THE POLITICAL ECONOMY OF STRUCTURAL REFORM: EMPIRICAL EVIDENCE FROM OECD COUNTRIES[1]

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Abstract. This paper attempts to identify the political economy drivers of structural policy changes in OECD countries' labour and product markets over the 1980-2003 period. The focus is on both factors that are beyond the control of governments (*i.e.*, that are exogenous to the political process) and factors over which governments may have some leverage. The core empirical results, based on a set of policy indicators that cover 21 countries, suggest that the most important factors that influence the implementation of structural reform are economic crises, exposure to foreign competition, government's duration in office, budgetary conditions and spillovers across policy areas, in particular from the product to the labour market.

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1. Summary and conclusions

1. Over the past decades, a broad consensus has developed on the need to implement structural reform aimed at improving the overall economic performance of OECD economies. Much has been done, but the depth, scope and timing of reform have differed considerably across countries. These cross-country differences generally reflected two distinct factors. On the one hand, reforms had to be consistent with governments' objectives outside the field of economic efficiency. On the other hand, reform processes have often met political quandaries. These were generated by the difficulty of creating the necessary pro-reform consensus in the electorate and/or overcoming strong opposition to reform by parts of it (even when major non-economic objectives were not directly at stake).

2. In connection with the OECD stocktaking exercise, this paper seeks to extend the empirical basis for understanding the political economy influences that may have prompted or hindered consensus around structural reform in product and labour markets. The focus is both on factors that are beyond the control of governments (*i.e.*, that are exogenous to the political process) and on factors over which governments may have some leverage. Assessing empirically the role played by these factors may in turn prove useful in accompanying the process of product and labour market reform in the future.

3. Because there is neither a well-established model of the political economy of structural reform nor an extensive empirical literature on this topic, the paper adopts a pragmatic empirical strategy. First, the reform experiences of OECD countries are reviewed based on the structural policy indicators that have been developed by the OECD for a large subset of OECD countries, notably in the context of the OECD stocktaking exercise (Section 2). Second, the potential political economy determinants of reform are identified based on the relevant literature (Sections 3 and 4). Third, the impact of these potential determinants on the labour and product reforms observed over the past three decades is estimated in the context of a reduced-form estimation approach based on panel data (Section 5).

4. The empirical results identify a number of economic and political factors as having a significant influence on the implementation of structural reform. As already noted, they can be subdivided into factors that are exogenous to the political process and factors that can be influenced by government actions. Focusing on the main results, factors over which governments have little control or that they would not wish to exploit to further structural reform include the occurrence of major economic crises, reform programmes abroad and the duration and political colour of government:

- Big economic crises are generally found to be associated with higher overall reform activity, although reforms in certain specific labour market areas (tax wedges, job protection and benefit systems) tend to take place in periods of strong upswings.

- Reforms in trading partners tend to strengthen domestic product market reforms (whereas effects on labour market reforms are more ambiguous).

- Governments in office for some time generally tend to be more able to reform, but left-of-centre governments tend to undertake less reform.

5. A number of factors that can be influenced by government policies appear to be empirically relevant for the implementation of structural reform:

- A sound government budget balance is associated with higher reform activity, which could reflect an enhanced ability to finance compensatory measures. By contrast, budget consolidation appears to retard structural reform, possibly reflecting the corresponding call on political capital.

- Reform in one policy area sometimes raises the likelihood of subsequent reform in other areas. For example, enhanced trade and investment integration has tended to step up domestic reform in product markets. Moreover, there is evidence of positive spillovers between product market reforms in different sectors. As well, domestic product market liberalisation has been associated with subsequent reforms in overall labour market policies (but particularly concerning the hiring of temporary workers).

- A contrarian finding is that the reduction of tariff barriers has frequently been associated with a less liberal stance in labour markets.

2. Reform patterns

6. There has been a growing consensus that structural reform is crucial to respond to disappointing growth performances and emerging economic challenges, such as ageing, new technologies and globalisation.[2] Nevertheless, the implementation of structural reform varied widely across countries and across markets and sectors within each country, reflecting different national starting points and preferences but also political difficulties in pushing reforms forward.[3]

7. Indeed, the OECD indicators show that the timing and intensity of product and labour market reforms have been very different across countries (Figure 1).[4] In product markets, the United States implemented comprehensive reforms over the 1975-85 period (Figure 2) in part as a response to high and persistent inflation following the first oil crisis. In the early to mid-1980s the United Kingdom, New Zealand, Norway and, to a lesser extent, Canada, Finland and Austria followed suit and the process spread out further in the 1990s under the influence of the EU's internal market programme, broadening the liberalisation trend across countries as well as across policy areas (Conway and Nicoletti, 2006).[5] Across

2 Manifestation of this can be found in, for example, the EU's Lisbon agenda, the G-7 countries' "Agenda for Growth", and the 2003 OECD Ministerial Council Meeting setting an Agenda for Growth and Development (OECD, 2003).

3 These reforms have been documented in various studies. Summaries can be found in OECD (1999, 2001, 2006). Arguably none of the examined countries (which do not include the transition countries) has ever tried a "big bang" approach to structural reform, probably because of the need for accumulating political and managerial expertise in designing and implementing structural reform. The most quoted examples, the United Kingdom during the Thatcher administration and New Zealand in the 1980s (OECD, 1993, 1996, 2005b; IMF, 2004; Card and Freeman, 2001) can in reality better be described as sustained reform efforts over relatively long periods of time. Another prominent example is Australia over the past two decades (OECD, 2005a and the references therein).

4 The indicator of labour market reforms includes reforms of employment protection legislation (EPL), unemployment benefit systems (UB), implicit tax rates on continuing work at older ages and labour tax wedges. It should be noted that a zero reading for this indicator does not indicate an optimal organisation of labour market policies. The indicator of product market reforms covers reforms in the energy, transport and post and telecommunications sectors. See Annex 3 for a full description of data sources and the construction of the indicators.

5 Reversals of product market reforms have been observed in a few cases, such as the re-nationalisation of the air transport industry in New Zealand, the near monopolisation of the same industry in Canada and the re-nationalisation of railtrack in the United Kingdom.

sectors, liberalisation commenced in road transport – a process mostly completed by around 1990 (Figure 3). Reform efforts then moved to the air transport industry, and, from 1995 onwards, to the electricity and telecommunications sectors. In other regulated sectors (natural gas, postal and railway services) reforms have typically been less extensive. The observed sequencing probably reflects that in terms of political economy, liberalising industries with relatively few natural monopoly elements involves costs that are lower and benefits that are more certain than in other sectors.[6] Later liberalisation in network industries may reflect the subsequent emergence of new technologies and progress in regulatory techniques that tilted the cost-benefit calculations of reforms.

[Figure 1. OECD-wide indicators of labour and product market policies]

[Figure 2. Reform intensity in the product market, 1975-2003]

[Figure 3. Timing and scope of industry-level product market reform]

8. In labour markets, OECD-wide policies became less favourable to employment between the first oil crisis and until the mid-1990s as the crucial parameters of unemployment benefit systems became more generous, tax wedges increased and retirement incentives became stronger (Figure 4). Subsequently, there have been some moves to make the overall labour market regulation more employment friendly, mostly reflecting lower tax wedges and some easing of employment protection legislation (EPL), though mostly for temporary contracts (Brandt, *et al.*, 2005).[7] The latter measures mostly have an impact on workers with a weak labour market attachment - a politically less organised group. Few measures aimed at workers with strong labour market attachment have been introduced, aside from sporadic changes in EPL for permanent workers and, more recently, reductions of incentives for early retirement.

[Figure 4. Individual labour market reforms over the past decades]

9. In addition, it should be noted that over the past decades a "stylised" sequencing of structural reform has been observed across many OECD countries with *i)* reforms of trade and foreign direct investment policies and financial markets having generally preceded domestic product market reforms (IMF, 2004; Nicoletti, 2005); and *ii)* product market reforms having generally preceded labour market reforms (Brandt *et al.*, 2004).

3. Factors slowing structural reform

10. The observed reform patterns reflect, in part, substantial resistance to reforms. Over and above the intrinsic value that existing structural policies may have for the individuals or groups concerned, this resistance can be ascribed to the following main factors:[8]

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6 . Naturally, this begs the question of why these sectors were regulated in the first place and why there are such differences in the extent and timing of liberalisation across countries.

7 The coverage of these indicators has been restricted by the need to use quantitative measures with reasonable long time series. In contrast the indicators used in the OECD Job Study have a shorter time span, but a wider coverage, including issues like working time flexibility and activation policies as well as qualitatitive assessments. See also Annex 3 for a more detailed discussion.

8 Such intrinsic value may relate to notions of fairness (as in protection against arbitrary dismissal), security (as for unemployment insurance) and avoidance of disruption (as in policies to secure the supply of crucial products and services).

- The uncertainty surrounding the benefits of reforms is often larger than the uncertainty surrounding their costs, even when the expected aggregate gains are substantially larger than the expected collective losses (Fernandez and Rodrik, 1991).

- The costs of implementing structural reform tend to be upfront, while the associated benefits take time to materialise. Therefore, politicians (particularly with short time horizons) are hesitant in implementing reforms as there is a risk that the electorate will only experience the costs of reforms during the legislature.[9]

- Some regulations tend to create rents, which are shared among the beneficiaries of regulation in many ways.[10] Generating consensus for reforms suffers from the "collective action" problem that the costs of reforms are concentrated on relatively small and well-organised target groups, while the benefits tend to be thinly spread – at times to such a degree that the beneficiaries have difficulties in observing them - over a much larger and less organised electorate (Olson, 1965).

4. Factors affecting the implementation of structural reform

11. From a theoretical point of view, there is a wide range of factors that might influence the implementation of structural reform. A number of these are discussed below before empirically testing their influence in the subsequent section.

4.1 Initial structural conditions

12. Initial conditions determine the scope for structural reform to enhance economic performance and when this is wide, pressure and desire to undertake reform might be thought to be greater.[11] On the other hand, a wide gap probably also strengthens the resolve of rent seeing beneficiaries of regulation to maintain the status quo (by for example forming coalitions to block reforms). In the product and labour market areas, it would appear that prior to 1995 there was little systematic link between initial conditions and reform progress, but that afterwards there has been a catching up effect, resulting in a convergence of policies across OECD countries, although the convergence in labour market policies is partly the result of some countries tightening their policy stance (Figure 5, Panels A and B).[12] In an econometric investigation,

9 . The costs of effective labour market reforms (typically in the form of increased unemployment risk) tend to be born fairly rapidly by job holders and the benefits (in the form of higher employment probability) tend to materialise later, leading Coe and Snower (1997) to conclude that the main determinants of resistance to reform are their distributional and timing effects. Indeed, labour market reforms have often focused on job search measures that have little effect on wage bargaining positions of incumbent workers (Elmeskov, et al., 1998).

10 . According to the private interest theory of regulation (Stigler, 1971; Peltzman, 1976), rent seeking private agents try to appropriate these rents by shaping, twisting or preserving regulation and by controlling or lobbying the political process of forming regulation. Examples are favourable employment conditions in public-owned monopolies, self-regulation of entry in professional services, or situations in which special interest groups often manage to capture the regulatory process so as to increase rents. Separate questions are whether regulation can be justified in terms of efficiency or consumer interest (Stigler, 1988) and whether the expected benefits of regulation are higher than the potential costs of regulatory failure.

11 These conditions are also determined by factors that are beyond the control of governments, such as legal origins, cultural characteristics and other country-specific effects.

