extent, this trend reflects households' and employers' demand for flexible working patterns. For instance, part-time and temporary jobs give better opportunities to workers for combining work with other activities, including education and care-giving.⁵ Furthermore, non-standard jobs may allow employers to adjust better to changes in market conditions. There is also some evidence that the intermediary services of temporary-work agencies improve the matching of job seekers to job vacancies, contributing to a reduction in frictional unemployment (Katz and Krueger, 1999⁶). On the other hand, the expansion in non-standard jobs has raised concerns about growing labour-market segmentation and dualism (Cahuc and Postel-Vinay, 2001). In order to assess these points more

⁵ Particular attention must be paid to the possibility that non-standard employment eases the trade-off between higher female employment and lower population growth. Indeed, low birthrates recently increased the dependency ratio (ratio of non-working to working people) across Europe. Within the mostly pay-as-you-go pension systems, this has increased budgetary burdens and hampered macro-economic performance of many European countries.

⁶ Katz and Krueger estimate that the employment expansion in temporary-work agencies reduced the US NAIRU by almost 4% over the period 1989 to 1998. Destefanis and Fonseca (2006) find similar evidence for Northern Italy, but not for Southern Italy.

carefully, it is useful to deal separately with the two main forms of non-standard employment, namely temporary and part-time employment.

- Temporary Employment

Although the rapid growth of the share of temporary jobs that occurred in some European countries (Dolado et al., 2001, for Spain; Nannicini, 2001, for Italy; Blanchard and Landier, 2002, for France) can be explained by the combination of strict employment protection legislation for permanent workers and the liberalization of regulations for temporary employment explains, differences in employment protection legislation do not appear to explain much of the overall variation in the share of temporary jobs across OECD countries (OECD, 2002).

Temporary jobs do not imply a wage penalty, at least in continental Europe. There is however evidence that temporary workers receive fewer fringe benefits than permanent workers in countries where these benefits are provided by employers on a voluntary basis (Australia, Canada, and the US). In the UK, there are often waiting periods before newly hired employees can join an employer-provided pension plan, as well as minimum contribution periods (vesting times) which can be as long as two years.

The evidence for European countries (OECD, 2002) suggests that the majority of temporary workers have considerable continuity in employment, being employed one year earlier and remaining employed one and two years later. Depending on the country considered, between one-third and two-thirds of temporary workers move into a permanent job within a two-year time interval, suggesting considerable upward mobility. Yet, up to one-fourth of temporary workers are unemployed when interviewed one and two years later, and employers provide significantly less training to temporary workers than to permanent workers. Temporary workers who are more educated have a significantly better chance of receiving training and moving into permanent jobs than do less educated temporary workers.

- Part-Time Employment

The incidence of part-time work among women is lowest in the Nordic countries, where it is comparable to that in North Amer-

ica. In the rest of Europe, however, women account for a larger share of part-time employment. Above-average female employment rates can coexist with either a high incidence of part-time work (as in some Nordic countries, Switzerland, and the UK) or a low proportion of part-time work (as in Finland and the US). The low-employment Mediterranean countries also exhibit a low incidence of part-time employment.

In a number of countries (Germany, Austria, the UK, Switzerland, and Belgium), a large percentage of women work part-time because of family responsibilities, including child- and elder-care. The possibility of finding a part-time job may be crucial to labour-force participation under such circumstances. Even in a country like the Netherlands, where part-time work is fairly common, Euwals (2001) finds that the flexibility of working hours is low, and women who want to work substantially fewer hours than full time have a higher propensity to leave the labour market. However, preferences may also be shaped by current policies (DeI Boca, 2002). For example, a lack of affordable child-care or subsidized parental leave make full-time work difficult and therefore part-time work is a more attractive option. In these cases, more supportive policies may increase full-time work participation.

