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Labor-market Performance in the OECD: An Assessment of Recent Evidence*

by

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ABSTRACT

In this paper we assess the evolution of labor-market performance in the Organisation for Economic Co-operation and Development (OECD) over the last decade. We provide a survey of the literature dealing with labor-market performance in the OECD, finding that, while this literature tends to conclude that institutions are a key part of the story, the survey's results appear far less robust and uniform than is commonly believed. We then assess the robustness of the claims made in the most recent (2005) OECD follow-up study within a very similar cross-country setup, and highlight the impact of unobserved heterogeneity and outliers on the policy estimates. We find that in recent OECD cross-country data, changes in labor-market performance are consistently (and inversely) linked to its lagged level. Structural changes are also important: changes in the share of construction employees are very significant, even in the presence of various kinds of policy change indicators. As far as the latter are concerned, some consistent role seems to emerge only for active labor-market policies and (to a lesser extent) unemployment benefit reforms.

Keywords: Cross-Country Labor-market Comparisons; Labor-market Institutions; Product-market Institutions

JEL Classifications: E60; J60

1. INTRODUCTION

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

Table 1. Labor Market Performance in the United States and Selected European Countries: 1964–2004

(a) Employment Rates

	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
Continental Europe (unweighted average)	*0.65*	*0.65*	*0.62*	*0.63*	*0.68*
United Kingdom	0.69	0.69	0.64	0.67	0.71
United States	0.60	0.64	0.67	0.71	0.71

(b) Unemployment Rates

	1964	1974	1984	1994	2004
Austria	2.1	1.4	2.9	3.8	4.8
Belgium	1.4	2.3	10.8	9.8	7.9
Denmark	1.2	2.8	7.9	7.7	5.4
Finland	1.7	1.9	5.2	16.6	8.8
France	1.2	2.8	9.2	11.7	9.6
Germany	0.5	1.8	7.1	8.3	9.5
Italy	4.0	5.0	7.9	10.6	8.0
Netherlands	0.5	2.9	8.9	6.8	4.6
Norway	1.9	1.5	3.2	5.4	4.4
Portugal	2.5	1.7	8.9	6.9	6.7
Spain	1.3	0.6	16.5	19.8	11.0
Sweden	1.6	2	3.3	9.4	6.3
Continental Europe (unweighted average)	*1.7*	*2.2*	*7.7*	*9.7*	*7.3*
United Kingdom	1.4	2.0	10.9	9.3	4.7
United States	5.2	5.6	7.5	6.1	5.5

Source: AMECO database

As is also apparent from table 1, in more recent years some European countries have managed to improve their labor market performance substantially, while others apear to be still trapped at low employment rates. These diverging labor market trends captured the attention of citizens and analysts from several countries. Attention in Europe was drawn to strong unions, restrictive employment protection legislation, generous social-safety nets, and large tax wedges. Indeed, labor market rigidities are widely held to play a key role in the bad European unemployment performance of the 1980s and 1990s. This was the central message of the OECD's *Job Study* (1994). More recent follow-up reports (Elmeskov, Martin, and Scarpetta 1998; OECD 1999; Brandt, Burniaux, and Duval 2005) on the implementation of the *Job Study's* recommendations reiterate this view. They also provide evidence, mostly based on bivariate relationships between some policy reform indicators and unemployment/employment rates, suggesting a direct link between structural reform and labor market outcomes. Such empirical support is less clear-cut in leading academic papers, mostly based on multivariate analyses that have become increasingly complex since the pioneering work of Layard, Nickell, and Jackman (1991).[1]

In this paper we evaluate the OECD view through a different approach. Instead of relying on complex multivariate models, where possible misspecifications are hard to detect, we assess the robustness of the claims made in the most recent OECD follow-up study (Brandt, Burniaux, and Duval 2005) within a very similar cross-country set up and highlight the impact of unobserved heterogeneity and outliers on the policy estimates. In section 2 we provide a brief account of the relationships between labor market policies and outcomes, as seen from the perspective of the very influential *Job Study* (OECD 1994). Section 3 considers some of the factors most often mentioned in the literature as contributing to poor labor market performance in Europe: generous social-safety nets, high taxes, strong unions, and restrictive employment legislation. While the literature tends to conclude that labor market institutions are a key part of the story, their role appears far less robust and uniform than is commonly believed. This brings us to section 4, where we examine structural and institutional differences also outside the labor markets, such as industrial structure, financial markets, and the housing sector. We then undertake to provide some empirical evidence of a relatively novel kind upon these issues. In section 5, we set up an empirical framework calibrated on the most recent

[1] See, for instance, the accounts in Nickell (2003), Saint-Paul (2004), and Freeman (2005). Some years previously, Blank (1997) had already expressed doubts on the capability of purely market-oriented reforms to generate a well-functioning labor market.

OECD follow-up study (Brandt, Burniaux, and Duval 2005), and suggest some ways in which the impact of unobserved heterogeneity and outliers on policy estimates can be detected and modeled in a simple cross-section framework. In section 6 we bring this framework to the data, considering 21 long-standing member countries of the OECD over a relatively recent period (1994–2004). Some concluding remarks close the paper (section 7).

2. LABOR MARKET POLICIES AND OUTCOMES—THE OECD JOBS STRATEGY

In the 1980s, the labor market performance of most European countries showed clear signs of worsening vis-à-vis the United States, capturing the attention of citizens and policy makers in several European countries. By and large, the rise in unemployment appeared to be related to long-run structural factors rather than the outcome of purely cyclical forces. In 1994, the OECD published a very influential paper: the *Jobs Study*. The main thesis of the *Jobs Study* was that high unemployment in Europe originated from the existence of rigidities in the labor market. In their turn, these rigidities stemmed from the more pervasive public intervention in the labor market (meaning a generous welfare state and a highly redistributive tax policy) and the greater strength of unions, which characterized the European economies.

The *Jobs Study* gave some explicit guidelines for institutional reform that were upheld in subsequent studies [see, for instance, OECD (1999)]. It carefully singled out for modification the institutions, regulations, and policies that were thought to be most responsible for the slow adjustment of the labor market to external shocks. Five guidelines were related to factors not strictly within the province of the labor market: enacting growth-oriented, noninflationary macroeconomic policies; enhancing the creation and diffusion of technological know-how; eliminating impediments to the creation of enterprises; promoting product market competition; and improving education and training systems. However, these macroeconomic and structural policies were believed to play a secondary role in fruitful institutional change. There was then a guideline endorsing active labor market policies and four guidelines calling for labor market deregulation: more flexibility of working time (both short-term and lifetime); more adaptation of wages to local and individual productivity; less employment security provisions inhibiting the expansion of employment; and a welfare system (including the

tax system) more attuned to labor market efficiency. The U.S. economy was explicitly taken as a benchmark.

The OECD jobs strategy has been very influential and its basic tenets have been echoed by some important international organizations, such as the International Monetary Fund (IMF 2003: ch. 4). Other international organizations have endorsed—less enthusiastically—this strategy, especially in recent years (ILO 1996). Simultaneously with the publication of the OECD *Jobs Study*, the EU produced a similar document, the *White Book*, under the influence of the President of the European Commission, Jacques Delors. In that document, the unsatisfactory performance of European labor markets was linked to a set of structural factors not wholly congruent with those singled out in the OECD *Jobs Study*. The *White Book* laid more emphasis on the need to change an industrial structure that was biased in favor of declining sectors and to sustain job creation through appropriate industrial and growth-oriented macroeconomic policies. In subsequent years, however, the process of creating a single currency centered around the implementation of the so-called stability clauses drastically reduced the autonomy of member countries in the field of fiscal policy. Moreover, a single currency prevented the use of purely national monetary policies. An environment thus originated where idiosyncratic, adverse shocks could not be countered by domestic demand-management policies. It was then believed that only by enhancing labor market flexibility could one hope to offset the impact of such shocks on employment (Allsopp and Vines 1998; Artis 1998). This view has then been echoed in the European Employment Strategy, launched by the European Union at the Luxembourg Jobs Summit in 1997 and broadly maintained ever since.

After almost fifteen years, what can be said about the OECD jobs strategy? How do European labor markets compare to their situation in the early 1990s and to the United States? As already said in the introduction, the OECD has published some follow-up reports and, more generally, much has been written about the trends illustrated in table 1. Broadly speaking, a consensus has emerged to the effect that that there is currently no such thing as a European unemployment problem. Much of the unemployment problem in the EU is concentrated in four large countries: France, Germany, Italy, and Spain. Furthermore, it must be recognized that there has been a significant reduction in unemployment in Spain (and, to a lesser extent, in Italy) vis-à-vis previously very high levels (Garibaldi and Mauro 2002).