12 . Initial conditions can also encompass initial price distortions or the level of structural unemployment. With respect to the latter, there is little evidence for the members of the EMU (European Monetary Union) that

IMF (2004) partially confirms the above, finding that initial conditions hardly affect labour market reforms while significantly affecting product market reforms

[Figure 5. Initial conditions and structural reform in product and labour markets]

4.2 Macroeconomic conditions

13. Economic crises can promote reforms because bad economic conditions make it clearer that existing policies are no longer sustainable, neither for individual citizens nor for the economy.[13] Crises introduce a degree of urgency in the decision-making process, weaken opposition to reform, and raise the cost associated with pre-reform institutional arrangements (Drazen, 2000, and Drazen and Easterly, 2001).[14,15] On the other hand, the political opposition to, for example, labour market reform during economic downswings may be relatively strong as the higher unemployment risk raises consensus for more generous income support and increases workers' attachment to job protection (Bean, 1998). Reforms during times of crises can then be seen as imposing adjustment costs on workers already suffering from adverse economic conditions. Moreover, it may also be argued that opposition to reforms is likely to be weaker during economic upswings as the costs of reforms are relatively small (with unemployment risks declining and job opportunities increasing) and with the distributional effects being less visible when aggregate incomes are growing (Pitlik and Wirth, 2003). Despite the conflicting arguments, the few empirical studies that have examined the link between crisis and market-oriented reforms confirm that poor economic performance, if not outright economic crisis, tends to induce structural reform (IMF, 2004; Duval and Elmeskov, 2005; Pitlik and Wirth, 2003).[16]

4.3 Macroeconomic policies

14. The implementation of structural reform may be affected by fiscal policy insofar as measures to compensate the losers of reform or to accommodate any temporary effects on aggregate demand relative to supply need to be financed (see below). This suggests that a poor fiscal position may hamper the implementation of structural reform. At the same time, budgetary pressures may increase the urgency of undertaking certain labour market reforms so as to restore fiscal soundness (Saint Paul, 2002).[17] Conversely, if the initial budget position is sound, reforms that are expected to increase the economy's structural rate of employment may create room for compensating or accommodating fiscal measures by

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the countries with the highest structural unemployment are also the most reform-oriented countries, while the opposite is true for the other OECD countries (Elmeskov and Duval, 2005).

13 . At the level of macroeconomic policies, crises have also often been associated with major policy changes – in particular when public budget positions were on unsustainable paths (OECD, 1988).

14 . This hypothesised relationship between crisis and structural reform contains two elements. One is that reform is more likely to be adopted during recessions than during economic upswings. The other is that the situation has to become very serious to induce reforms (Drazen, 2000).

15 . This line of thinking is supported by a number of well-known cases, such as the United Kingdom at the end of the 1970s, and the Netherlands and New Zealand in the 1980s (IMF, 2004). Similar patterns are also found outside the OECD area, such as in the Latin American countries in the early 1980s.

16 . Pitlik and Wirth (2003) found a U-shaped relation between reform intensity and growth crisis, where no or deep crisis would tend to trigger high reform intensity, but reform efforts are at their weakest in connection with medium crisis levels.

17 . Saint-Paul (2000) argues that the resistance to reform is largest at the end of an economic recession.

improving the cyclically-adjusted budget balance.[18] On the other hand, the process of fiscal consolidation may in itself exhaust the political capital available for introducing other reforms (Duval and Elmeskov, 2005).

15. Monetary policy may play a role in the promotion of structural reform. A number of the countries that have successfully implemented broad-based structural reform, such as New Zealand, Sweden and the United Kingdom, also introduced a domestic anchor for monetary policy, such as having independent central banks to pursue price stability objectives, hence ensuring an endogenous response to any deflationary effects of structural reform (Saint-Paul, 2002).

16. Using external anchors, such as targeting a fixed exchange rate, may also be conducive to structural reform. This is because the latter may be seen to reduce interest rate differentials vis-à-vis the anchor currency and to increase the resilience of the economy in the face of external shocks that cannot be accommodated by monetary policy (this is often presented as the TINA - There Is No Alternative - argument). However, exchange rate targeting also lessens the scope for accommodating the adjustment costs implied by reforms through easier monetary policies, thereby making reforms politically more difficult. Indeed, empirical studies have found little support for the TINA hypothesis (Nicoletti *et al.*, 2001; Duval and Elmeskov, 2005).

17. A special case of an external anchor is the introduction of a common currency (such as the Euro). In this case, the TINA argument is further weakened as interest rate differentials are largely removed with the disappearance of the devaluation risk. In addition, unilaterally implemented structural reform with deflationary effects increases the reforming country's real interest rate, implying higher transition costs to the new labour and product market equilibria (Saint-Paul and Bentolila, 2000).[19,20] On the other hand, a common currency also implies that the cost of accommodating perceived short-term labour market problems merely through fiscal measures is reduced. Indeed, empirical studies tend to suggest that the introduction of the Euro may actually have slowed down the reform process (Belke *et al.*, 2005).

4.4 Political institutions

18. Institutional features of the political decision-making process may be important for the ability to implement structural reform. Presidential political systems and majoritarian electoral rules often seem to empower large and homogeneous constituencies as compared with the outcomes in parliamentarian

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18 . On the other hand, if fiscal measures have been implemented, then there may be a risk that the fiscal consolidation process may have exhausted the available political capital to introduce other reforms (Duval and Elmeskov, 2005).

19 . In cases where the thresholds of the Stability and Growth Pact have been binding, there was little scope for using fiscal policy as part of a two-handed approach combing macroeconomic and structural policies (Bean, 1998). However, in the revised Stability and Growth Pact the enforcement of sanctions takes into account reform efforts. Beetsma and Ribeiro (2005) argue that in connection with structural reform, there is a trade-off between reducing electoral uncertainty by providing costly compensation and maintaining the budget deficit limits stipulated in the pact

20 . Another, more long-term, effect would arise if a currency union leads to greater regional specialisation. In this context, asymmetric shocks have a larger regional effect and would lead to greater variation in labour demand, which could lead to greater demands for protection against unemployment risks, thus increasing opposition to reform. On the other hand, the reverse argument is that a greater likelihood of asymmetric shocks strengthens the TINA argument. It should be noted, though, that so far there is little indication that the EMU has induced such a specialisation effect.

systems and under proportional electoral rules (Persson, 2003). Thus, they should in principle be better at overcoming the resistance of relatively small interest groups to structural reform.[21]

19. The political orientation of the government is perceived to determine the government's position regarding the trade-off between equity and efficiency with for example left-of-centre governments being perceived to give a greater weight to equity. This could play a role for labour market reforms, while political orientation probably plays a smaller role for reforms in product markets as the involved interest groups tend to be spread across the electorate of many parties (Castanheira *et al.*, 2006). The political relevance of the equity-efficiency trade-off could also hinge on the initial level of income inequality (Box 1).

20. The government's tenure of office may also affect the reform process.[22] If a general election is approaching, the government may refrain from implementing structural reform with high short-term costs. On the other hand, newly-elected governments should be more prone to implement reforms whose expected gains during the legislature are substantial. However, this argument relates mostly to the moment when governments initiate the reform process. Taking into account political and administrative obstacles, it is likely that there is a considerable time lag between the beginning of the reform process and the actual implementation of reforms. This may help to explain why empirical work in this area tends to be inconclusive (Pitlik and Wirth, 2003).[23]

21 Another line of investigation - which has not been pursued here - is the relationship between real price levels and electoral systems. For example Rogowski *et al.*, (2005) found empirical evidence that majoritarian electoral systems lower real prices by about 10%. The political economy argument for such an effect is that in such systems consumers have relatively more voting power than producers as relatively small changes in vote shares can produce relatively large changes seat shares in national parliaments.

22 . Other political factors that may hinder the implementation of structural reform are political fragmentation (the number of political parties represented in parliament) and ideological polarization, which tend to exacerbate conflicts of interest, hindering the formation of stable pro-reform coalitions.

23 . In product markets, several institutional factors may amplify the "voice" of interest groups (Nicoletti, 2005), such as when industry representatives participate in regulatory decisions like zoning regulation (Boylaud, 2000) or self-regulation in professional services. Such factors may be further strengthened by direct links of some firms with the political sphere (Faccio, 2003). An additional institutional factor favouring regulatory status quo is when heavy administrative procedures increase the leverage power of bureaucrats (Djankov *et al.,* 2002).

Box 1. **Income inequality and structural policies**

In principle, the degree of income inequality in an economy can be a factor promoting or hindering reform. For example, it might be argued that in countries with a high degree of income inequality, there should be more support for policies that induce redistribution from high- to low-income households than in more equal societies as the median voter would be a low-to-medium income individual, and would thus gain from such policies (Meltzer and Richard, 1981; Austen-Smith, 2000; Krusell and Rios Rull, 1999; Lindert, 1996; and Perotti, 1996). Hence, depending on how a given reform is perceived as affecting income distribution its support may differ as between more or less equal societies.

Income inequality may be a particularly important determinant of labour market policies (Wright, 1986; Saint Paul, 1996 and 2000). For example, risk-averse individuals in societies with unequal earnings would likely prefer to be insured against labour market risk through a redistributive unemployment benefit system rather than through strict EPL. Similar reasoning suggests that configurations with strict EPL and low unemployment benefits should emerge in presence of compressed wage structures (Boeri *et al.,* 2004).

Income inequality considerations may play a lesser role in the political determination of product market reform, which tend to spread the likely benefits throughout the economy, but with a tendency to concentrate the costs of reform on relatively few and easily identifiable actors (Boeri *et al.,* 2006).

Also in other areas, where there are no obvious income redistribution effects, inequality considerations may be an important political economy factor. For example, income inequality can generate support for increased pension spending, as more people will benefit from the degree of intragenerational redistribution displayed by several pension systems (Tabellini, 2000; and Galasso and Profeta, 2002). Similarly, there is evidence that early retirement is more frequent among low- and middle-income individuals than among high-income workers, indicating that the political constituency in favour of early retirement schemes should be larger in societies with more income inequality (Gruber and Wise, 1999; Blöndal and Scarpetta, 1998; and Conde-Ruiz and Galasso, 2004).

4.5 International influences

21. Domestic reforms may be affected by international influences in a variety of ways: through competitive pressures, peer pressures and imitation, and binding agreements or treaties. Competitive pressures from openness to trade and FDI strengthen incentives for domestic firms to seek the reform of policies in labour and product markets that put them at a competitive disadvantage vis-à-vis foreign suppliers.[24] For instance, firms that intensively use inputs from sheltered sectors or suffer from high labour costs may be more vocal in pushing for product and labour market reforms (Blanchard and Giavazzi, 2003; Pitlik and Wirth, 2003).[25]

22. Another way in which competitive pressures from openness can influence reforms is through "trickle down" effects of reforms in one area on another. For instance, manufacturing trade integration may have stimulated reforms in the transport sector (*e.g.*, road freight and air transport) within the European Union and there is evidence that opening up international financial markets has helped creating a worldwide constituency for telecommunications reform by enhancing the demand for a cheap and efficient

24 An additional effect from financial market liberalisation is the stronger incentive for implementing domestic reforms that attract foreign capital. Moreover, such liberalisation also stimulates demand and hence allows an easier and quicker "crowding-in" of other reforms likely to boost growth (Saint-Paul and Bentolila, 2000; Saint-Paul, 2002).

25 The degree of openness may be particularly important for the regulatory set-up in smaller countries, which typically need to adjust more quickly their regulatory framework in reaction to external shocks to restore competitiveness (for example because of greater industry specialisation and a faster materialisation of negative effects). However, empirical evidence of such a small country effect has been limited so far. An additional issue is that small open economies may tend to pursue policies with a high degree of social insurance and strong automatic stabilisers (Rodrik, 1998).

flow of information (Li *et al*., 2001).[26] Such effects are likely to be stronger among main trading partners, because of factors like peer pressures and comparisons/benchmarking of structural policy frameworks and performance.

23. Product market reforms may also be induced by supranational constraints imposed by international agreements or treaties, such as with the European Union (EU). The latter has been instrumental in strengthening domestic competition (especially in the service sector) or creating domestic institutions that stimulate reform (*e.g.*, antitrust or sectoral regulatory authorities) and the implementation of the EU Single Market Programme has pursued the removal of remaining barriers to trade and FDI (often resulting in the elimination or reduction of subsidies or protection).[27] Other international treaties are more focussed on trade issues, such as NAFTA and WTO. As these treaties expose domestic markets to international competition, their effects on reforms are similar to those discussed in the previous paragraph.

4.6 Demographic factors

24. Given the importance of coalitions, there is an empirical issue whether reforms are easier in smaller countries with homogenous populations than in larger heterogeneous countries, although empirical investigations of this issue have been very limited (Alesina *et al.*, 2003).

25. The age structure of the population may also affect reform attitudes. Older population segments may discount future uncertain benefits of reforms more heavily than younger segments. On the other hand old-age workers and retirees have a vested interest in growth-enhancing structural reform to secure the financial viability of pension and social security systems. Such reforms also boost their real incomes and the return on their capital holdings (with negligible labour market consequences for the retirees). Empirical evidence is sparse with for example Heinemann (2004) finding that ageing of a society lowers the probability of (large) reforms.