Indeed, there is a concern that part-time jobs may marginalize women when they are characterized by poor wages and benefits, low job tenure, and an absence of training opportunities. Such conditions may result from an excess supply of part-time labour by women or from a negative signalling effect linked to part-time jobs. The wage gap between female part-time and full-time workers is largest in English-speaking countries (Pissarides et al., 2005). Furthermore, O'Reilly and Bothfeld (2002) find that in the UK and Germany only a small number of women are able to use part-time work as a bridge to a full-time job. Instead, a substantial percentage drops out of employment, especially mothers of more than one child. On the other hand, Farber (1999) concludes, from evidence on labour-market transitions in the US, that part-time employment is often part of the transition out of unemployment, leading to regular full-time employment in the future. In any case, part-time work often entails low social security coverage, especially in Southern European countries and in the UK.

6. Industrial Composition, Finance and Housing

In order to fully account for diverging labour-market trends, we surmise that structural and institutional differences between the US and Europe should also be evaluated outside the labour market. This brings us to examine the role of industrial structure, financial markets, and the housing sector.

- Industrial Composition

Different industries have varying growth rates of production and demand and different labour intensities. Institutional arrangements, regulations, and policies are bound to affect them and their employment paths differently. As a result, variation in the industrial composition of national economies will lead to a variety of labour-market outcomes.

Job prospects in industries that are more open to international competition, such as manufacturing, are lowered by import penetration and by foreign outsourcing of domestic firms. In contrast, competitive, export-oriented sectors and industries with high national self-reliance have better employment prospects. Services generally are less open to international competition, and this has strongly contributed to their faster employment growth (Wood, 1994). Moreover, growth opportunities are higher in countries where new, fast-growing sectors in both manufacturing and services are more important (Vivarelli and Pianta, 1998).

The first major distinction to be drawn is between manufacturing and services. In spite of the heterogeneity of the activities performed in this sector, services have consistently been the mainspring of job creation in recent years. In the US, employment increased by 47% from 1975 to 2003 - about 9% in industry and more than 63% in services. In Europe, employment increased by 21% over the same period, with jobs falling by almost 21% in industry and increasing by 60% in services. The much larger weight of services in the US economy is at the root of its better employment performance. In 1971, services accounted for about 69% of

total US employment, and between 41% and 59% in European countries (own elaborations from AMECO and STAN data).

The above data also highlight the importance of industrial composition within manufacturing. As documented in OECD (1996) and Vivarelli and Pianta (1998), throughout the 1980s and the 1990s the US had close to half of its manufacturing value added in industries that experienced employment growth at OECD level. On the contrary, European economies included many more declining sectors. Of course, stagnant employment in Europe could be the result of faster productivity growth, which might improve competitiveness and raise living standards. Yet, GDP growth in Europe has been slower than in the US and Japan. Hence, job losses due to productivity gains do not seem to have been compensated by job gains linked to higher competitiveness. Countries with a large share of employment in fast-growing sectors are better positioned to capture this compensation effect. In Europe the "virtuous circle" between innovation, growth, and employment which characterized the 1950s and 1960s (Pini, 1995), largely disappeared after the mid-1970s, and innovation began to be associated with labour-saving technical change.

Naturally, the key question is what has stopped the reallocation of labour from declining to growing industries in EU countries? The view of Blanchard (1997) and Caballero and Hammour (1998) is that difficulties in sectoral labour reallocation stemmed from the rise in capital per worker through which EU firms attempted to restore their profitability after the wage shocks of the 1970s. Other authors stress the economic relevance of factors having the nature of public goods (education, social infrastructure, and so forth), which might not be supplied adequately through the market. There is evidence by D'Acunto et al. (2004) that export-led growth (consistent with virtuous circle between innovation and growth) might be at work in the Italian regions closer to the European core, but not in the Mezzogiorno. According to Paci et al. (2000), out-migration from agriculture is a powerful mainspring of productivity growth. They find that a number of Southern European agricultural regions have experienced less out-migration than expected, and that out-migration from agriculture is faster in regions where the decline of manufacturing is slower. All this seems to indicate that the pace of structural change is decisively slowed down

by a less dynamic manufacturing sector.