What then has been the role of the OECD jobs strategy in promoting these changes? Could the European labor market performance have been even better if this strategy had been followed more closely? The preeminence of recommendations related to labor market institutions that have characterized the OECD employment strategy has drawn much of the analytical attention on the evolution of labor market performance on changes in labor market policies. On the other hand, it is clear that European labor market performance has been hampered by generally sluggish output growth in recent years. The surge in growth that was expected to show up after the inception of the single European market has not materialized. More broadly, the emphasis on labor market institutions reflects, in our opinion, a neglect of factors such as the extent of product market competition, the efficiency of housing and financial markets, and the industrial composition of output and employment. In the following two sections we provide a very concise assessment of the literature existing on both sets of factors.

3. LABOR MARKET POLICIES AND OUTCOMES: THE STATE OF THE ART

We now consider how some of the factors most often mentioned in the literature as contributing to poor labor market performance in Europe (generous social-safety nets, high taxes, strong unions, and restrictive employment legislation) have evolved in recent years. We first provide a historical account and then an assessment of these institutional changes.

As a matter of fact, welfare states have undergone a thorough reform in most OECD countries. Most countries have reduced the funding of passive labor market policies. Also, unemployment benefits have been increasingly linked to the participation in training programs and, to a lesser extent, to mechanisms encouraging active job search during the period of benefit erogation. Moreover, labor supply has been stimulated through fiscal incentives, for instance, through the introduction of in-work credits.

Typically, in the United States the Temporary Assistance to Needy Families program replaced the Aid to Families with Dependent Children in 1996, thereby virtually eliminating lifetime entitlements to cash assistance for employable nonworking

adults.[2] Other notable changes in the United States included the Earned Income Tax Credit expansion in the early 1990s, a refundable tax credit operating through the federal tax system subsidising low-wage workers in low-income families. Following suit, many other OECD countries introduced stricter entitlement tests for the unemployment benefits and employment-friendly fiscal incentives, in particular in-work credits. These credits can be linked either to the number of hours worked or to the amount of labor income gained (the latter is especially used if data on working hours are not reliable).

The expenditure on active labor market policies (ALMPs) is considerably greater in Europe than in the United States. In Europe, this expenditure actually increased since the early 1990s, reaching 1% of GDP, on average (it was around 0.8% previously). In the United States, on the other hand, expenditure has been constant at much lower levels (0.2% of GDP). In the field of ALMPs, there is also a qualitative difference between Europe and United States. In Europe, ALMPs are more geared to the rise of employment, while in the United States their main aim is to improve the wage of treated workers (Kluve and Schmidt 2002).

A key point of the reforms of welfare states relates to the tax system. Following the tax reforms in the UK and the United States[3] around the 1980s, a number of OECD countries introduced tax cuts in the corporate income tax and in the marginal rates for high-wage individuals. Particularly incisive reforms of corporate taxes have been adopted in Austria, Belgium, Canada, Finland, and Germany. Until the mid-1980s, the highest personal income marginal rate was frequently above 65% in the OECD, while currently it is around 50% (Owens 2005) for most countries and, in any case, not above 59% even in countries with a strong welfare-state tradition (Denmark, Norway, Sweden, and the Netherlands). These reductions have also been enacted in very recent years. Indeed, marginal tax rates for high-wage income individuals were reduced by 2.9 percentage points in the EU15 and by more than 5 percentage points in Belgium, France, Greece, the Netherlands, and the United States between 2000 and 2003 (Sweden was the only country where these rates were slightly increased). Similarly, in the OECD area, the average corporate tax rate has dropped by almost 7 percentage points between 1997 and 2003 (OECD 2004b).

[2] Already before 1996 many welfare reforms (time limitations, work requirements, etc.) that ultimately became part of the federal law had already been introduced by a number of individual U.S. states.
[3] In the United States, the highest personal income marginal rate was lowered to 50% (from 70%) during the 1980 Reagan administration through the Economic and Recovery Tax Act, then to 28% in 1988 through the Tax Reform Act. It went back to 31% in 1991 and to 39.6% in 1993—the Omnibus Budget

Another institutional element that is often brought to the fore when discussing European labor market performance is the extent of employment protection. During the last two decades, employment-protection legislation has been extensively modified in most European countries. This was not so much true within regular employment as in the field of temporary employment and fixed-term contracts [a telling depiction of these developments is provided in OECD (2004a: ch. 2)]. As a consequence, reforms in employment flexibility mostly consisted in favoring the development of nonstandard forms of employment. A strong rising trend between 1985 and 2000 in the share of nonstandard employment was observed for some European countries, such as France, Italy, the Netherlands, Portugal, and Spain. However, OECD countries still differ considerably in their share of nonstandard jobs over total employment, and many countries show no clear trend.

Finally, strong unions and minimum-wage laws are often mentioned in order to explain poor labor market performance in Europe. Yet, powerful trade unions could not be conducive to unfavorable labor market performance if unions and firms can coordinate centrally over wage setting.[4] Across most of Europe, union power (as measured by union density) is weakening, but bargaining coordination is still quite high. The adoption of income policies in some countries (for example, Italy, Ireland, and the Netherlands) has contributed to increasing coordination in recent years. Bargaining coordination remains low in the UK (where, however, union density is not very high). In France and Spain the wage-bargaining setup may be among the least favorable in Europe, coupling high union coverage with only moderate coordination (Cadiou and Guichard 1999). There are some noteworthy cross-country patterns also as far as minimum-wage laws are concerned (Dolado, Felgueroso, and Jimeno 2000). 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.

Let us now turn to the literature assessing the impact of these institutional changes. We certainly do not aim to provide an exhaustive survey of a very vast literature, but rather to highlight the gist of the main empirical studies within the field.

As individual U.S. states experimented with welfare-to-work programs

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Reconciliation Act. In 2003 it was lowered again to 35%. In the UK, the highest rate was lowered in 1979 from 98 to 75%. In 1988 it was reduced again (to 40%) and has not been changed since then.

[4] Coordination is distinct from centralization, which strictly identifies the most dominant level at which wages are negotiated—plant, firm, industry, or economy. Nationwide wage agreements are usually coordinated, but highly coordinated bargaining need not be centralized.

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 programs in reducing welfare costs and increasing labor supply [most of the evidence is summed up in Bloom and Michalopolous (2001)]. Arguably the most interesting state-specific study is the study of the Minnesota Family Investment Program (MFIP), which is carefully analysed in Miller et al. (2000). MFIP was implemented in 1994 and provided both strong negative (participation in mandatory job search programs) and positive (strong earnings disregard) work incentives. The results from the assessment procedure show that both the "stick" of mandatory work requirements and the "carrot" of greater earnings disregards are effective and that their joint application brings about significantly positive interaction effects on work and income.

There is evidence that also in Europe, labor 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 programs in northern European countries, assessed in de Koning et al. (2004), is particularly relevant in this respect. In Nordic countries (as opposed to the UK), the role of ALMPs has been particularly strong (Fischer and Matthiessen 2005). As a matter of fact, Kluve and Schmidt (2002) report that in Europe, training and job-search policies are, on average, more effective than employment subsidies in improving the job prospects of the unemployed. In the United States, ALMPs have a tendancy to be less effective, also having modest effects on wages. By and large, policies favoring young first-job seekers are less effective than those designed for adult males. There is also considerable doubt about the long-run effects of job-creation schemes.

The impact of in-work tax credits is analyzed by Owens (2005), who maintans that their effects are stronger if these credits are given to individuals (like in Belgium, Finland, France, and the Netherlands) and not to households. Indeed there is some evidence that some workers drop out of the labor force when spouses benefit from tax credits. Even so, the impact upon employment of these tax credits is positive both in the United States and the UK (where they are mostly given to households), possibily because of their interaction with other institutional and structural changes.

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 labor supply literature suggests that tax rates can explain only a small part of this difference (Alesina, Glaeser, and Sacerdote 2005)

mostly concerning female labor supply. 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%. A key point about these estimates relates to the level at which wage bargaining takes place. Taxes on labor seem to matter less in countries where bargaining is either highly decentralized (as in the United States and the UK) or highly centralized and coordinated (as in the Scandinavian countries and Austria). In the latter, higher taxes are (partially) absorbed by a decline in gross wages. In continental European countries, however, where bargaining is carried out at the industry level, the tax wedge is likely to have a larger influence on labor costs and employment.