4.7 The influence of new technologies

26. Technical progress has historically been a powerful disruptive force in product markets by undermining existing natural monopolies *inter alia* through a reduction of scale economies, capacity constraints and sunk costs. The resulting lowering of entry barriers and development of new products tends to increase the political leverage of potential new entrants and reduce consumer concerns as to the outcomes of reforms, leading to a strengthening of the pro-reform constituency.[28] New technologies may also change firms' perception of costs and benefits of existing structural polices, with for example the emergence of new information and communication technologies (ICT) leading to a more uncertain technological paradigm and thus increasing the costs of mobility-reducing labour market policies. Indeed, ICT is a prominent example of disruptive technical progress, with a particularly prominent impact on telecommunications, initially by enabling cheap international call-back services that unsettled the system of administratively determined accounting rates for settling international communications and

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26 Li *et al.*, (2001) show that the relative size of the financial sector had a positive effect on privatisation and liberalisation of the telecommunications sector.

27 Part of the resistance against participation in trade agreements or liberalisation of FDI flows can be explained by the ability of (often relatively few) firms in non-manufacturing industries to operate a "closed-loop" market protected from foreign competition.

28 Faced with new technological developments incumbents themselves may rally the pro-reform side, as observed for instance in Europe, where dominant telecom operators pushed for corporatisation and privatisation over the 1990s. It should also be noted, that competitive markets tend to adopt new technologies faster, implying a reversed causality as compared with new technology as a political economy factor.

subsequently by introducing competition from mobile telephones, raising a whole set of new regulatory challenges.[29]

4.8 Reform sequencing and interactions

27. From a political economy perspective, the optimal design of reform strategies depends on the extent to which various institutions and policies are complementary in the sense that the existence of one of them increases the political support for another (Saint-Paul, 2000). If these complementarities were known, constituencies for reforms could in principle be established by appropriately combining and sequencing reforms. However, in practice the sequencing of and interaction among reforms tend to differ from country to country – at least to some extent - depending on economic and social institutions and traditions, and reflecting specific political economy factors.

28. Reflecting the difficulties of implementing labour market reforms, the OECD countries that have reformed their labour markets have done so by pursuing a range of strategies to overcome opposition (OECD, 2006). For example, the United Kingdom and New Zealand followed a "confrontation" strategy of weakening incumbent workers' bargaining power (for example by making strike ballots mandatory and curbing secondary industrial action), while the Netherlands and, at least initially, Australia, Denmark and Ireland used an "inclusion" approach based on extending existing labour relations so as to internalise to a greater extent outsider interests into insiders' behaviour (Elmeskov *et al.*, 1998, Blanchard and Philippon, 2004).[30]

29. A third strategy is based on sequencing, where a number of governments have introduced reforms that mostly target workers with a weak labour market attachment (*e.g.*, the unemployed or workers with precarious jobs) and, at least initially, leave regular workers (*e.g.*, with indefinite contracts) virtually untouched. Such measures tend to reinforce labour market duality, but may as well build up public support for subsequent reforms aimed at the core labour market policies and institutions. For example, Spain and Portugal reformed their EPL for workers with temporary contracts in the mid-1980s and mid-1990s, respectively, which led to most new hiring being based on temporary contracts (OECD, 2006). In Spain, the resulting substantial increase in the share of workers with temporary contracts, and the associated concerns about fairness in the labour market, subsequently generated consensus for easing EPL for workers on permanent contracts.

30. Sequencing strategies can also be found in product markets, where there is some evidence that reforms are relatively easier and more successfully implemented in sectors producing intermediate inputs to other industries (having a potential relatively wide pro-reform constituency) as compared with sector mostly producing final consumption goods (where reforms may be hampered by consumer concerns about quality and distributional effects) (Fernandez and Rodrik, 1991; Nicoletti, 2005). This suggests a sequence

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29 . ICT also improved management of transmission and wholesale markets in the electricity sector, which also saw the introduction of small-scale combined gas turbine generators, that lowered entry barriers and sunk costs in the sector (Steiner, 2000). In addition, in air transport ICT improved air traffic control, reservation systems and ticket management, making room for new entrants. See Nicoletti (2005) for a discussion of the interaction between technical progress and propensity to reform sectoral regulations.

30 Incumbent workers' sentiments towards reform may be affected by structural reform in other areas. For example, a positive relationship between the stringency of employment protection and the degree of bargaining corporatism can be observed across OECD countries, perhaps indicating that, by increasing job turnover, decentralised bargaining regimes reduce the incentives for maintaining a high degree of employment protection. On the other hand, there is arguably a substitutability between employment protection and unemployment benefit schemes, indicating that effective income support systems can compensate for a laxer EPL regime (Buti and Sapir, 1998; Boeri *et al.*, 2003; Sapir, 2005).

of product market reforms (as observed in practice) coping first with producers of intermediate inputs (*e.g.*, freight transport) before moving to reforms that affect final consumer products (*e.g.*, passenger transport).

31. There are also potential interaction and sequencing effects across markets. For instance, regulations in product and labour markets are closely related (Conway *et al.*, 2005; Nicoletti and Scarpetta, 2005) with some evidence that product market liberalisation could pave the way for subsequent labour market reforms (Brandt *et al.*, 2005) (Figure 6).[31] There are a number of channels that can be cited to explain this effect.[32] Pro-competitive product market reforms reduce market power, stimulate new entry and reduce consumer prices. This leads to an expansion of activity and labour demand, which may weaken opposition to reform as both employment opportunities and average real wages increase (Ebell and Haefke, 2003; Spector, 2003; Koeninger and Vindigni, 2003).[33,34] As well, the compressing of rents may gradually reduce the support for labour market institutions aimed at capturing these rents (Blanchard and Giavazzi, 2003; Pitlik and Wirth, 2005).

[Figure 6. Product market liberalisation (1992-1999) and labour market reforms (1997-2004)]

32. There is some evidence that public ownership tends to hamper other reform efforts (Figure 7), reflecting among other reasons the conflict between the government's regulatory role and its role as a market participant.[35] However, privatisation is often opposed by employees as well as management, requiring a sequence of reform and compensatory measures (Box 2).

[Figure 7. Product market liberalisation and privatisation, 1975-2005]

31 Note however, that only a full multivariate analysis can hope to establish the correct causality and whether correlations are driven by a common third factor.

32 See Nicoletti and Scarpetta (2005) for a detailed account of these interactions.

33 . A countervailing effect to this general increase in labour demand is if the rent sharing between firms and workers had taken place through over-manning, then a labour shake up could take place in certain sectors in the short run. Empirical results suggest, however, that this effect is minor and, at least over the medium term, employment gains are to be expected (Nicoletti and Scarpetta, 2005; Bassanini and Duval, 2006).

34 . More specifically, product market reforms may improve the conditions for achieving an easing of EPL rules as product market reforms boost overall employment opportunities, thereby reducing the incentives for incumbent workers to protect their jobs through strict EPL rules (Koeniger and Vindigni, 2003). Moreover, product market reforms also increase the marginal employment gains that can be expected from less strict EPL (Kugler and Pica, 2004).

35 Another political economy rationale for the link between public ownership and barriers to entry is that politicians (especially in countries with large budget deficits) may be more inclined to maintain profitable state monopolies to collect explicit and implicit (monopoly rents) taxes (Li *et al.*, 2001).

Box 2. **The effects of public-owned companies' organisation on the liberalisation process**

The speed and scope of market liberalization of sectors dominated by public-owned companies have been affected by cross-country differences in these companies' industrial relations arrangements, ownership structures, legal status and stock market listings. A particular challenge in a number of cases has been to induce employees and management to favour privatisation. The latter group tends to become part of the pro-reform constituency once the firm has been incorporated and the market liberalised because of the need to maintain market positions (for example through mergers). On the other hand, employees sometimes have relatively favourable employment conditions, requiring compensatory packages to overcome resistance. For instance, Castanheira *et al.,* (2006) note that both Italy and France started out with public-owned monopolies in the energy and telecommunications sectors. However, from the outset industrial relationships in Italy for public-owned companies generally resembled those in the private sector, while those in France were typically based on more favourable public law contracts and had special retirement schemes. The Italian sequencing of reforms made liberalisation relatively smooth, moving from corporatisation to liberalisation and privatisation without facing significant resistance from employees and only offering relatively little compensation to them. In contrast, reform attempts in France have been met by fierce resistance, leading to a hesitant reform process and the introduction of complicated compensatory packages, mostly based on "grand-fathering rights" for existing employees, including disembodying the pensions of incumbents from the private companies, with full guarantees by the state (Høj and Wise, 2005). Similar pension arrangements were put in place for incumbent employees of Deutsche Telecom in Germany, although prior to liberalisation, to avoid significant resistance. In a similar vein, British coal miners were offered redundancy packages that included mobility allowances and expanded possibilities for early retirement when the public-owned coal company closed pits during the 1980s.

4.9 Compensation strategies

33. While one of the main objectives of reform is to improve overall economic efficiency, existing legal rights may be affected and rents will be reduced or eliminated in the process. Thus, governments may want to overcome reform resistance by compensating losses that are temporary or circumscribed. In practice, however, compensating transfers are often difficult to implement because the target groups themselves are often difficult to identify, particularly in the labour market. In product markets the target groups may be more easily identified, such as in the case of privatisation.

34. Compensation strategies can also rely on combining different policy measures. An example is to combine measures to increase job-search activities with expansion of the safety net for the unemployed.[36] Another possibility is to ease EPL and at the same time improve income support schemes for job-to-job transitions, whereby workers are compensated for a higher risk of becoming unemployed (even if for a shorter period) with a smaller income reduction if the risk materialises. For example, a number of OECD countries, notably Denmark, have maintained the generosity of unemployment benefit systems (although duration has been shortened) but have expanded activation measures and tightened availability criteria.

5. Econometric testing of political economy factors for domestic structural reform

35. In the absence of a "structural" political economy model of reforms, reduced-form specifications have been estimated to explore the influence of political economy factors on OECD indicators of structural policies. Three sets of regressions were performed, corresponding to different levels of aggregation of the dependent variables:

36 . In addition to compensation, packaging may have the advantage from a political economy point of view that specific interest groups may find it more difficult to block individual measures in the package due to resistance from other interest groups that would be advantaged by these measures (Bean, 1998).

- The first set of regressions looks at the political economy determinants of changes in synthetic indicators for overall structural policies (covering both the labour and product markets). The next set of regressions focuses on synthetic indicators of, respectively, overall labour market policies and overall product market policies.[37]

- The third set of regressions looks at the determinants of changes in individual labour market indicators covering specific policy areas (EPL, tax wedges on labour income, unemployment benefit generosity and implicit taxation of continuing work at older ages), and in individual product market indicators covering regulatory policies at the industry level (for the seven non-manufacturing sectors for which time-series of indicators are available).

36. The respective regressions use a common set of explanatory variables capturing most of the political economy influences discussed in the previous section. As regressions move from the aggregate to the detailed policy (or industry) level, this set is enlarged to include also policy interactions (*e.g.* among different labour market policies or between product and labour market policies).

37. By aggregating indicators for specific policy areas or industries, the first two sets of regressions ensure that sufficient time variation is available in the dependent variable. However, it should be noted that this comes at the expense of a potential aggregation bias in the estimated coefficients. While estimates at the level of individual policy areas or industries are less prone to aggregation bias, the results for the third set of regressions should be interpreted with caution as some of the dependent variables (particularly in the specific labour market policy areas) exhibit little variation over time.

38. The econometric analysis is based on panel data techniques and uses linear specifications that capture all the changes in policies recorded by the OECD indicators, be they small and gradual or large and sudden.[38] In all the estimated equations the change in a policy indicator is regressed on its lagged level and on the lagged values of the other explanatory variables.[39] The estimation strategy was general to specific, starting from equations including most of the potentially-relevant political economy factors identified in Section 4 and progressively eliminating the (statistically) irrelevant ones to reach more parsimonious specifications.[40] A number of econometric issues emerged suggesting the use of three different estimation methods (simple OLS, dynamic fixed effects and system GMM); these are summarised in Box 3.