Although these arguments may carry some weight, they do not address the structural differences between Europe and the US in the relative growth of the service sector. In this regard, it is interesting to consider the arguments by Hopenhayn and Rogerson (1993), Bertola (1994), and Saint-Paul (2002). According to them, strict employment protection laws either slow down labour reallocation from declining to expanding sectors or they encourage specialization in the production of declining-sector goods. Yet, as pointed out by Layard and Nickell (1999, p. 3063), these arguments apply only to the closure of old plants and the opening of new ones since, by just relying on quits, continuing firms can reduce employment by up to 10% per annum.

An arguably more promising route is put forward by Messina (2005a). Economy-wide regulations, such as screening procedures and tax-related requirements for start-ups and sectoral regulations such as zoning laws or restrictions on shop-opening hours, constitute barriers to entry for entrepreneurs. Recent studies focus on the effects of different aspects of product-market regulations on labour-market outcomes. The stringency of entry regulations appears to be negatively associated with employment rates (Nicoletti et al., 2001) and entrepreneurial activity (Fonseca et al., 2001) across OECD countries. At the sectoral level, Bertrand and Kramarz (2002) find that entry regulation hinders job creation in the French retail sector.

In the presence of economy-wide entry regulations, the market price of services and rents in the economy increase, triggering a reduction in labour supply. This provides a rationale for the negative association between product-market regulations and the employment rate found in the literature, and is also consistent with the gap in the marketization of service activities between the US and European economies found by Freeman and Schettkat (2001b). Accordingly, European households respond to tighter entry regulations by substituting away from the purchase of services in the market (child-care, home repairs and leisure activities) and towards home production while Americans, facing lower service prices, supply more hours of work purchasing equivalent services in the market. The simulations in Messina (2005a) show that economy-wide regulatory barriers to entry obstruct the natural pattern of

structural change, hindering the development of those sectors whose demand is income elastic. Thus, countries with tighter restrictions on entry are expected to have a relatively underdeveloped service sector. This negative relationship persists even after controlling for a wide range of factors which might also shape cross-country differences in industrial structure.

It could be asked whether after all a rise in wage inequality is a prerequisite for an increase in service employment. Iversen and Wren (1998) suggest that equality is likely to reduce employment growth in private consumer-oriented services, because productivity in these industries is low and slow-growing. Iversen and Wren find some empirical support for this proposition, but neither Kenworthy (2003) nor Messina (2005b) are able to fully replicate these results. They find either weak or insignificant effects for wage inequality, once other explanatory variables are included in the estimates.

- Financial Markets

What about the role of financial liberalization in generating low interest rates, and the credit boom? Actually, investment has *not* been especially low in Europe. Gross fixed capital formation in Europe was about 24 percent of GDP in the 1960s and early 1970s. Investment rates have since declined, and gross fixed capital formation has averaged about 19 percent of GDP in recent years. However, at the end of the 1990s European investment levels were still above those in the US (around 17 percent of GDP; see Hurst, 1998).

Obviously, credit markets differ in many ways between the US and Europe. Acemoglu (2001), mostly relying on Rajan and Zingales (1998), reports that stock market activity, venture-capital finance, and the funding of small businesses by large banks appear more important in the US than in Europe. According to Acemoglu, technological change can have a persistently adverse effect on unemployment in Europe because, in the presence of less efficient credit markets, entrepreneurs who require financial capital to start new businesses cannot easily borrow the necessary funds. Acemoglu then classifies manufacturing industries into high, medium and low credit-dependent categories, following Rajan and Zingales (1998), and examines whether the most credit-dependent

industries, such as electronics and office and computer equipment, have grown more slowly in Europe since 1970. No evidence is found for major cross-sector growth differentials. However, employment in the most credit-dependent industries is higher in the US, suggesting that differences in credit markets may be playing some role in constraining employment creation in Europe. Similar evidence is reported in Wasmer and Weil (2004), who provide a simple model combining labour-market and credit-market imperfections showing that the latter tend to increase unemployment, and in Fonseca and Utrero (2004), who find a role for interactions between labour-market and credit-market imperfections in constraining firm size across OECD countries.