Empirical support for the impact of strict labor market regulations on aggregate labor 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 and 2004a) suggests that stricter employment protection does not raise aggregate unemployment, while increasing the duration of unemployment and reducing worker turnover. Particularly interesting findings are obtained using state data for the United States. Kugler and Saint-Paul (2004) show that a state's adoption of wrongful-discharge doctrines significantly slows the job-to-job flows of unemployed relative to employed workers. Autor, Donohue, and Schwab (2006), after a careful consideration of the literature and of the instrumental variables that should be adopted in such a policy evaluation exercise, conclude that at least one of the common-law exceptions to employment at will (the implied-contract doctrine of not terminating a contract without good cause) has a modest but robustly negative impact on the employment-to-population ratio in state labor markets. There is also some evidence that employment protection legislation lowers cross-country employment rates for youth and women, while increasing them for prime-age men (OECD 1999; Bertola et al. 2002). These relationships, however, fade away when allowance is made for various control variables.[5] Similar results are found for temporary jobs, whose development equally favors both job creation and job destruction (Cahuc and Postel-Vinay 2002). There is

[5] Autor, Donohue, and Schwab (2006) also suggest that wrongful-discharge doctrines discourage skilled labor demand in the long run, as high-skill workers have more bargaining power. This could counter the bias against relatively unskilled young and female workers.

also no consistent evidence of an association between aggregate employment rates and the incidence of part-time work (Garibaldi and Mauro 2002).

It has already been observed that strong trade unions could not be detrimental to the economy if unions and firms can coordinate centrally over wage setting. Consistent with these expecations, there is evidence that wages are more responsive to variations in aggregate labor market conditions if wage agreements are highly coordinated (OECD 1997: ch. 3; Layard and Nickell 1999: 3053, 3067; Belot and Van Ours 2004). On the other hand, if wage agreements are less coordinated or centralized, firm or industry wages are more responsive to specific shocks (Layard, Nickell, and Jackman 1991: ch. 4, table 4; OECD 1997: ch. 3, table 3.B.1). Summing up the weight of the empirical evidence on these matters is not easy. Aidt and Tzannatos (2003: ch. 5) conclude 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, Guichard, and Maurel 1999; Peeters and Den Reijer 2003). These results even suggest that a significant *increase* in the degree of real-wage flexibility took place in countries (for instance, Italy and the Netherlands) where the use of income policies contributed to increasing bargaining coordination.

The available evidence (Card and Krueger 1995; Dolado, Felgueroso, and Jimeno 2000) also 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 unemployment.

4. INDUSTRIAL COMPOSITION, FINANCE, AND HOUSING

We believe that in order to fully account for diverging labor market trends, structural and institutional differences between the United States and Europe should also be evaluated outside the labor market. There are three sets of factors that have been repeatedly mentioned at this juncture: the role of industrial structure (closely related to the extent of product market regulation), financial markets, and the housing sector.

A. Industrial Composition

Different industries have varying growth rates of production and demand, as well as different labor 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 labor 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 United States, 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 U.S. economy is at the root of its better employment performance. In 1971, services accounted for about 69% of total U.S. employment, and between 41% and 59% in European countries (based on 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 United States 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 United States 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 that characterized the 1950s and 1960s (Pini 1995) largely disappeared after the mid-1970s, and innovation began to be associated with labor saving technical change.

Naturally, the key question is what has stopped the reallocation of labor from declining to growing industries in EU countries? The view of Blanchard (1997) and Caballero and Hammour (1998) is that difficulties in sectoral labor 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) that might not be supplied adequately through the market. There is evidence by D'Acunto, Destefanis, and Musella (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 region of southern Italy. According to Paci, Pigliaru, and Pugno (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 United States 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 labor 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: 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 (2006). 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 labor market outcomes. The

stringency of entry regulations appears to be negatively associated with employment rates (Nicoletti et al. 2001) and entrepreneurial activity (Fonseca, Lopez-García, and Pissarides 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 increases, triggering a reduction in labor 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 United States 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 (childcare, 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 (2006) 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.

B. 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% of GDP in the 1960s and early 1970s. Investment rates have since declined and gross fixed capital formation has averaged about 19% of GDP in recent years. However, at the end of the 1990s, European investment levels were still above those in the United States [around 17% of GDP; see Hurst (1998)].

Obviously, credit markets differ in many ways between the United States 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 United States 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 United States, 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 labor 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 labor market and credit market imperfections in constraining firm size across OECD countries.

C. The Housing Market

Barriers to geographical mobility are clearly an obstacle to the efficient functioning of the labor market. Layard and Nickell (1999: table 13) provide convincing *prima facie* evidence that geographical mobility is lowest in southern Europe and highest in the United States and the Scandinavian countries. In the literature on geographical mobility, the role of housing availability and affordability has been recently emphasised as a determinant of long-distance movements. The different user costs of housing between two areas affect the permanent income prospects that a household faces in its decision to move. 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.

Hughes and McCormick (1985) examine the implications of UK housing policy for internal migration. Bover, Muellbauer, and Murphy (1989) emphasize the importance of regional house-price differentials for labor mobility in the UK. In addition, Jackman and Savouri (1992) provide evidence for an impact of relative house prices on UK interregional 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, Nucci, and Sestito (2000) argue that the cost of housing is likely to represent an important disincentive to move and, to a considerable extent, accounts for the puzzling evidence of falling mobility levels in Italy.

Homeowners are relatively immobile, presumably because they find it much more costly than private renters to move in search of new jobs. Evidence from the British Social Attitudes Surveys reveals the greater (expressed) willingness to move of renters compared to homeowners (Oswald 1997). 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.

If owning a house reduces geographical mobility, the consequences for the labor market of secularly rising homeownership could be profound. Could the rise in homeownership be part of the high European unemployment story? 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 and 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.

Levels of homeownership and unemployment rates are correlated at a surprisingly high level 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 United States. 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 very high unemployment rates. This relationship appears to hold in quite different circumstances and for many places. Oswald (1997) reports evidence favorable to this hypothesis for a panel of OECD countries and for the U.S. 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.

5. A SET-UP FOR EMPIRICAL ANALYSIS

Since the OECD's *Job Study* (1994), labor market rigidities are held to play a key role in the relatively bad European labor market performance. Recent OECD follow-up reports (Elsmeskov, Martin, and Scarpetta 1998; OECD 1999; Brandt, Burniaux, and Duval 2005) reiterate this view. They also provide evidence, mostly based on bivariate relationships between some policy reform indicators and unemployment/employment rates, suggesting a direct link between structural reform and labor market outcomes.

The most recent OECD follow-up report (Brandt, Burniaux, and Duval 2005) considers an index of the intensity of reform policy measuring the magnitude and comprehensiveness of the labor market reforms, broadly linked to the OECD's jobs strategy, which were undertaken between 1994 and 1999.[6] Their concern is to detect the extent to which these reforms had an effect on employment and unemployment rates during subsequent years. Believing that some time is needed before the benefits of reform materialize, Brandt, Burniaux, and Duval (2005) introduce a five-year time lag between the implementation of policy reforms and the measurement of their labor market consequences. In accordance with previous follow-up reports, they find empirical support for the hypothesis that OECD-inspired policy reforms improve labor market performance. In particular, they report significant Spearman correlation coefficients among the reform policy index and the rates of employment and unemployment (respectively of 0.48 and -0.50). Such unequivocal empirical support rarely stems leading academic papers.

Empirical evidence on the labor market rigidity view mostly comes from multivariate analyses that have become increasingly complex since the pioneering work of Layard, Nickell, and Jackman (1991). While these studies tend to conclude that institutions (welfare safety nets, unions, taxation, and employment protection) are a key part of the story, their results are less robust and uniform than is commonly believed. According to Glyn et al. (2003), the literature turns up little evidence for performance-worsening effects of union density and mixed evidence for unemployment insurance and employment protection legislation. At the same time, performance-enhancing effects of collective-bargaining coordination and (to a smaller extent) active labor market policies tend to emerge. An important part of the explanatory power of labor market institutions derives in fact from these two institutions' ability to enhance performance.

[6] For details about its calculation, see annexes 2 and 3 in Brandt, Burniaux, and Duval (2005).

In this paper we evaluate the OECD view through a different approach. Instead of relying on complex multivariate models, where possible misspecifications are hard to detect, we assess the robustness of the claims made in Brandt, Burniaux, and Duval (2005) within a very similar cross-country set-up and suggest some ways in which the impact of unobserved heterogeneity and outliers on policy estimates can be detected and modeled in this simple cross-country framework.