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37 All aggregations were performed using equal weights for the underlying policy indicators. An alternative aggregation for the overall indicator of structural policies, giving a 2/3 weight to the labour market area and a 1/3 weight to the product market area, was carried out, but yielded qualitatively similar results.

38 This approach differs from earlier Secretariat work reported in Duval and Elmeskov (2005) which focused on radical (aggregate) policy changes, and used (non-linear) models of qualitative choice to assess the economic and policy factors that may have triggered them – results that were subsequently confirmed in a linear specification (Duval, 2005).

39 Thus, the specification of the estimated equations is similar to standard growth regressions, in which the coefficient on the lagged level expresses the degree of (conditional) convergence of policies.

40 Both the general and parsimonious models were initially tested using a common sample. However, since the latter allow for using a larger sample due to the exclusion of some explanatory variables, they were estimated also on the larger sample to use all the available information on reforms. Since results generally proved to be robust to changes in the sample size, the tables in the main text report the results based on the larger sample. Results for both sample sizes can be found in the annex.

Box 3. **Econometric issues**

The econometric analysis uses an annual dataset of indicators of labour and product market policies in 21 OECD countries over the 1975-2003 period (1985-2003 for the labour market). The first differences in these indicators were regressed on the lagged levels of the indicators, and a set of institutional, economic, and political determinants, which are lagged in order to capture the delay induced by the political decision process.[1]

For each reform measure, the initial econometric analysis features a pooled OLS regression with no fixed effects, which exploits the variation in the policy indicator both across countries and over time. This regression provides a first approximation of the forces at work. Yet, the presence of unobservable country specific effects (such as specific institutional or cultural factors) may make these results inaccurate, as the impact of the time-invariant country-specific features may be wrongly attributed to other determinants.

The next step was to account for the possible unobserved cross-country heterogeneity of constant terms. This was done by estimating a dynamic fixed effects specification and test for the presence of such fixed effects. This specification concentrates on the within country – hence, over time – variation of each policy indicator (time dummies were also tested but found not significant). However, in the presence of country fixed effects, the estimated coefficients have been shown to be biased due to the presence of a lagged dependent variable, although the magnitude of the bias decreases as the time series dimension of the panel increases (see Nickell, 1981, or Wooldridge, 2002).

The final step was to use a system-GMM approach (see Blundell and Bond, 1998) in part to correct for the bias in the dynamic fixed-effect specification, but mainly to deal with the likely endogeneity of many explanatory variables and with possible measurement errors. Indeed, the system-GMM technique (specifically developed for the estimation of dynamic panel data equations -- see Bond, 2002, and Arellano, 2003) corrects for these problems by instrumenting the explanatory variables with their lagged differences as well as with their lagged levels. This approach is particularly effective in the presence of dependent variables exhibiting persistence, and is, therefore, appropriate for dealing with the slow-moving indicators in this study. As for the dynamic fixed effects specification, the main drawbacks emerge in the case of a small time dimension, when the number of instruments may grow too large with respect to the available observations. To minimise this problem, the longest possible time series were used when possible.

Annex 2 provides a detailed description of the econometric methodology and results, including a discussion of their robustness across specifications.

1. The use of lags is also a (rough) way to account for the potential endogeneity of policies. In all specifications, heteroskedasticity was accounted for by using White robust standard deviations.

39. The definitions of the variables used in the regressions and the expected sign of their coefficients estimates are provided in Table 1.[41] In interpreting the econometric results, it is important to keep in mind that all structural policy indicators are increasing in the restrictiveness of policies; hence, the dependent variables decrease with reform effort. To make the results more accessible, they are presented in synoptic tables showing, for each policy variable, the sign and significance of the estimated coefficients for each of the estimation methods used and for both the general and parsimonious versions of the models.[42]

[Table 1. Variables used in the regressions and interpretation of coefficient estimates]

5.1 Discussion of empirical results

40. A number of political economy factors were found to be significant and robust across regression estimates, as well as the aggregate indicators for, respectively, labour and product market policies. Each of them is discussed below, dealing first with their effects on the overall policy indicator

41 More details on data construction and sources can be found in Annex 3.

42 . It should be noticed that little information is lost by not showing the size of coefficients in these tables because, in the absence of an underlying structural model and given the large use of indicators (whose scale is necessarily arbitrary), the size of the estimated coefficients would be difficult to interpret. Detailed regression results are in any case provided in Annex 2.

(Table 2) and turning next to their effects on specific policy areas (Table 3) or industries (Table 4) when these provide additional qualifications or insights.[43]

[Table 2. Political economy determinants of changes in aggregate policy indicators]

[Table 3. Political economy determinants of changes in indicators of specific labour market policies]

[Table 4. Political economy determinants of changes in indicators of industry-level product market policies]

Convergence in policies

41. In regressions for the aggregate policy indicators, the coefficient on the lagged level of the dependent variable is generally negative and significant but close to zero (see Annex 2), reflecting high persistence of policies over time. Thus, the process of (conditional) *convergence in structural policies* is very slow. For most specific and industry-level policies, there is also evidence of slow convergence, although some differences emerge:

- In the labour market area, evidence of convergence is weakest in EPL for regular workers, generosity for long-term unemployed and tax wedges.

- In the product market area, the weakest evidence is found in the gas industry, in postal services and in rail transport.

Macroeconomic conditions

42. The estimated coefficients of the variables for *big economic crises* are negative and significant throughout estimation methods for the change in the overall product market indicator, indicating that such crises are associated with higher reform activity, while insignificant coefficients for the overall labour market indicator suggest no such effect in OECD labour markets. The significant effects on the overall structural policy indicator seem to be driven by the results for product markets. These results are only partially confirmed for individual policies:

- In the labour market area, crises tend to reduce the relative generosity of unemployment benefits for the long-term unemployed, perhaps reflecting stepped up efforts to eliminate "unemployment traps".

- In product markets, the result that crises appear to stimulate reforms is confirmed in air transport and postal services, while in other sectors they have either no or opposite effects on reform activity (*e.g.* in gas and rail).

43. No robust effects of *unemployment* are found on any of the aggregate indicators. However, there is some weak evidence that unusually large increases in unemployment lead to more labour market reform when these policies are very interventionist, as suggested by the significant and negative coefficient on the interaction term. The lack of results at the aggregate level is likely to be the result of contradictory effects for individual labour market policies:

43 The following discussion is generally based on coefficients that are significant and robust across estimation methods. In ambiguous cases, estimates stemming from the system GMM approach were privileged.

– There is some evidence that a higher unemployment rate leads to easier EPL for regular workers. There is also some evidence that a larger incidence of long-term unemployment is associated with easier EPL for temporary workers and lower tax wedges.

– However, there is also evidence that unusually high increases in unemployment rates are associated with increased employment protection (even though this effect is dampened when legislation is already relatively strict) and relatively more generous unemployment benefits for the long-term unemployed (the latter is also triggered by higher long-term unemployment).

– There is some evidence that higher unemployment tends to go along with a lower implicit tax rate on continuing work at older ages, inducing older workers to remain employed. This is somewhat surprising given the "lump of labour" fallacy that characterised policies towards older workers in many OECD countries.[44]

– Finally, higher unemployment rates are associated with higher tax wedges.

44. Comparing the results for big economic crises and unemployment suggests a political cycle in which incomes for the long-term unemployed are secured in bad times (such as when there are unusually large increases in employment), but the benefit system is reformed when the sense of urgency (*i.e.*, during big economic crises) becomes widespread among the electorate.

International influences

45. The effects of *international influences* (reforms in trading partners, liberalisation of trade flows, EU membership, EU Single Market Programme)[45] were found to be robust and significant in some of the regressions for the aggregate reform indicators. Such influences are generally associated with stepped up liberalisations in product markets and either no reform or less employment-friendly policies in labour markets. More specifically, estimates suggest that:

– In the overall product market area, market liberalisation in the main trading partners, lower tariff barriers and, for EU countries, the implementation of the Single Market Programme are conducive to domestic reforms, while no clear effect of liberalisation of financial markets was found. These aggregate results are partially confirmed at the industry level:

  - The positive effect of combined international influences is most robust in telecommunications. This is not surprising given the increasing importance of efficient communications for trade flows and the emphasis put by the EC on liberalisation in this area.

  - The tendency to emulate product market reforms in the main trading partners is strongest in road freight, telecommunications and, to a lesser extent, the electricity sector. Aside from the influence of EU directives, this probably reflects also learning and demonstration effects as well as more intensive cross-border competition than in other non-manufacturing sectors.

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44 However, an echo of these policies can be found in the tendency for unusually high unemployment rates to slow down the rate of convergence of implicit tax rates to the OECD mean.

45 . Various measures for trade openness (including for small countries) were also tested, but were all found to be insignificant.

- The pro-reform effect of the EU Single Market Programme is found in air transport, road freight, telecommunications and, to some extent, gas. The missing effect in postal services and the electricity sectors may reflect that EU directives left leeway for implementing liberalisation packages (electricity and post) or that the sector was liberalised earlier (road freight).

– In the overall labour market area, the liberalisation of international trade (measured here by lower tariff barriers) appears to be conducive to more intervention. However, the picture as regards international influences is more complex for specific labour market policies:

- There is some evidence that trade liberalisation generates pressures to make hiring of temporary workers more difficult through stricter EPL for this category of contract. At the same time, trade liberalisation is also associated with lesser generosity of unemployment benefits for the long-term unemployed.

- There is also some evidence that countries tend to follow reforms of implicit taxation on continuing work after 60 years implemented in the main trading partners.[46]

- Finally, while trade liberalisation is associated with higher tax wedges in OECD member countries, EU membership appears to correlate with lower tax wedges.

46. To reconcile these results, only conjectures are possible. For instance, redistribution away from the long-term unemployed may reflect the need to reallocate spending to enhance income support schemes that facilitate job-to-job transitions spurred by foreign competition. Tax wedges may also need to be increased to finance this kind of income support.[47]

47. Overall, the findings for international influences may reflect two concurrent political economy phenomena in the wake of globalisation. On the one hand, the threat of foreign competition may rally consensus for reforms that make domestic product markets more competitive (and efficient). On the other hand, the feared effects of globalisation on the international division of labour may generate resistance to labour market reforms and consensus for measures that increase workers' protection.

Interactions among different structural policies

48. Concerning *interactions among different structural policies*, two main results emerge from the regressions using the aggregate product and labour market policy indicators:

– The lagged indicator of product market regulation has a robust and significant positive effect on the change in the overall indicator of labour market policies. Thus, the idea that product market liberalisation can be a catalyst for subsequent labour market reform is supported by the data. However, at a more detailed policy level, evidence of this is only found in EPL for temporary workers.

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46 Perhaps this partly reflects extensive international benchmarking of the sustainability of pension systems in the OECD area.

47 Alternatively, this could be a statistical artefact driven by the fact that tax wedges have been relatively high in EU countries where tariff barriers are uniformly low. The tax wedges used in this work do not include indirect taxes, implying that the result that EU membership correlates with lower tax wedges may just reflect a re-balancing of taxes towards indirect taxes among EU members.

– In some regressions, the indicator of public ownership has a significant positive effect on the change in the overall indicator of product market regulation.[48] However, estimates at the industry level suggest that this has been the case only for air transport and, to a lesser extent, telecommunications.[49] A possible interpretation is that, in these sectors, privatisation policies may have facilitated subsequent liberalisation, perhaps reflecting weaker resistance to liberalisation by stakeholders in privatised firms.

49. Looking at *interactions between specific or industry-level policy areas* the following main results are noteworthy:

– Perhaps surprisingly, only little evidence of interactions among different kinds of labour market policies was found. In this context, one interesting "non-result"is that : There is no evidence that easing EPL for temporary workers leads to further reforms in EPL for permanent workers.[50]

– In the product market area, there are *spill-over effects* of reforms from some industries to others. The lack of spill-over effects for air transport and road freight may reflect that these sectors were among the first to be liberalised. In sectors where the liberalisation process started later, pro-competitive changes tended to be statistically associated with previous reforms in other sectors. In some cases, this may have reflected *inter alia* intermodal competition from other liberalised industries (*e.g.*, between air and rail transport) and demonstrative and learning effects from regulatory arrangements.[51]

Macroeconomic policies

50. Estimates suggest that some *macroeconomic policies* have an influence on reform efforts, although to a varying degree across policy areas. Almost no effect of fixed exchange rates - neither at the aggregated level nor for individual policies - was found.[52] Fiscal consolidation (the change in the primary surplus) was found to be associated with a slowdown of overall reform, due to its negative correlation with overall labour market reform, but little effects of fiscal consolidation on the individual labour market policies were found. Conversely, little effects of the fiscal position (net lending) were found in aggregate regressions, but significant and robust effects were found in some individual labour market areas. A healthy fiscal position (higher net lending) tends to be associated, on the one hand, with lower tax wedges,

48 It should be reminded that this indicator is defined net of the public ownership component for the purposes of the empirical analysis in this section.