- *The Housing Market*

Barriers to geographical mobility are clearly an obstacle to the efficient functioning of the labour market. Layard and Nickell (1999, Table 13, p. 3047) provide convincing *prima facie* evidence that geographical mobility is lowest in southern Europe and highest in the US and the Scandinavian countries. In the literature on residential mobility (Clark and Van Lierop, 1986), the role of housing availability and affordability is usually emphasized as a determinant of short-distance movements (within an urban area). On the other hand, long-distance movements are generally related to conditions in the labour market and, specifically, to the employment and income prospects offered by different geographic areas (Blanchard and Katz, 1992; McCormick, 1997). There are exceptions, however, which seek to integrate both aspects of the analysis.

Hughes and McCormick (1985) examine the implications of UK housing policy for internal migration. Bover et al. (1989) emphasize the importance of regional house-price differentials for labour mobility in the UK. In addition, Jackman and Savouri (1992) provide evidence for an impact of relative house prices on UK inter-regional migration. Focusing on regional migration in Spain, Antolin and Bover (1997) examine house-price differentials as an explanation of mobility choices, apart from demographic characteristics, unemployment status, and wages. Finally, Cannari et al. (2000) argue that the cost of housing is likely to represent an important disincentive to move and, to a considerable extent, ac-

counts for the puzzling evidence of falling mobility levels in Italy.

Obviously, the different user costs of housing between two areas affect the permanent income prospects that a household faces in its decision to move. An area hit by a negative (positive) shock may not experience a significant outflow (inflow) of population simply because the expected wage, adjusted for the decline (rise) in employment opportunities, has not fallen (risen) enough when taking into account the increase in the cost of housing in the potential destination area. However, the discussion in Section 3 suggests that these rigidities are likely to be less relevant in the future for the European labour market. On the other hand, rationing and, more generally, rigidities in the housing market also discourage mobility. Furthermore, the propensity to move may be lower for homeowners, who have to liquidate their housing assets in a given locality to buy a new house elsewhere, thus facing sizeable transaction costs. Oswald (1997) suggests that home ownership is an important barrier to geographical mobility, as rented accommodations involve much lower transactions costs.

Over the last few decades, European governments have made concerted efforts to reduce the size of the private rental housing sector and to increase homeownership. Homeowners are relatively immobile, however, presumably because they find it much more costly than private renters to move in search of new jobs. Using the UK Working Lives Survey, Owen and Green (1997) find that moves to and from the small British private rental sector account for almost as many residential moves as the whole of the owner-occupied sector. Perusal of the UK 1995 General Household Survey confirms that the length of time at one's current address is markedly lower if one is a renter.

A decline in the willingness to switch locations can be expected to raise the aggregate unemployment rate. People living in rented public-sector housing are less likely to move across regions or leave unemployment (Hughes and McCormick, 1985, 1987). Intuition suggests that the same might be true of homeowners, and Wadsworth (1995) finds that private renters have a notably faster outflow rate from unemployment into jobs. Evidence from the British Social Attitudes Surveys reveals the greater (expressed) willingness to move of renters compared to homeowners (Oswald, 1997).