We consider 21 long-standing member countries of the OECD (Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, the Netherlands, Norway, New Zealand, Portugal, Spain, Sweden, Switzerland, the UK, and the United States) over recent years (1994–2004, although some of our variables stretch back to 1988). We thus exclude from our sample countries with less than one million inhabitants and countries that either acceded to OECD in fairly recent years or that still have a GDP per capita far below the OECD mean. Our sample differs from Brandt, Burniaux, and Duval's, but we believe that our choice—dictated to some extent by data reasons—makes for more reliable results. We also show below some evidence according to which our main points are not likely to be affected by this sample selection.

We measure labor market performance through (cycle-adjusted) changes in the rates of employment and unemployment, and we relate these changes to a set of indicators for labor market institutions, mostly from the OECD. We begin from bivariate relationships between policy change indicators and labor market performance, show in a simple way that they cannot allow for the effects of unobserved heterogeneity and outliers, and proceed to reassess the role of labor market institutions.

The basic regression format, closely following the set-up in Brandt, Burniaux, and Duval (2005) is:

$$(r\_2004_i - r\_1994_i) = f (Policy\ changes_i) \qquad (1)$$

The dependent variable stands for changes in either the employment or the unemployment rate for country *i* between 1994 and 2004.[7] Following Brandt, Burniaux, and Duval, labor market performance reacts to policy changes with a 4–5 year lag. Our

[7] We adopt a linear specification, hence changes are absolute differences in employment or unemployment rates and levels are not logged. As will be made clear below, this specification yields more readily interpretable results than its loglinear counterpart. Non-nested testing of the two specifications suggests that their goodness of fit is virtually equal.

policy change indicators include, first and foremost, the index of the intensity of reform policy computed by Brandt, Burniaux, and Duval (2005) for the 1994–99 period. We also consider separately the components of this index, that is, indicators relating to changes in the following policy fields: taxes and social security contributions; employment protection legislation; unemployment benefit system; active labor market policies; retirement and pension schemes; wage formation; and part-time and working-time flexibility. Given that policy changes may take some time to work their effects out, we add to the above the ten-year changes (1989–99) in the indexes of employment protection legislation and wage bargaining coordination calculated by the OECD. We also consider both five- and ten-year changes (1988–93 and 1988–98, respectively) in the OECD indexes of product market regulation and ten-year changes (1991–2001) in homeownership rates calculated from various sources (clearly the latter is not *stricto sensu* a policy change indicator, but it is convenient for exposition purposes to range it in this category).[8]

Results from equation (1) will be commented on in the following section, but it may be appropriate to point out here that the *prima facie* evidence is, like in Brandt, Burniaux, and Duval (2005), favorable to the OECD view. Consider the scatter plots in figures 1 and 2. They suggest that the basic result obtained in the OECD follow-up report is not affected by our sample choice. The Spearman correlation coefficients between the composite policy change indicator and rates of employment and unemployment is 0.61 and -0.53, respectively.

[8] More details about all these indicators are provided in the appendix.

Figure 1. Plotting Δer vs Brandt-Burniaux-Duval's Intensity of Reform Policy Indicator

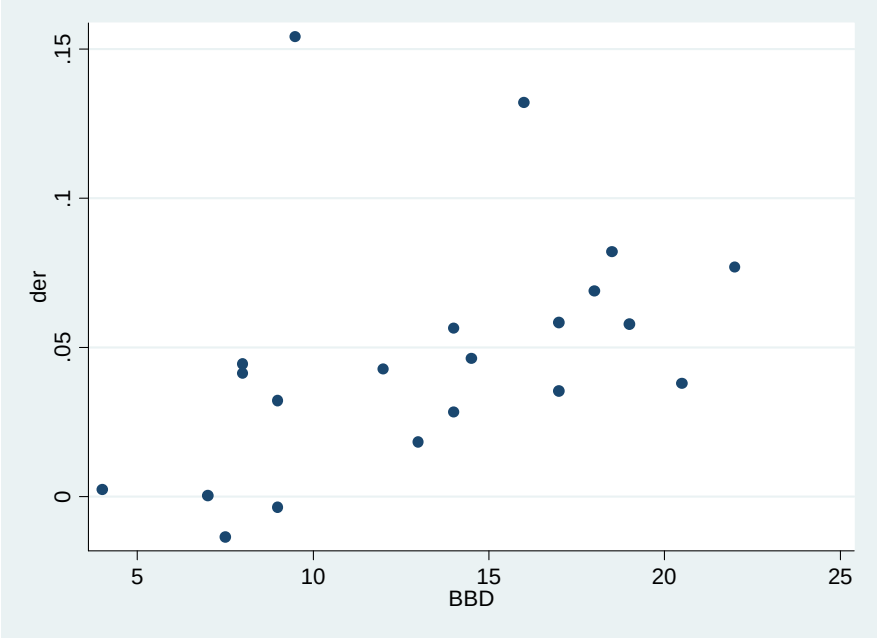
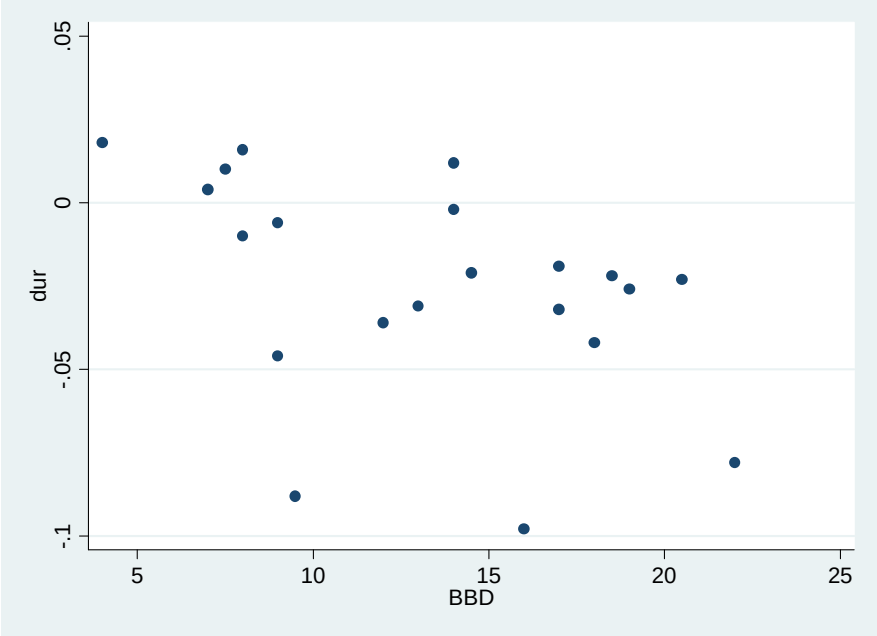


Figure 2. Plotting Δur vs Brandt-Burniaux-Duval's Intensity of Reform Policy Indicator



There are various misgivings, however, that can aired about this kind of evidence. Perhaps the most obvious one, in the light of the modern econometric literature about policy evaluation, is that policy changes are not randomly distributed across countries. When the labor market performance is bad, governments may be more

willing to implement OECD-recommended labor market policies, just as suggested in Brandt, Burniaux, and Duval (2005: 58), that succeed in raising employment growth. On the other hand, for example, in response to bad labor market performance governments may enact other types of policies not contemplated in Brandt, Burniaux, and Duval (2005), such as income policies or wage agreements. Thus, the positive correlation between the 1994–99 intensity of policy reforms and improvements in labor market performance may be spurious, arising from their correlations with policy initiatives that have little to do with the OECD strategy or with other unobserved phenomena. We also find, indeed, strong negative correlation (Spearman ρ's equal to -0.69 and -0.72, respectively) between employment- and unemployment-rate changes and their initial-year's levels. In order to control for all these factors, we include in the estimates the 1994 (initial-year) rates, a strategy similar to the inclusion of past history variables in microeconometric policy evaluation analysis.

$$(r\_2004_i - r\_1994_i) = f (Policy\ changes_i ,\ r\_1994_i) \qquad (2)$$

A further point is that the cross-sectional set-up implies that we share with Brandt, Burniaux, and Duval the hypothesis that policy changes affect all countries with equal strength. However, we do not have to also share the hypothesis that all countries are hit by the same vector of shocks. The discussion in section 6 should, in fact, alert us to the possibility that changes in industrial structure, not wholly amenable themselves to policy changes, could have an impact of their own on labor market performance. In order to allow for this possibility, we rely on the following specification:

$$(r\_2004_i - r\_1994_i) = f (Policy\ changes_i ,\ r\_1994_i ,\ Shocks_i) \qquad (3)$$

The $Shocks_i$ in equation (3) will be proxied in empirical work by changes in the share of construction or service employees over total employment.