49 This could indicate that prior privatisation can be helpful for the successful liberalisation of sectors with fewer natural monopoly elements, in which increasing the pressure of potential new entrants by establishing a level-playing field is crucial. A possible additional factor is that workers' resistance to liberalisation in these largely competitive sectors may be easier to curb when the incumbent is already subject to private company law and industrial relations (see Box 2).

50 If anything, the results suggest that policy changes that make EPL for permanent workers more stringent are followed by similar changes in EPL for temporary workers.

51 . Another possible explanation of the sequencing of sectoral reforms is the existence of potential bottlenecks in the reform capacity at the political and administrative levels. To address such problems some countries have established central units to manage such reforms.

52 The contrast to the findings by Duval and Elmeskov (2005) may reflect their focus on the occurrence of major reforms in a somewhat different subset of policy areas.

lower implicit taxation on continuing work after the age of 55 years and, on the other hand, with more generous benefits for the long-term unemployed.[53]

Political institutions

51. Results for aggregate labour and product market policy indicators suggest that structural reform are introduced by *mature governments* (*i.e.*, more than two years old) perhaps reflecting the time needed to overcome political and administrative obstacles.[54] The *political orientation of the government* was found to have a slowing effect on overall reform intensity in the case of left-of-centre governments. However, little effects of political institutions were found in the individual policy areas. Still, left-of-centre governments tend to increase the relative generosity of unemployment benefits for long-term unemployed, and tend to decrease the implicit tax rate on continuing work after 60 years.[55]

Demography

52. Increases in *old-age dependency ratios* are associated with more overall product market reforms, an effect that is only partially confirmed at the industry level. In the labour market area, a similar pro-reform effect was found for the implicit taxation of continuing work after 55.

Industrial relations

53. Somewhat surprisingly, no robust evidence was found concerning the effects of bargaining systems and industrial relations (union density and strike activity) on the propensity to implement structural reform.

53 In the product market area, a sound fiscal position was found to further reforms in telecommunications. As this sector used to be dominated by publicly-owned companies, the result could be indicative of a need for financing measures that secure the pension rights of employees (see Box 2). At the same time, an improving primary balance has been associated with slower reform in the electricity sector.

54 The lack of evidence for the aggregate indicator maybe related to an estimation period which is shorter than in the product market area.

55 Other potential effects of political institutions (such as proportional versus majority rule and the size of majority in parliament) were tested but were found to be insignificant in both aggregate and individual policy regressions.

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LIST OF TABLES AND FIGURES

Tables

Figures

Table 1. Variables used in the regressions and interpretation of coefficient estimates

Variables	Brief description	Interpretation
A. Dependent variables		
Overall structural policy indicator	The simple average of the labour and product market indicators	A reduction in the value of the variable signifies deregulation
Product market policy indicator	The average of indicators for barriers to entry, market structure, vertical integration, and price controls in the following sectors: gas, electricity, postal services, telecommunications, passenger air transport, railways, and road freight.	ditto
Labour market policy indicator	The average of indicators of strictness of EPL, tax wedges, implicit tax rates on continued work for 55-59 and 60-64 years, and generousity of the UB system	ditto
B. Explanatory variables		
Initial structural conditions		
Lagged dependent variable		A negative and significant coefficient signals a convergence process towards a country-specific level, which is determined by the country's economic and political environment
… interacted with other explanatory variables	The product of the lagged dependent variable and an explanatory variable	A negative and significant coefficient indicates that the converngence is reinforced by the explanatory variable, implying a faster convergence process for countries with a high value of the dependent variable
Public ownership	Average of public ownership in the seven non-manufacturing industries covered by the product market policy indicator	A positive and significant coefficient indicates that public ownership hinders structural reform
Macroeconomic variables		
Unemployment rate	Share of unemployed over the labour force, national account definitions	A negative and significant coefficient signals that higher unemployment induces reforms
Long-term unemployment	Share of unemployed that have been unemployed more than 1 year	A negative and significant coefficient signals that a stronger incidence of long-term unemployment induces reforms
Large increase in unemployment	Dummy for when the unemployment rate increases by more than two times its standard deviation in the overall sample	A negative and significant coefficient indicates that unusually large increases in unemployed leads to reform
….interacted with lagged dependent variable		A negative and signficant coefficient indicates that unusual large increases in unemployment lead to faster convergence of reforms for countries with a high value of the dependent variable
Big economic crisis(-1,-2,-3)	Dummies for when the output gap is larger than - 4% (at different lags)	A negative and significant sum of coefficients on the three lags shows that the long-run effect of an unusual large output gap is to reform
Macroeconomic policies		
General government net lending	The annual financing needs of the general government	A negative and significant coefficient signals that an increase in net lending leads to structural reforms.
Change in cyclically adjusted primary surplus	Measures changes in the general government's structural budget deficit (excluding interest payments).	A positive and significant coefficient signals that an acceleration of fiscal consolidation in the past slows down the implementation of structural reforms.
Fixed exchange rate policy	Dummy for pursuing a fixed exchange rate policy	A negative and significant coefficient signals that pursuing this policy leads to structural reforms.
Political institutions		
Ideology, left-of-center government	Dummy for when the political orientation of the government is left-of-centre	A positive and significant coefficient signals reduced reform efforts
Mature government	Dummy for when the government has been in office for more than two years	A negative and significant coefficient suggests that mature governments implement reforms
International influences		
Structural policy indicator in main trading partners	The structural policy indicator (the dependent variable) in the three main trading partners, weighted by their relative trade shares with the home country	A positive and significant coefficient signals that domestic structural reforms are affected by policies implemented in simil areas by trading partners
EU membership	Dummy for EU membership	A negative and significant coefficient signals larger domestic reform efforts
EU's internal market programme	Dummy for EU's internal market programme times the lagged dependent variable	A negative and significant coefficient signals that the EU's Single Market Programme has increased convergence of reforms
Demography		
Old age dependency ratio	the share of the 65+ years old in total population	A negative and significant coefficient indicates that an increase in the old age dependency ratio leads to greater reform efforts.

Table 1 (cont.)

Interaction with regulations in other policy areas		
Financial market policy indicator	A composite index including credit controls, interest rate controls, and restrictions on international transactions	A positive and significant coefficient suggests that financial market reforms induce reforms in labour and product markets
International tariff barriers	Ratio of customs and import duties to the value of imports	A positive and significant coefficient suggest that trade liberalisation is conducive to domestic reforms.
Product market indicator	as above	A positive and significant coefficient indicates that product market liberalisation induces labour market reforms
Interactions with other labour market institutions		
EPL for temporary workers	Measuring the strictness of EPL for workers with fixed-term contracts	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
EPL for regular workers	Measuring the strictness of EPL for workers with indefinite contracts	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
UB replacement benefit for low income workers	The first year UB replacement rate for workers earning 66 per cent of an average production worker's (APW) income	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
UB generosity for long-term unemployed	The replacement rate after 4/5 years of unemployment relative to the replacement rate for first year unemployed	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
Tax wedge on labour income	The share of personal income tax and all social security contributions (net of social benefits) to total labour cost for two family types (single and a couple with dependent spouse and two children with an income equal to 100 of APW earning).	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
Implicit tax rate on continued work for 55-59 years and 60-64 years	The weighted average of implicit tax rates on continued work for 55 and 59 years relative to early retirement and for 60 and 64 years relative to early retirement and old age pension scheme.	A positive and significant coefficient indicates that a reform in the explanatory policy variable induce reforms in dependent policy variable
Industrial relations		
Indicator of corporatism	Degree of wage centralisation weighted by the prevalence of automatic extensions of wage contracts.	A negative and significant coefficient suggests that higher degrees of corporatism is conducive to reforms.
Union density	Union coverage by individual membership	A negative and significant coefficient implies that higher union density stimulates reform efforts
Strikes	Strike days per 1000 workers	A positive and significant coefficient signfies that increased strike activity hampers reforms.

Table 2. Political economy determinants of changes in aggregate policy indicators

(All policy indicators are increasing in restrictions)

	Change in overall structural policy indicator[1]						Change in labour market policy indicator						Change in product market policy indicator[2]					
	General model			Specific model			General model			Specific model			General model			Specific model		
Econometric method	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**
Initial structural conditions, convergence																		
Lagged level of dependent variable	.	--	.	.	--	.	--	--	.	--	--	--	--	--	.	--	--	--
Macroeconomic conditions																		
Unemployment rate (-1)	.	.	.				.	.	.									
Big economic crisis(-1,-2,-3)[3]	--	--	--	--	--	--	.	.	.				--	--	--	--	--	--
Large increase in unemployment rate(-1)	.	.	.				.	.	.									
……interacted lagged level of dependent variable	.	.	.				.	.	.	.	.	--						
Macroeconomic policies																		
Net lending of general government (-1)	.	.	.				.	.	.	.	--	--	.	.	.			
Change in cyclically adjusted primary surplus (-1)	+	+	+	+	+	+	+	+	+	+	+	+	.	.	.			
Fixed exchange rate policy	.	.	.				.	.	.				.	.	.			
Political institutions																		
Ideology, left-of-center government	+	+	+	+	+	+	.	+	.	+	.	+	.	.	.			
Mature government (more than 2 years in office)	.	.	.				--	--	--	--	--	--	--	--	--	--	--	--
International influences																		
Structural policy indicator in main trading partners (-1)[4]	.	+	.	.	+	.	+	.	.	+	.	+	+	+	+	+	+	+
International tariff barriers(-1)	.	.	.				--	--	--	--	--	--	+	.	.	+	.	+
EU membership dummy(-1)	.	.	.	.	+	.	.		.	+	+	.	.	.	.			
EU single market programme(-1)[5]	--	--	--	--	--	--	.	.	.				--	--	--	--	--	--
Financial market policy indicator(-1)	.	--	.	.	--	.	.	.	.				.	.	.			
Demography																		
Old age dependency ratio(-1)	.	.	.				.	.	.				--	--	--	--	--	--
Interactions with policies in other areas																		
Product market policy indicator(-1)							+	+	+	+	+	+						
Public ownership(-1)[6]													.	+	.	+	+	.
Industrial relations																		
Indicator of corporatism(-1)[7]	.	.	.				.	.	.				.	.	.			
Union density(-1)	.	.	.				.	.	.				.	.	.			
Strikes(-1)	.	.	.			--	.	.	.				.	.	.			
Observations	254			254			254			318			364			554		
Period	1985-2003			1985-2003			1985-2003			1985-2003			1975-2003			1975-2003		
Number of countries	18			18			18			18			19			20		

Legend: O: OLS; F: Fixed effect; G: system GMM

.= non significant; +/-- = significant at 10% level; **+/--** = significant at 5% level.

1. The aggregate structural policy indicator is a summary indicator of both OECD wide product and labour market indicators using equal weights. The aggregate indicator is normalised and values close to 0 indicates least regulated markets.

2. The product market regulation indicator is defined excluding public ownership.

3. The big crisis variable was tested for three lagged periods. The reported coefficients summarise statistics for the long-run effects.

4. The weighted average (using the relative trade weights) of the level of the dependent variable in the three main trading partners.