If owning a house reduces geographical mobility, the consequences for the labour market of secularly rising homeownership could be profound. Could the rise in homeownership be part of the high European unemployment story? Levels of homeownership and unemployment rates are surprisingly highly correlated across countries and throughout time. Moreover, countries with the fastest growth in homeownership had the most rapid growth in unemployment (Oswald, 1997). Most industrialized countries have recently experienced substantial growth in homeownership. Two exceptions are Switzerland and the US. These two countries also have had almost no long-run change in their unemployment rates. Moreover, Greece, and Spain currently have the highest rates of owner-occupied housing in the OECD. They also have the very high unemployment rates. This relationship appears to hold in quite different circumstances and for many places. Oswald (1997) reports evidence favourable to this hypothesis for a panel of OECD countries and for the US states, as well as slightly weaker evidence for regions of the Netherlands, Belgium and West Germany. Supportive evidence is also reported by Belot and Van Ours (2004), who carry out an empirical analysis for a panel of OECD countries.

Hence, empirical evidence suggests that rising homeownership and the decline of the private rental housing sector are an important part of the explanation for differences in the industrialized nations' unemployment rates. As a consequence, a rekindling of the private rental housing sector could be an important component of any package of anti-unemployment policies. The US experience also suggests that the development of a secondary mortgage market could be helpful in this ambit.

7. Concluding Remarks

In the early 1990s a "unified theory" centred on labour-market rigidities in Europe emerged to explain both the increase in US wage inequality and the rise in European unemployment. After

more than ten years, it turns out that matters are not that simple, the trade-off between inequality and labour-market performance proving to be rather elusive. In this paper we have taken stock of the literature on this issue. Our conclusions can be summed up as follows.

The increase in wage inequality taking place in some OECD countries (especially the US and the UK) is driven to some extent by skill-biased technical change. However, a “unified theory” linking technical change, wages and employment must focus on changes in the lower half of wage distribution. As these changes are dwarfed by simultaneous changes occurring in the upper half, the salient trends in wage structures are more complicated than implied by the unified theory. Furthermore there is no clear cross-country correlation between changes in wage and employment rates by skill categories.

We then consider in detail some factors often mentioned in the literature as contributing to poor labour-market performance in Europe: The evidence here is that unions have mattered a lot in the past. Their role appears now to have been reduced, which could explain at least some of the cross-country trends in wage inequality. Still, there is evidence that coordinated bargaining helps achieving a better labour-market performance even in conjunction with strong unions and a stable wage structure. Empirical evidence also reveals that there are strong interactions between labour-market performance and welfare reforms. Properly designed welfare-to-work policies have been able to deliver more jobs without large wage penalties, both in Nordic countries and in the US.

On the other hand, empirical support for the influence of strict labour-market regulations on unemployment appears to be weak. Similarly the development of non-standard jobs in OECD countries does not appear to have had a significant impact on aggregate labour-market performance. As for the impact of this development on inequality, there is no clear evidence of wage penalties, but some worries are elicited by insufficient mobility and the lack of proper pension treatment for non-standard workers.⁷ Part-

⁷ Anecdotal evidence also suggests that these workers might find it difficult to get bank loans or mortgages in Europe (echoing worries about the below-mentioned problems in the financial and housing markets).

time work actually eases the trade-off between paid employment and family care. However, it also may create some risks of marginalization, and should be complemented by policies encouraging more affordable child-care and less costly parental leave.

In any case, the evaluation of structural and institutional changes in the US and European labour markets is not wholly accurate without examining the role of other factors, such as industrial structure, financial markets, and the housing sector. We find that industrial composition matters for labour-market performance, and that it is likely to respond favourably to reduced product-market regulation. Moreover, there is only weak evidence for a positive relationship between pay inequality and size of the service sector. An independent impact of financial structure on labour-market performance has not yet been convincingly demonstrated, but there seem to exist interactions between financial-market and labour-market imperfections. The structure of the housing market has a strong impact on the geographical mobility of labour, and policies that foster homeownership tendentially lower the mobility of labor and increase unemployment. The US experience suggests however that the development of a secondary mortgage market could help severing the link between homeownership and low labour mobility.

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