Finally, it clearly emerges from figures 1 and 2 that our sample may contain some outlying countries (Ireland, Spain, and, for unemployment, Finland), exerting an anomalous influence on the estimation results. In order to provide evidence on this, we rely on Cook's distance (C) and DfBeta (DfB), which are both statistics for assessing the influence of a given observation. Observations with larger C values than the rest of the data are those which have a relatively greater influence on the coefficient estimates. If DfB is greater than zero, the observation increases the slope; if it is smaller than zero, it decreases the slope.

Once it is decided that there is an outlier problem, we can proceed in various ways. If there are only one or two clearly outlying countries, we could simply exclude them from the estimates. Otherwise we can rely on robust regression techniques. Here we adopt median regression (styled as *qreg* by Stata 9.2, our estimation package) and another type of robust technique (*rreg*), which relies on a weighting scheme giving outliers less weight. One difference between *qreg* and *rreg* is that they attempt to estimate different versions of the central tendency: *qreg* estimates the median, while *rreg* comes closer (in principle) to estimating a robust mean. The difference may be negligible in essentially symmetrical distributions, but for skewed distributions where the mean and median are not expected to be equal, one would expect their estimates to deviate systematically. When dealing with skewed distributions where the median is noticeably different from the mean, *rreg* may be more appropriate than *qreg*.

6. SOME RECENT EVIDENCE

We now bring to the data the empirical set-up described in the previous section. We begin by discussing the results from equation (1), a bivariate relationship between policy change indicators and labor market performance akin to the exercise carried out in the OECD follow-up reports. We then proceed to equations (2) and (3), considering the impact upon the policy coefficients of past labor market performance and structural shocks. As far as the latter are concerned, we only report estimates including the changes in the share of construction employees over total employment. The share of service employees is virtually never significant. In order to understand the evidence correctly, it is important to notice that all policy indicators are computed in such a way as to affect positively changes in employment rates and negatively changes in unemployment rates.

The first batch of results is presented in tables A.1 and A.2. There are a few items that characterize these results and that, to a large extent, remain true also in subsequent analysis. First of all, the impact of policy change indicators is very heterogeneous.

More specifically, reforms in taxes, as well as in employment protection legislation, are somehow significant in equation (1), but largely lose significance in the other equations (*epl* even acquires a "wrong" sign in the unemployment equation). Part-time and working-time flexibility reforms have a consistently wrong sign, with varying

degrees of significance. Retirement and wage formation reforms are basically never significant, as are active labor market policies in the employment equation. The latter, however, becomes significant for unemployment in equations (2) and (3). Unemployment benefit reforms are always significant and rightly signed for unemployment, and also have some impact on employment. The Brandt-Burniaux-Duval composite indicator is significant in equation (1) for both employment and unemployment, but heavily loses significance in equations (2) and (3). The other variables are generally not significant.

The second main result is that past labor market performance matters. The lagged-level variable is always significant and its inclusion affects policy coefficients, generally decreasing their significance. Similarly, the changes in the share of construction employees are very significant, although their influence on the policy coefficients is arguably weaker.

At any rate, the estimates in tables A.1 and A.2 are likely to be influenced by anomalous observations, whose existence is apparent from figures 1 and 2. We provide eevidence on this matter through two different diagnostics: Cook's distance (C) and the DfBeta (DfB) of the policy change indicator. C measures the effect of deleting a given observation; observations with larger C's than the rest of the data have correspondingly higher leverage. Fox (1991: 34) suggests values of C greater than $4/(n - k - 1)$ as a cut-off criterion, where n is the number of observations and k is the number of regressors. For us, this cut-off is equal to $4/18 \approx 0.22$. Other authors suggest however $C > 1$ as the strong indication of an outlier problem. Similarly, an observation may be considered an influential outlier if $|DfB| > 2$. An alternative rule of thumb suggests a critical $|DfB| > 2/(n^{0.5})$ – equal to $2/(21^{0.5}) \approx 0.44$ for us. Recall that if $DfB > 0$, the observation increases the slope; if <0, the observation decreases the slope. In table A.3 we only provide C's above 0.22, while in table A.4 we show the couplets of highest and lowest DfBs, underlining the values above the 0.44 threshold.

In line with our expectations, Ireland and Spain very often show up as influential observations. Switzerland (for employment), Greece, and Portugal (for unemployment) also are very frequent outliers (Finland is not apparently a very serious problem country, but this is not the key issue here). The bottom line is, however, that the outlier problem is by no means limited to these countries and cannot subsequently be solved by singling them out. We then proceed to estimate equations (1)–(3) though robust regression

methods, *rreg* and *qreg*. We present in tables A.5 and A.6 the results obtained with these procedures.

First of all, *qreg* estimates are always less significant. This is to be expected, as median regression is relatively inefficient and our sample is pretty small. When comparing the two techniques, we thus concentrate on coefficient *sizes*. Given that the lagged labor market performance variable is always significant, we confine our comments to equations (2) and (3). Tax, retirement, and wage formation reforms are never significant, while reforms concerning employment protection legislation, as well as part-time and working-time flexibility, appear sometimes significantly, but with the wrong sign. Unemployment benefit reforms and, especially, active labor market policies are slightly more significant and tend to show up in regressions with very close coefficient values. Finally, the Brandt-Burniaux-Duval composite indicator is significant for employment, but not for unemployment. Given the previous evidence on the single indicators, it could, however, be asked how much this result does not crucially depend upon the role of active labor market policies. In table 4, below, we show some estimates relating to this matter.

It turns out that an indicator created by aggregating unemployment benefit reforms with active labor market policies is virtually just as significant as Brandt-Burniaux-Duval composite indicator and always more significant than Brandt-Burniaux-Duval composite indicator *minus* active labor market policies. Hence, our finding at least partially reiterates the point made in Glyn et al. (2003), according to which much of the explanatory power of labor market institutions for labor market performance derives in fact from the performance-*enhancing* effects of active labor market policies. A final remark is that all these indicators are much more significant for employment than for unemployment.

Table 4. Summing Up the Evidence

Rreg														
	Δer							*Δur*						
		bbd	ub + almp	bbd - almp	bbd	ub + almp	bbd - almp		bbd	ub + almp	bbd - almp	bbd	ub + almp	bbd - almp
(column header)	--	*.0032 (2.84)*	*.0045 (2.65)*	*.0021 (1.20)*	*.0029 (2.55)*	*.0036 (1.88)*	*.0023 (1.60)*	--	*-.0003 (0.39)*	*-.0015 (1.46)*	*.0002 (0.23)*	*-.0008 (1.11)*	*-.0015 (1.99)*	*-.0001 (0.21)*
er94	*-.14 (1.80)*	*-.10 (1.49)*	*-.19 (3.03)*	*-.23 (2.72)*	*-.07 (1.02)*	*-.17 (2.47)*	*-.14 (1.80)*	*-.49 (4.82)*	*-.59 (5.47)*	*.59 (7.03)*	*-.63 (5.72)*	*-.40 (3.81)*	*-.41 (5.57)*	*-.46 (3.85)*
Δcsh9500	*2.02 (2.64)*	--	--	--	*1.59 (2.57)*	*1.19 (1.69)*	*2.08 (2.98)*	*-1.28 (2.99)*	--	--	--	*-1.59 (3.99)*	*-1.59 (5.11)*	*-1.37 (3.03)*

Qreg														
	Δer							*Δur*						
		bbd	ub + almp	bbd - almp	bbd	ub + almp	bbd - almp		bbd	ub + almp	bbd - almp	bbd	ub + almp	bbd - almp
(column header)	--	*.0029 (1.46)*	*.0036 (2.13)*	*.0032 (1.21)*	*.0025 (1.20)*	*.0023 (0.73)*	*.0028 (0.93)*	--	*-.0007 (0.59)*	*-.0012 (1.43)*	*.0013 (1.33)*	*-.0013 (1.34)*	*-.0014 (1.30)*	*-.0006 (0.36)*
ur94	*-.20 (1.01)*	*-.12 (1.22)*	*-.19 (2.61)*	*-.13 (1.16)*	*-.12 (0.87)*	*-.21 (1.45)*	*-.12 (0.72)*	*-.49 (4.82)*	*-.60 (5.04)*	*-.58 (7.17)*	*-.74 (7.17)*	*-.31 (2.56)*	*-.51 (4.72)*	*-.35 (1.59)*
Δcsh9500	*2.65 (1.57)*	--	--	--	*1.02 (0.78)*	*1.41 (0.96)*	*1.37 (0.82)*	*-1.90 (3.52)*	--	--	--	*-2.01 (3.58)*	*-1.01 (1.76)*	*-1.92 (2.69)*

Summing things up, the gist of our evidence is that in recent OECD cross-country data, changes in labor market performance are consistently (and inversely) linked to its lagged level. Structural changes are also important: changes in the share of construction employees are very significant, even in the presence of various kinds of policy change indicators. As far as the latter are concerned, some consistent role seems to emerge only for unemployment benefit reform and, even more so, active labor market policies.