5. Single market dummy interacted with the lagged level of the dependent variable

6. Average public ownership in the seven non-manufacturing sectors reported in table 4.

7. A summary measure of degree of bargaining centralisation and coordination.

Source: OECD Secretariat's calculations

Table 3. Political economy determinants of changes in indicators of specific labour market policies

(All policy indicators are increasing in restrictions)

Increase in labour market indicator in the following areas …	Overall EPL						EPL regular workers						EPL[1] temporary workers						Replacement benefits for low income workers[2]					
	General			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***		
	O	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**
Initial structural conditions																								
Lagged dependent variable (-1)	.	**--**	.	**--**	**--**	**--**	.	**--**	--	**--**	.	**--**	--	**--**	**--**	--	**--**	**--**	**--**	.	**--**	**--**	--	**--**
Macroeconomic conditions																								
Unemployment rate(-1)	.	.	.				--	--	--	.	.	**--**	.	.	.				+	.	.			
Big economic crisis(-1,-2,-3)[3]	.	.	.				.	.	+				.	.	.				--	.	**--**			
Large increase in unemployment rate(-1)	+	+	+	+	+	.	.	.	.				.	.	.	.	.	.	.	.	.			
..... interacted with lagged dependent variable	**--**	**--**	**--**	--	**--**	**.**	.	.	--					.	--		--		.	.	.			
Long term unemployment rate(-1)	.	.	.				+	.	+				.	.	.	**--**	.	**--**	.	.	.			
Macroeconomic policies																								
Net lending of general government (-1)	.	.	.				.	.	.				.	.	.				.	.	.			
Change in cyclically adjusted primary surplus(-1)	.	+	+				.	.	.				.	+	+	.	.	+	.	--	--	--	**--**	**--**
Fixed exchange rate policy(-1)	.	.	.				.	.	.				.	.	.				.	.	.			
Political institutions																								
Ideology, left of center government	.	.	.				.	.	.				.	.	.				--	**--**	.			
Mature government (more than 2 years in office)	.	.	.				.	.	.				.	.	.				.	.	.			
International influences																								
Structural policy indicator in main trading partners (-1)[4]	.	.	.				.	.	--				.	.	.				.	.	.			
International tariff barriers(-1)	.	.	--				.	.	.					.	**--**	**--**	.	**--**	.	.	.			
EU membership dummy(-1)	.	.	.				--	.	**--**				.	.	.				--	.	.			
Financial market policy indicator(-1)	.	.	**--**				--	.	--				.	.	.				.	+	.			
Demography																								
Old age dependency ratio(-1)	.	.	.				.	**--**	.				.	.	.				.	.	.			
Interaction with policies in other areas																								
Product market policy indicator(-1)	**+**	**+**	**+**	**+**	**+**	**+**	.	.	.				**+**	**+**	**+**	**+**	**+**	**+**	.	.	.			
Interactions with other labour market policies																								
EPL temporary workers (-1)							.	.	.															
EPL regular workers(-1)													.	.	.	.	.	**+**						
Overall EPL																			**+**	.	.	**+**	.	.
Unemployment benefit replacement rate for low income workers (-1)	.	.	.				.	**+**	.				.	.	.	.	--	.						
Generosity for long-term unemployed(-1)	.	.	.				.	.	.				.	.	.	.	.	**+**						
Industrial labour relations																								
Indicator of corporatism(-1)[5]	.	.	**--**				.	.	.				.	.	**--**	.	.	**--**	**+**	+	+	**+**	**+**	.
Union density(-1)	--	--	**--**	.	**--**	.	.	--	.				--	.	**--**	.	.	--	.	.	.			
Strikes(-1)	+	.	.				.	.	.				.	.	+	+	.	**+**	.	+	.			
Observations	258			373			258			373			258			271			259			349		
Number of countries	19			21			19			21			19			20			19			20		

Legend: O: OLS; F: Fixed effect; G: system GMM

.= non significant; +/-- = significant at 10% level; **+/--** = significant at 5% level.

1. Employment Protection Legislation
2. Defined as the replacement rate for workers with 66% APW for the first year in unemployment.
3. The big crisis variable was tested for three lagged periods. The reported coefficients summarise the long-run effects.
4. The weighted average (using the relative trade weights) of the dependent variable in the three main trading partners.
5. A summary measure of degree of bargaining centralisation and coordination.

Note: Negative signs for estimated coefficients indicate positive effects of the variable on implementing the explained reforms. However, for regulatory policy variables (such as trade, finance, product and labour markets) their coefficients should be positively signed as reforms in these areas are indicated by negative changes in the degree of regulations. All regressions include a constant term.

Source: OECD Secretariat's calculations

Table 3. Political economy determinants of changes in indicators of specific labour market policies (cont.)

(All policy indicators are increasing in restrictions)

Increase in labour market indicator in the following areas …	Generosity for long term unemployed[1]						Tax wedge						Implicit tax rate on continued work (55-59 years)						Implicit tax rate on continued work (60-64 years)					
	General			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***		
	O	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**
Initial structural conditions																								
Lagged dependent variable (-1)	**--**	.	**--**	**--**	.	**--**	--	**--**	**--**	.	**--**	.	**--**	.	**--**	**--**	**--**	**--**	--	.	**--**	**--**	--	--
Macroeconomic conditions																								
Unemployment rate(-1)	.	.	.				+	**+**	**+**	**+**	**+**	**+**	.	.	.	**--**	**--**	--	.	--	.			
Big economic crisis(-1,-2,-3)[2]	.	.	--	**--**	--	**--**	.	**--**	.	.	**--**	.	.	.	.				.	.	--			
Large increase in unemployment rate(-1)	.	**+**	.	**+**	**+**	**+**	.	.	.				.	.	.	.	.	.	.	.	.			
….. interacted with lagged dependent variable	.	.	.				.	.	.				.	.	+	+	.	**+**	.	.	.			
Long term unemployment rate(-1)	.	.	.	**+**	.	**+**	**--**	.	**--**	**--**	.	**--**	.	.	.				.	.	.			
Macroeconomic policies																								
Net lending of general government (-1)	**+**	**+**	**+**	**+**	**+**	**+**	**--**	**--**	**--**	**--**	**--**	**--**	--	.	.	**--**	**--**	--	.	.	.			
Change in cyclically adjusted primary surplus(-1)	.	.	.				.	.	.				+	+	.	.	**+**	.	.	.	.	+	.	**+**
Fixed exchange rate policy(-1)	.	.	.				+		**+**	+	.	+	.	.	.				.	.	.	**--**	.	.
Political institutions																								
Ideology, left of center gov	.	**+**	**+**	.	**+**	.	.	.	.				.	.	.				--	**--**	**--**	.	--	.
Mature government (more than 2 years in office)	.	.	.				.	.	.				.	.	.				.	.	.			
International influences																								
Structural policy indicator in main trading partners (-1)[3]	.	.	.	.	.	**+**	.	.	.				.	.	.				**+**	.	**+**	**+**	.	**+**
International tariff barriers(-1)	**+**	.	**+**	**+**	.	**+**	.	--	**--**	**--**	**--**	**--**	.	.	.				.	--	.			
EU membership dummy(-1)	.	.	**+**				.	**--**	--	**--**	**--**	**--**	.	.	.				.	.	.			
Financial market policy indicator(-1)	.	.	.				.	.	.				.	.	.				.	.	.			
Demography																								
Old age dependency ratio(-1)	.	.	.				.	.	.				.	.	.	**--**	**--**	**--**	.	**--**	.			
Interaction with policies in other areas																								
Product market policy indicator(-1)	.	.	.				.	.	.				**+**	.	**+**				.	.	.			
Interactions with other labour market policies																								
EPL temporary workers (-1)													.	.	.				--	**--**	.			
EPL regular workers(-1)													.	.	.	+	.	**+**	.	.	.			
Overall EPL	**--**	.	**--**	**--**	.	**--**	+	.	**+**	**+**	.	**+**												
Unemployment benefit replacement rate for low income workers (-1)	.	.	**+**				.	.	.				.	.	.				.	.	**--**	--	.	**--**
Generosity for long-term unemployed(-1)							**+**	.	**+**	**+**	--	**+**	.	.	.				**--**	--	--			
Industrial labour relations																								
Indicator of corporatism(-1)[4]	.	.	.				.	.	.				.	.	.				.	.	.			
Union density(-1)	.	.	.				.	**+**	.				.	.	.				.	.	.			
Strikes(-1)	**+**	.	**+**	**+**	.	.	.	.	.				.	.	.				.	.	.			
Observations	257			261			258			310			258			337			258			339		
Number of countries	19			19			19			19			19			19			19			19		

Legend: O: OLS; F: Fixed effect; G: system GMM

.= non significant; +/-- = significant at 10% level; **+/--** = significant at 5% level.

1. The replacement rate after 4/5 years of unemployment relative to the replacement rate for first year unemployed
2. The big crisis variable was tested for three lagged periods. The reported coefficients summarise the long-run effects.
3. The weighted average (using the relative trade weights) of the dependent variable in the three main trading partners.
4. A summary measure of degree of bargaining centralisation and coordination.

Note: Negative signs for estimated coefficients indicate positive effects of the variable on implementing the explained reforms. However, for regulatory policy variables (such as trade, finance, product and labour markets) their coefficients should be positively signed as reforms in these areas are indicated by negative changes in the degree of regulations. All regressions include a constant term.

Source: OECD Secretariat's calculations

Table 4. Political economy determinants of changes in indicators of industry-level product market policies

(All policy indicators are increasing in restrictions)

Change in product market indicator[1] in the following sectors…	Airline						Road						Post						Gas						Telecommunications						Electricity						Rail					
	General			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***			***General***			***Specific***		
	O	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**	**O**	**F**	**G**
Initial structural conditions																																										
Lagged dependent variable	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	.	.	--	.	.	.	.	--	--	--	--	--	--	--	--	--	--	--	--	--	.	--	--	--	.
Macroeconomic conditions																																										
Big economic crisis(-1,-2,-3)[2]	.	.	--	--	--	--	.	.	.				--	--	--	--	--	--	+	.	+	+	.	+	.	.	.				--	.	--				+	+	+	+	+	.
Macroeconomic policies																																										
Net lending of general government (-1)	.	.	.				.	.	.				.	.	.				.	.	.				--	.	--	--	.	--	--	.	--	.	.	--	.	--	.	.	.			
Change in cyclically adjusted primary surplus(-1)	.	.	.				.	.	.				.	.	.				.	.	.				.	.	+				+	+	+	+	+	+	.	--	.			
Fixed exchange rate policy	.	.	.				.	.	.				.	+	.				.	.	.				.	.	.				.	.	.				.	.	+	+	+	+
Political institutions																																										
Ideology, left-of-center government (-1)	.	.	.				+	+	+	+	+	+	.	.	.				.	.	.	.	.	.	.	.	.				.	.	.				.	.	.			
Mature government (more than 2 years in	.	.	.				--	.	--				.	.	.				.	.	.				.	.	.				.	.	.				.	.	.			
International influences																																										
Product market regulations in main trading partners (-1)[3]	--	.	.				+	+	+	+	.	+	.	.	.				.	+	.	.	+	+	+	+	+	+	+	+	.	+	.	+	+	.	.	--	.			
EU membership (-1)	+	.	+	+	+	.	.	.	.				.	.	.				--	.	--				.	.	.				.	.	.				+	+	.	.	+	.
EU single market programme(-1)[4]	--	--	--	--	--	--	.	.	.				.	+	.				.	--	--	.	--	.	--	.	.	--	--	--	.	.	.				--	--	.	--	--	--
Financial market policy indicator(-1)	+	+	.	+	+	+	.	.	.				.	.	.				.	--	.	.	--	.	.	.	.				.	--	.				.	.	.			
Demography																																										
Old age dependency ratio(-1)	--	.	.	--	--	.	.	--	.	.	--	.	.	--	--	--	--	.	.	.	.				.	--	.	.	--	.	--	.	--	--	.	--	.	+	.			
Interactions with policies in other areas																																										
Public ownership(-1)[5]	+	+	+	+	+	+							.	.	.				+	.	.				.	+	+	+	.	+	.	.	.				.	.	.			
Product market policy indicator, other sectors(-1)	.	.	.				.	.	.				.	+	.	+	+	+	+	.	+	+	.	+	.	.	.				.	.	+	+	+	+	+	+	+	+	+	+
Industrial labour relations																																										
Indicator of corporatism(-1)[6]	.	.	--	--	.	--	.	.	.				.	.	.				.	+	.	.	+	.	.	.	.				.	+	.	.	+	.	.	+	.			
Union density(-1)	.	.	.				.	.	.				.	.	.				.	+	.				.	--	.				.	.	.				.	+	.			
Strikes(-1)	.	.	.				.	.	.				+	.	+				.	.	.				.	.	.				.	.	.				.	.	.			
Observations	364			508			364			588			364			588			364			508			364			489			364			465			364			588		
Number of countries	19			20			19			21			19			21			19			20			19			19			19			19			19			21		
Period	5-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003			1975-2003		

.= non significant; +/-- = significant at 10% level; **+/--** = significant at 5% level.

1. Industry-level product market indicators exclude the public ownership component.

2. The big crisis variable was tested for three lagged periods. The reported coefficients summarise the long-run effects.

3. The weighted average (using the relative trade weights) of the dependent variable in the three main trading partners.

4. Single market dummy interacted with the lagged level of the dependent variable

5. Public ownership in the considered non-manufacturing sector.

6. A summary measure of degree of bargaining centralisation and coordination.

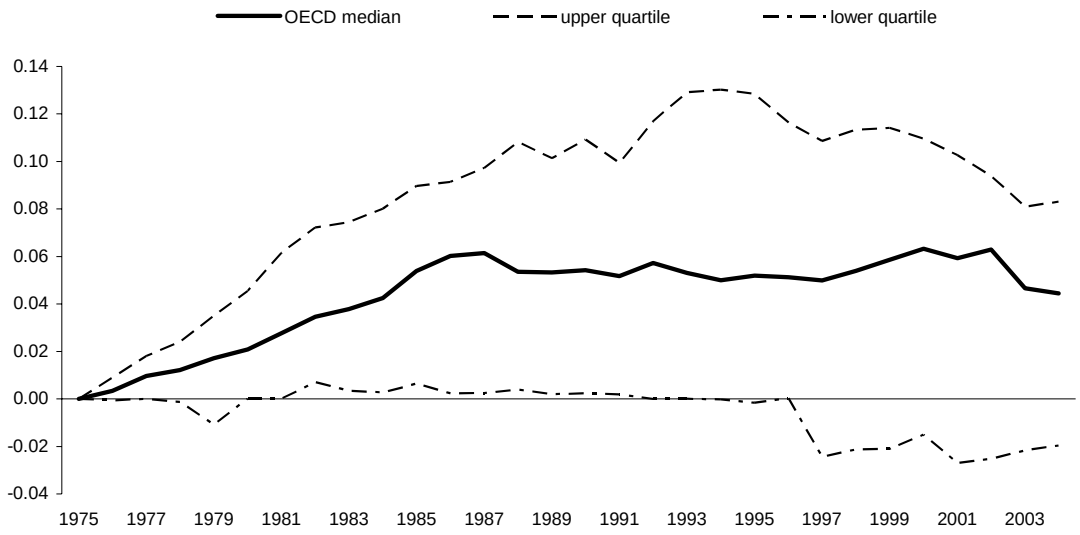
Note: Negative signs for estimated coefficients indicate positive effects of the variable on implementing the explained reforms. However, for regulatory policy variables (such as trade, finance, product and labour markets) their coefficients should be positively signed as reforms in these areas are indicated by negative changes in the degree of regulations.

Source: OECD Secretariat's calculations

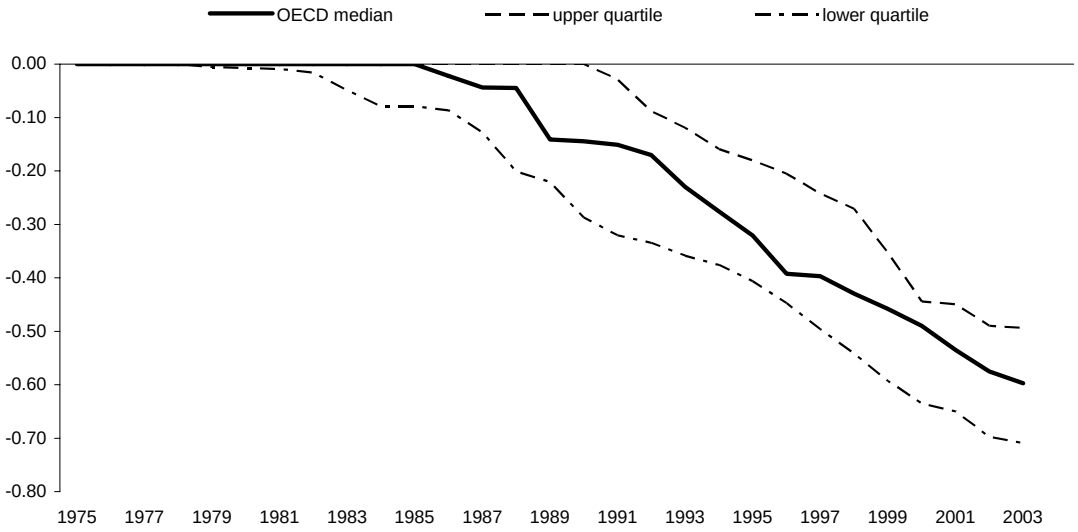
Figure 1. OECD wide indicators of labour[1] and product market[2] policies

(Cumulative changes[3] from 1975 base year, distribution across countries)

A. Indicator of labour market intervention



B. Indicator of product market regulations



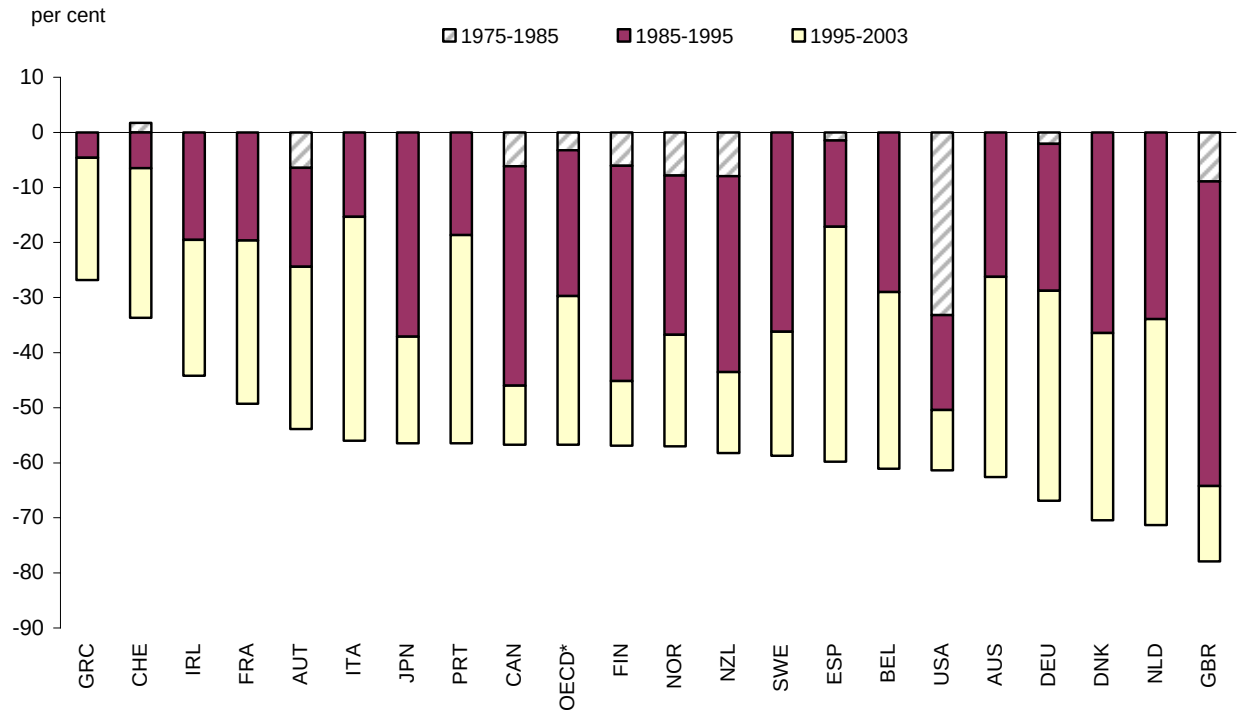
1. The indicator of labour market interventions is measured as a simple average of 4 labour market indicators: employment protection, unemployment benefit systems, implicit tax rates on continued work for older workers and the labour tax wedges. All indicators are normalised ranging from 0 to 1, expressed as percent of maximum score across OECD countries and over time, where 1 indicates relatively most restrictive labour markets.

2. The product market indicator of regulations is measured as a simple average of regulation in 7 non-manufacturing sectors: Rail, road, airlines, gas, electricity, telecom and post. The indicators are normalised, ranging from 0 to 1, expressed as percent of maximum score across OECD countries, where 1 reflects relatively most regulated product markets.

3. Negative changes reflect reductions in the degree of rigidities/regulations for both labour and product markets. Negative cumulative changes indicate the intensity of gradual policy reforms over time but do not take into account cross-country differences in initial conditions.

Figure 2. Reform intensity in product market reforms, 1975-2003

(per cent change in the indicator[1])



(*) Simple average across 21 OECD countries

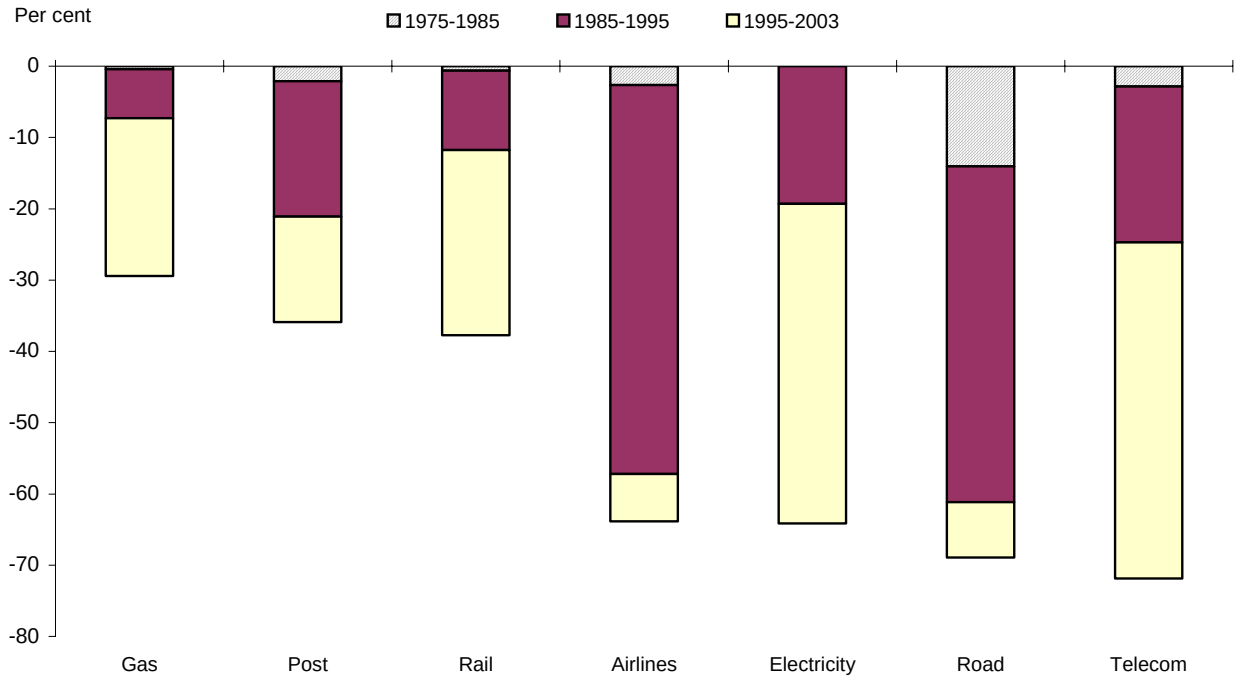
1. The product market indicator of regulations is measured as a simple average of regulation in 7 non-manufacturing sectors: Rail, road, airlines, gas, electricity, telecom and post. The indicators are normalised, ranging from 0 to 1, expressed as percent of maximum score across OECD countries, where 1 reflects relatively most regulated product markets.

Note: The total bar indicates the per cent reduction in regulations over the period 1975-2003, broken down into 3 sub-periods.