7. CONCLUDING REMARKS

In the first part of this paper, we considered in detail some factors often mentioned in the literature as contributing to poor labor market performance in Europe. The evidence here is that coordinated bargaining helps achieve a better labor market performance, even in conjunction with strong unions. Empirical evidence also reveals that there are strong interactions between labor 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 United States. On the other hand, empirical support for the influence of strict labor market regulations on unemployment appears to be weak. Similarly, the development of nonstandard jobs does not appear to have had a significant impact on aggregate labor market performance.

The evaluation of structural changes in the United States and European labor 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 labor market performance and that it is likely to respond favorably to reduced product market regulation. An independent impact of financial structure on labor market performance has not yet been convincingly demonstrated, but interactions seem to exist between financial market and labor market imperfections. The structure of the housing market has, on the other hand, a seemingly strong impact on the geographical mobility of labor.

In the second part of the paper, we turned to the evidence provided by the OECD follow-up reports, mostly in Brandt, Burniaux, and Duval (2005), and evaluate their results in a very simple cross-country set-up. We suggested that the impact of unobserved heterogeneity can be modeled through the lagged level of the employment (or unemployment) rate, as well as through some structural shocks, and carefully assessed the existence of outliers, also providing two kinds of robust estimates. We are obviously aware

that this exercise is still subject to many strictures, perhaps foremost of which is the hypothesis of equal coefficients across countries. We believe, however, that our analysis could contribute to a better assessment of the OECD view by examining it in a framework akin to that of the typical OECD follow-up report and free from the complexities of full-fledged multivariate modeling.

Our main results are that in recent OECD cross-country data, changes in labor market performance are consistently (and inversely) linked to its lagged level. Structural changes are also important; changes in the share of construction employees are very significant, even in the presence of various kind of policy change indicators. As far as the latter are concerned, some consistent role seems to emerge only for unemployment benefit reforms and, even more so, active labor market policies. There are two additional points that should be noticed. The first is that the policy change indicators, if they matter at all, seem to do so for the employment, as distinct from the unemployment, rate. This is interesting because it points to some important differences in the determination of these two indicators of labor market performance, at least partially contradicting the oft-heard argument that, in recent years, countries with high unemployment rates also tended to have low labor force participation rates (Saint-Paul 2004). The other point is that some countries, especially Ireland and Spain, seem to possess some distinctive factors setting them apart from the rest of the sample. This matters not only inasmuch as the impact of influential country observations on the overall results should be carefully taken into account, but also because undue generalizations from particular country experiences should be taken with a lot of caution.

Summing up, our evidence first shows how sensitive the OECD follow-up evidence is to changes in its basic (arguably too simple) set-up. It also shows that the most comprehensive available measures of institutions and policies can only account for a minor part of the differences in labor market performance across OECD countries over the past ten years. Such evidence lends support to Atkinson's (2001: 48–9) view that "aggregate cross-country evidence, interesting though it may be, cannot on its own provide a reliable guide to the likely consequences of rolling back the welfare state."

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APPENDIX

Legend of the Tables

Δ**er** = changes in the rate of employment, 1994–2004
Δ**ur** = changes in the rate of unemployment, 1994–2004
er94 = rate of employment, 1994
ur94 = rate of unemployment, 1994
Δ**csh9500** = changes in the share of construction employees over total employment, 1995–2000
tax = index of reforms in taxes and social security contributions, 1994–99
epl = index of reforms in employment protection legislation, 1994–99
ub = index of reforms in the unemployment benefit system, 1994–99
almp = active labor market policies, 1994–99
retir = index of reforms in retirement and pension schemes, 1994–99
wage = index of reforms in wage formation, 1994–99
flex = index of reforms in part-time and working-time flexibility, 1994–99
bbd = composite index of the intensity of reform policy, 1994–99
epl8999 = changes in the OECD index of employment protection legislation
crd8999 = changes in the OECD index of wage bargaining coordination, 1989–99
dereg9398 = changes in the OECD index of product market regulation, 1993–98
dereg8898 = changes in the OECD index of product market regulation, 1988–98
mob9101 = changes in the homeownership rates, 1991–2001

Note: The absolute values of t-ratios are given in brackets.

Table A.1. OLS - Dep. var.: Δer

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	.0057	.0075	.0035	-.0002	.0049	.0043	-.0197	.0034	.0153	.0102	.0202	-.0041	-.1128
	(2.45)	(1.53)	(0.96)	(0.02)	(0.88)	(0.65)	(1.36)	(2.47)	(0.55)	(1.17)	(1.18)	(0.21)	(1.02)
(column header)	.0011	.0037	.0056	.0017	.0014	.0006	-.0201	.0017	-.0248	-.0031	.0041	.0078	.0798
	(0.39)	(1.07)	(2.87)	(0.42)	(0.27)	(0.15)	(3.18)	(1.25)	(1.36)	(0.41)	(0.30)	(0.55)	(0.63)
er94	-.29	-.28	-.32	-.31	-.30	-.30	-.31	-.27	-.35	-.31	-.30	-.31	-.32
	(2.85)	(3.29)	(3.67)	(3.44)	(3.20)	(3.45)	(4.89)	(2.51)	(3.97)	(3.47)	(3.31)	(3.44)	(3.43)
(column header)	.0013	.0035	.0030	.0008	.0043	.0043	-.0099	.0018	-.0118	-.0002	.0082	.0071	.0815
	(0.60)	(1.27)	(1.52)	(0.26)	(0.95)	(1.06)	(1.37)	(1.55)	(1.07)	(0.05)	(0.62)	(0.47)	(0.92)
er94	-.19	-.18	-.22	-.21	-.19	-.19	-.23	-.17	-.23	-.20	-.19	-.21	-.22
	(1.96)	(2.68)	(2.96)	(2.82)	(2.65)	(2.78)	(3.31)	(1.97)	(3.74)	(2.45)	(2.74)	(2.65)	(3.04)
Δcsh9500	1.99	1.96	1.75	1.96	2.12	2.10	1.44	2.01	1.86	1.98	2.01	1.97	1.98
	(3.24)	(3.17)	(2.74)	(3.16)	(3.47)	(3.64)	(2.52)	(3.39)	(3.30)	(3.27)	(3.50)	(3.30)	(3.70)

Table A.2. OLS - Dep. var.: Δur

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	-.0042	-.0018	-.0071	-.0024	-.0069	.0015	.0210	-.0029	.0033	-.0007	-.0288	-.0047	-.0697
	(1.74)	(0.45)	(2.15)	(0.45)	(1.65)	(0.28)	(2.45)	(2.61)	(0.17)	(0.08)	(1.75)	(0.32)	(0.77)
(column header)	-.0013	.0023	-.0035	-.0021	-.0012	.0034	.0125	-.0007	.0222	.0014	-.0034	-.0124	-.0748
	(0.79)	(1.10)	(2.37)	(2.43)	(0.31)	(0.86)	(3.09)	(0.96)	(1.78)	(0.32)	(0.27)	(1.40)	(1.49)
ur94	-.63	-.69	-.62	-.66	-.65	-.67	-.60	-.63	.70	-.66	-.65	-.68	-.66
	(10.87)	(7.97)	(9.90)	(9.32)	(6.67)	(9.08)	(6.66)	(7.78)	(8.96)	(8.99)	(6.49)	(8.43)	(9.49)
(column header)	-.0011	.0023	-.0032	-.0021	-.0038	.0018	.0085	-.0009	.0189	.0019	-.0093	-.0126	-.1133
	(0.88)	(1.28)	(2.64)	(2.50)	(1.03)	(0.63)	(1.60)	(1.31)	(1.65)	(0.77)	(0.89)	(1.34)	(2.06)
ur94	-.50	-.55	-.49	-.52	-.46	-.53	-.53	-.46	-.57	-.52	-.47	-.53	-.50
	(5.46)	(6.63)	(6.93)	(6.82)	(4.12)	(6.15)	(5.42)	(4.51)	(6.02)	(6.08)	(4.72)	(6.35)	(7.54)
Δcsh9500	-1.08	-1.10	-1.03	-1.08	-1.29	-1.05	-.72	-1.17	-.98	-1.10	-1.19	-1.10	-1.26
	(2.17)	(2.64)	(2.12)	(2.15)	(2.01)	(2.05)	(1.14)	(2.07)	(2.10)	(2.08)	(2.07)	(1.93)	(3.61)

Table A.3.a. Cook's Distance - Dep. var.: Δer

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(1)	Ireland .30	Ireland .26 Spain .67	Spain .32	Austria .49 Spain 2.78	Ireland .22	Spain .27	Spain 1.01	Spain .42	Ireland .24 Spain .47	Ireland 32	Ireland .24 Spain .30	--	--
(2)	Spain .54	Ireland .35 Spain .43	Spain .56	Austria .29 Spain 2.33	Greece .22 Ireland .23 Spain .40	Spain .39	Spain .23 Switzer. .27	Spain 1.23	Ireland .22 Spain .48	Ireland .25 Italy .32 Spain .39	Spain .38	Spain .43 Switzer. .51	Portugal .39 Spain .37
(3)	Spain .38	Spain .25 Switzer. .25	Spain .40 Switzer. .28	Spain 1.64 Switzer. .24	Spain .28 Switzer. .62	Spain .25 Switzer. .29	Spain .44 Switzer. .27	Spain 1.00 Switzer. .37	Spain .33	Spain .27 Switzer. .29	Spain .26 Switzer. .28	Spain .29 Switzer. .99	Spain .24 Switzer. .24

Table A.3.b. DfBeta's - Dep. var.: Δer

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(1)	Italy -.29 US -.18 Japan .21 Ireland .69	Ireland -.52 Australia .26 Austria .35 Spain 1.16	Spain -.61 Denmark -.28 Japan .29 Ireland .41	Spain -3.08 Sweden -.06 Japan .46 Austria .94	Ireland -.47 Sweden -.37 Switzer. .37 US .41	Ireland -.38 Denmark -.30 Netherlands .21 Spain .53	Spain -1.48 Ireland -.41 US .35 France .35	Spain -.80 Denmark -.34 Ireland .28 Austria .31	Sweden -.55 Ireland -.53 US .27 Spain .92	Australia -.30 Italy -.28 Sweden .14 Ireland .72	Australia -.32 Canada -.30 Switzer. .24 Japan .33	Spain -.60 Ireland -.56 Netherlands .33 Switzer. .48	Spain -.29 Netherlands -.21 Austria .23 Ireland .40
(2)	Spain -.53 Italy -.50 Ireland .46 New Zea. .54	Ireland -.67 Australia -.21 Austria .38 Spain .58	Finland -.33 Spain -.31 Italy .21 Ireland .37	Spain -2.33 Greece -.18 Ireland .22 Austria .86	Ireland -.48 Austria -.33 New Zea. .42 Greece .63	Ireland -.39 New Zea. -.16 Spain .24 Netherlands .38	Spain -.57 Belgium -.34 Netherlands .22 US .36	Spain -1.29 Italy -.25 Austria .33 Greece .38	Ireland -.60 Belgium -.32 Spain .25 France .49	Italy -.80 Spain -.31 Switzer. .25 Ireland .52	Canada -.33 Ireland -.23 Netherlands .17 Greece .55	Switzer. -.77 Ireland -.41 New Zea. .34 Netherlands .41	Portugal -1.03 Netherlands -.57 Austria .29 Ireland .50
(3)	US -.55 Spain -.47 Greece .37 New Zea. .54	Ireland -.67 Australia -.21 Austria .38 Spain .58	Spain -.44 Finland -.22 US .32 Canada .36	Spain -2.10 Greece -.18 Japan .26 Austria .80	Switzer. -.78 Sweden -.38 Greece .46 US .59	Denmark -.40 Australia -.33 Spain .28 Netherlands .44	Spain -.92 Belgium -.26 Sweden .19 Netherlands .24	Spain -1.28 Denmark -.35 Greece .29 Netherlands .36	Canada -.24 New Zea. -.22 US .27 Spain .33	Italy -.33 US -.26 Ireland .28 Switzer. .38	Canada -.66 Switzer. -.24 Germany .26 Greece .47	Switzer. -1.31 UK -.46 US .36 Netherlands .55	Netherlands -.76 Sweden -.18 Canada .18 Austria .26

Table A.4.a. Cook's Distance - Dep. var.: Δur

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(1)	Ireland .39	Ireland .23 Spain .48	Spain .26	Spain 2.35	Ireland .29	--	Spain .28	Spain .27	Ireland . 24 Spain .31	Ireland .49	Germany .24	Ireland .32	--
(2)	Ireland .38	Ireland .34	Ireland .26	Ireland .25	Greece .35 Ireland .49	Ireland.28	Ireland .28 Spain 1.35	Ireland .25	France .25 Ireland .32	Ireland .55	Germany .25 Greece .27 Ireland .33	Ireland .48	Ireland .27
(3)	Ireland .31 Portugal .27	Ireland .26 Portugal .32	Ireland .29 Portugal. 28	Ireland .29 Portugal .26	Greece .32 Ireland .45 Portugal .46 Switzer. .42	Ireland .29 Portugal .29	Ireland .49 Portugal .30 Spain .90	Ireland .29 Portugal .42	Portugal .25	Ireland .56 Portugal .27	Greece .25 Ireland .35 Portugal .32	Ireland .66 Portugal .26 Switzer. .50	Portugal .34

Table A.4.b. DfBeta's - Dep. var.: Δur

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(1)	Ireland	Spain	Finland	Finland	Finland	Spain	France	Finland	Spain	Ireland	Finland	Greece	Ireland
	-.82	-.93	-.54	-.49	-.50	-.38	-.46	-.45	-.69	-.94	-.43	-.38	-.40
	Japan	Finland	Ireland	Austria	Greece	Australia	Belgium	Ireland	Japan	Norway	Japan	Switzer.	Portugal
	-.30	-.30	-.46	-.45	-.34	-.28	-.42	-.33	-.32	-.12	-.34	-.30	-.39
	Italy	Portugal	Denmark	Norway	Austria	Germany	Ireland	Denmark	Greece	Australia	Canada	Spain	UK
	.38	.26	.48	.11	.23	.32	.47	.29	.30	.32	.44	.43	.22
	Sweden	Ireland	Spain	Spain	Ireland	Ireland	Spain	Spain	Ireland	Finland	Germany	Ireland	Japan
	.39	.46	.52	2.62	.59	.40	.69	.53	.54	.51	.60	.68	.30
(2)	Ireland	Greece	Greece	New Zea.	Greece	Australia	Spain	Greece	France	Ireland	Greece	Greece	Ireland
	-.73	-.53	-.42	-.22	-1.00	-.65	-1.09	-.63	-.70	-.98	-.83	-.67	-.40
	New Zea.	Netherlands	Ireland	Ireland	New Zea.	Denmark	Belgium	New Zea.	Sweden	New Zea.	Australia	New Zea.	Greece
	-.47	-.41	-.30	-.19	-.50	-.55	-.24	-.32	-.69	-.04	-.28	-.33	-.23
	France	Germany	Finland	Austria	Norway	Ireland	Greece	Italy	Greece	Australia	Ireland	Switzer.	Netherlands
	.38	.34	.41	.32	.22	.45	.31	.18	.54	.34	.49	.47	.33
	Italy	Ireland	Canada	Spain	Ireland	Germany	Ireland	UK	Ireland	Italy	Germany	Ireland	UK
	.48	.65	.42	.40	.86	.49	.33	.29	.64	.34	.79	.73	.39
(3)	New Zea.	Greece	Greece	New Zea.	Greece	Australia	Spain	Greece	Sweden	Ireland	Greece	Greece	Portugal
	-.51	-.53	-.56	-.24	-1.14	-.59	-1.04	-.78	-.81	-.69	-.97	-.87	-.86
	Greece	Netherlands	Ireland	Ireland	New Zea.	Denmark	Ireland	New Zea.	France	Italy	Spain	New Zea.	Ireland
	-.46	-.41	-.14	-.12	-.44	-.32	-.33	-.33	-.62	-.11	-.13	-.34	-.37
	Italy	Germany	Finland	Greece	Portugal	Greece	Greece	Switzer.	Portugal	Finland	Germany	Ireland	UK
	.29	.34	.25	.29	.51	.23	.51	.33	.35	.12	.36	.57	.43
	Sweden	Ireland	Denmark	Austria	Switzer.	UK	Portugal	Portugal	Greece	Australia	Canada	Switzer.	Netherlands
	.39	.65	.34	.42	.91	.34	.64	.44	.75	.33	.65	1.03	.44

Table A.5.a. Rreg - Dep. var.: Δer

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	.0038	.0061	.0045	.0092	.0095	.0020	.0041	.0040	.0039	.0032	.0178	.0129	-.1250
	(1.44)	(1.46)	(1.08)	(2.63)	(1.95)	(0.26)	(0.34)	(3.98)	(0.17)	(0.31)	(0.80)	(0.71)	(0.87)
(column header)	.0013	.0039	.0056	.0080	.0020	.0007	-.0204	.0032	-.0246	-.0037	.0043	.0085	.0671
	(0.40)	(1.03)	(1.52)	(2.62)	(0.34)	(0.09)	(2.34)	(2.84)	(1.04)	(0.34)	(0.21)	(0.49)	(0.43)
er94	-.26	-.27	-.29	-.16	-.28	-.28	-.30	-.10	-.33	-.30	-.29	-.30	-.30
	(2.75)	(3.34)	(3.90)	(2.49)	(3.37)	(3.25)	(4.44)	(1.49)	(3.70)	(3.29)	(3.36)	(3.68)	(3.34)
(column header)	.0018	.0034	.0031	.0059	.0042	.0039	-.0106	.0029	-.0134	.0002	.0075	.0066	.0961
	(0.68)	(1.06)	(0.89)	(1.76)	(0.84)	(0.61)	(0.97)	(2.55)	(0.65)	(0.02)	(0.43)	(0.45)	(0.80)
er94	-.16	-.18	-.22	-.15	-.18	-.19	-.23	-.07	-.22	-.19	-.19	-.20	-.22
	(1.82)	(2.38)	(2.70)	(2.09)	(2.26)	(2.27)	(2.74)	(1.02)	(2.46)	(2.19)	(2.27)	(2.56)	(2.72)
Δcsh9500	2.05	1.98	1.74	1.35	2.13	2.12	1.47	1.59	1.89	2.02	2.04	2.00	2.03
	(2.69)	(2.77)	(2.21)	(1.94)	(2.76)	(2.65)	(1.54)	(2.57)	(2.43)	(2.52)	(2.61)	(2.62)	(2.77)

Table A.5.b. Qreg - Dep. var.: Δer

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	.0049	.0030	.0042	.0090	.0075	-.0009	.0017	.0041	-.0037	.0058	-.0013	-.0071	-.0913
	(1.51)	(0.49)	(0.77)	(1.75)	(1.11)	(0.11)	(0.14)	(2.45)	(0.13)	(0.57)	(0.06)	(0.37)	(0.55)
(column header)	.0052	.0032	.0056	.0060	.0087	.0021	-.0268	.0029	-.0157	-.0031	.0098	.0106	.0738
	(1.29)	(0.47)	(1.35)	(0.99)	(1.23)	(0.20)	(1.39)	(1.46)	(0.49)	(0.27)	(0.29)	(0.37)	(0.26)
er94	-.21	-.18	-.22	-.16	-.13	-.18	-.35	-.12	-.21	-.18	-.15	-.15	-.21
	(1.76)	(1.42)	(2.24)	(1.48)	(1.47)	(1.41)	(2.26)	(1.22)	(1.74)	(1.40)	(1.12)	(1.23)	(1.38)
(column header)	.0048	.0006	.0034	.0054	.0016	-.0019	-.0161	.0025	-.0104	-.0004	.0017	.0257	.1063
	(1.60)	(0.08)	(0.79)	(0.89)	(0.12)	(0.16)	(0.86)	(1.20)	(0.20)	(0.03)	(0.04)	(0.74)	(0.46)
er94	-.00	-.24	-.20	-.17	-.22	-.19	-.25	-.12	-.19	-.19	-.18	-.27	-.23
	(0.03)	(1.35)	(1.82)	(1.17)	(0.97)	(0.84)	(1.64)	(0.87)	(0.89)	(0.79)	(0.87)	(1.49)	(1.18)
Δcsh9500	2.61	2.36	1.21	1.33	2.40	2.45	1.85	1.02	2.47	2.77	2.80	2.89	2.44
	(2.82)	(1.56)	(1.12)	(0.37)	(1.11)	(1.25)	(1.11)	(0.78)	(1.33)	(1.47)	(1.49)	(1.87)	(1.54)

Table A.6.a. Rreg - Dep. var.: Δur

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	-.0038	-.0015	-.0073	-.0086	-.0082	.0006	.0205	-.0031	.0034	.0021	-.0322	-.0203	-.0515
	(1.45)	(0.39)	(2.07)	(2.99)	(1.83)	(0.08)	(2.24)	(3.25)	(0.16)	(0.22)	(2.13)	(1.46)	(0.37)
(column header)	-.0001	.0025	-.0028	-.0021	-.0009	.0014	.0149	-.0003	.0202	.0050	-.0092	-.0158	-.0555
	(0.04)	(1.32)	(1.35)	(1.39)	(0.29)	(0.36)	(3.22)	(0.39)	(1.78)	(1.39)	(1.07)	(2.57)	(0.85)
ur94	-.62	-.67	-.59	-.61	-.61	-.62	-.70	-.59	-.69	-.60	-.56	-.62	-.61
	(5.96)	(7.27)	(6.23)	(7.94)	(5.91)	(6.20)	(7.88)	(5.47)	(7.11)	(8.89)	(7.07)	(9.34)	(7.03)
(column header)	-.0007	.0032	-.0022	-.0023	-.0034	.0015	.0071	-.0008	.0150	.0019	-.0041	-.0096	-.1091
	(0.48)	(2.02)	(1.31)	(1.64)	(1.27)	(0.42)	(1.23)	(1.11)	(1.45)	(0.40)	(0.40)	(1.16)	(1.75)
ur94	-.48	-.54	-.44	-.47	-.39	-1.15	-.53	.40	-.54	-.49	-.45	.51	-.50
	(4.37)	(5.94)	(4.70)	(5.45)	(3.82)	(2.51)	(5.00)	(3.81)	(5.02)	(4.70)	(3.97)	(4.79)	(5.02)
Δcsh9500	-1.23	-1.24	-1.34	-1.33	-1.73	-.51	-.80	-1.59	-1.11	-1.26	-1.40	-1.22	-1.27
	(2.70)	(3.31)	(3.39)	(3.61)	(4.09)	(4.71)	(1.55)	(3.99)	(2.49)	(2.84)	(3.10)	(2.70)	(2.98)

Table A.6.b. Qreg - Dep. var.: Δur

	tax	epl	ub	almp	retir	wage	flex	bbd	epl8999	crd8999	dereg9398	dereg8898	mob9101
(column header)	-.0018	-.0003	-.0033	-.0069	-.0067	-.0007	.0140	-.0033	-.0022	-.0020	-.0340	-.0067	-.1091
	(0.44)	(0.05)	(0.68)	(1.94)	(1.51)	(0.08)	(0.90)	(2.12)	(0.07)	(0.16)	(1.11)	(0.28)	(0.65)
(column header)	.0008	.0028	-.0019	-.0021	-.0001	-.0024	.0092	-.0007	.0198	.0050	-.0113	-.0162	-.0633
	(0.43)	(0.94)	(0.70)	(1.03)	(0.02)	(0.51)	(1.37)	(0.59)	(1.16)	(1.08)	(0.78)	(1.84)	(1.24)
ur94	-.61	-.68	-.62	-.60	-.60	-.61	.64	-.60	-.68	-.61	-.57	-.63	-.60
	(4.35)	(5.15)	(5.72)	(5.55)	(4.90)	(4.25)	(4.95)	(5.04)	(4.92)	(6.82)	(4.56)	(8.15)	(8.04)
(column header)	.0004	.0022	-.0024	-.0025	-.0052	.0017	.0067	-.0013	.0154	.0026	-.0129	-.0192	-.1110
	(0.19)	(1.90)	(0.90)	(1.36)	(1.13)	(0.31)	(0.66)	(1.34)	(0.78)	(0.41)	(0.86)	(1.15)	(0.84)
ur94	-.53	-.55	-.43	-.46	-.41	.47	-.57	-.31	-.51	-.53	-.38	-.61	-.56
	(3.48)	(7.15)	(2.94)	(3.15)	(2.31)	(2.70)	(2.78)	(2.56)	(2.68)	(3.17)	(2.07)	(3.08)	(2.94)
Δcsh9500	-1.66	-1.61	-1.39	-1.54	-1.85	-1.79	-.45	-2.01	-1.44	-1.17	-1.48	-.89	-1.15
	(2.41)	(5.67)	(2.01)	(2.08)	(2.73)	(2.42)	(0.43)	(3.58)	(1.64)	(1.48)	(1.96)	(0.95)	(1.28)