Source: OECD

Figure 3. Timing and scope of industry-level product market reform

(per cent change in the indicators)

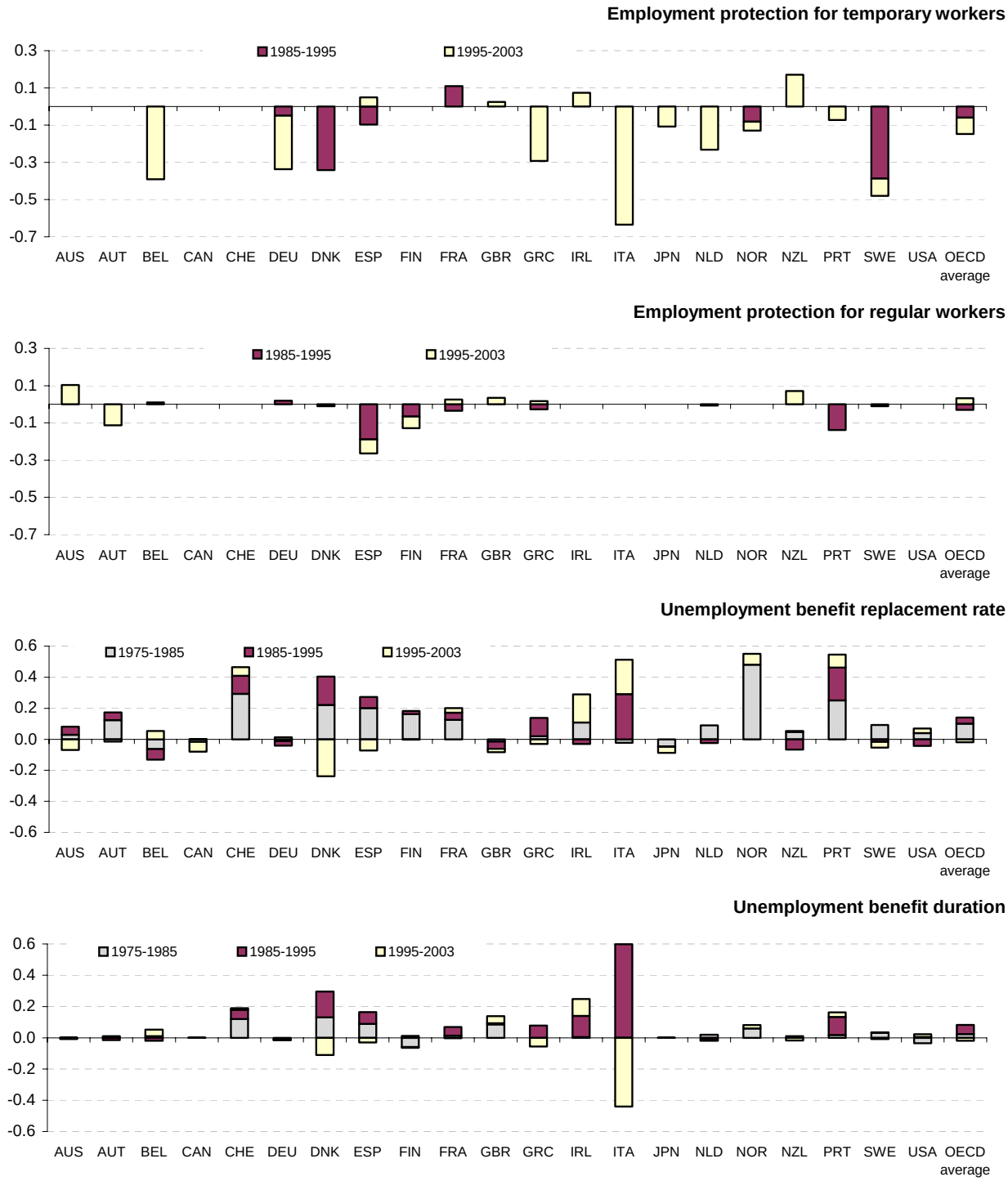


Note: The total bar indicates the per cent reduction in regulations over the period 1975-2003, broken down into 3 sub-periods.

Source: OECD

Figure 4. Individual labour market reforms over the past decades

(absolute change in the indicators)



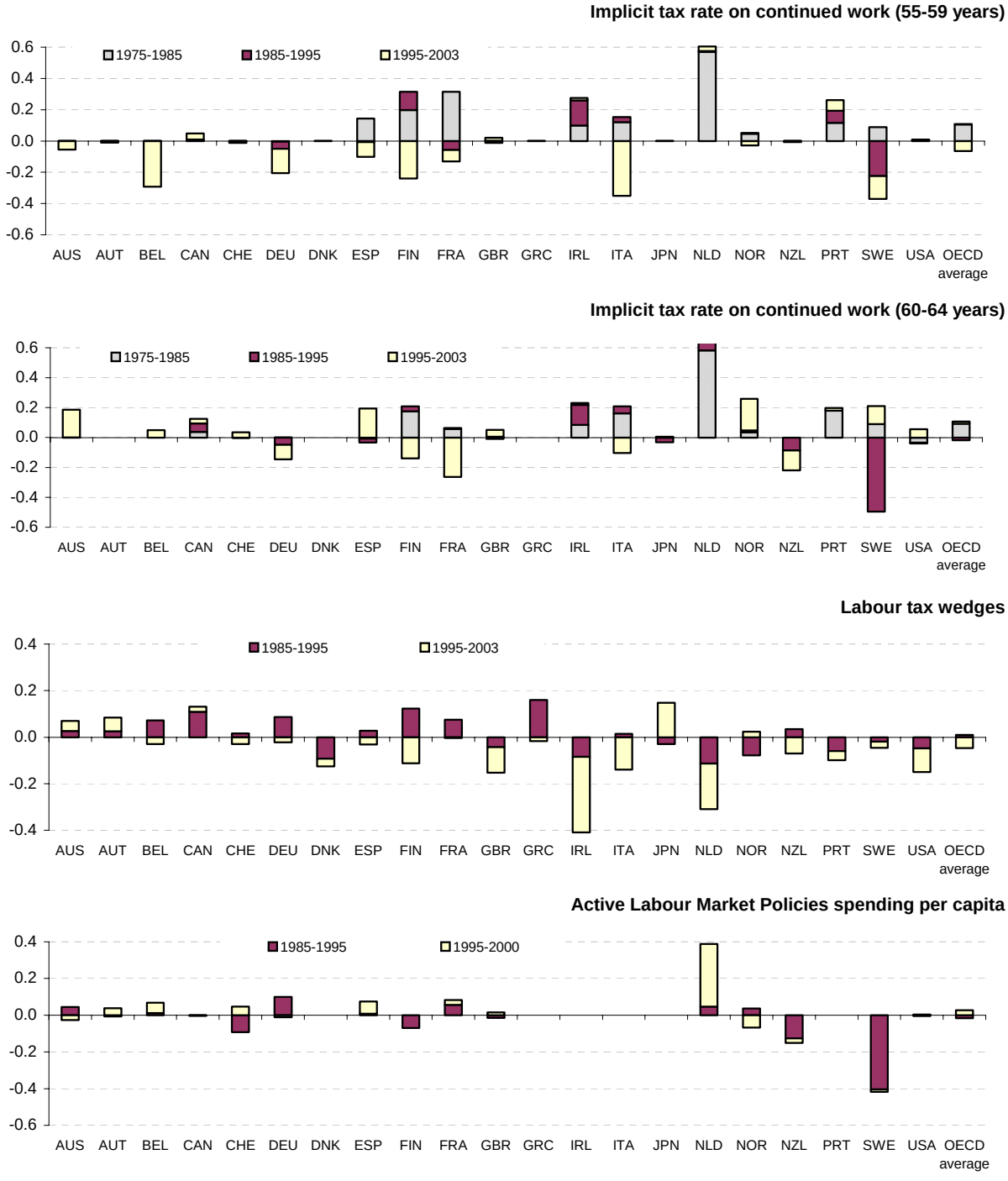
Notes :

1. All indicators are normalised ranging from 0 for to 1 expressed as per cent of maximum score across OECD countries, where 1 indicates relatively most restrictive labour market policies

2. Definitions of individual labour market indicators can be found in the annex.

Source: OECD

Figure 4 (cont'd). Individual labour market reforms over the past decades



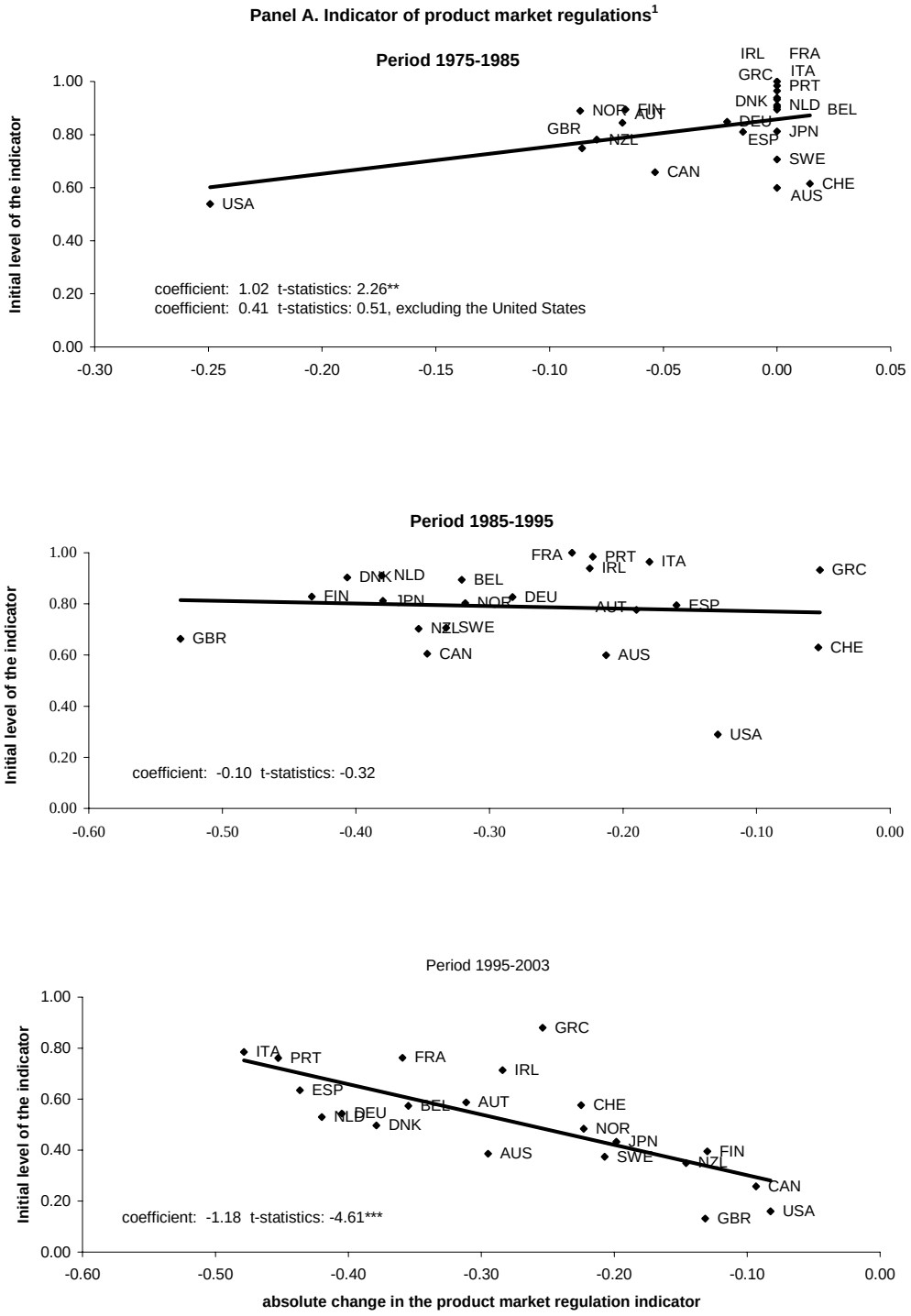
Notes :

1. All indicators are normalised ranging from 0 for to 1 expressed as per cent of maximum score across OECD countries, where 1 indicates relatively most restrictive labour market policies

2. Definitions of individual labour market indicators are provided in the annex.

Source: OECD

Figure 5. Initial conditions, and structural reform in product and labour markets

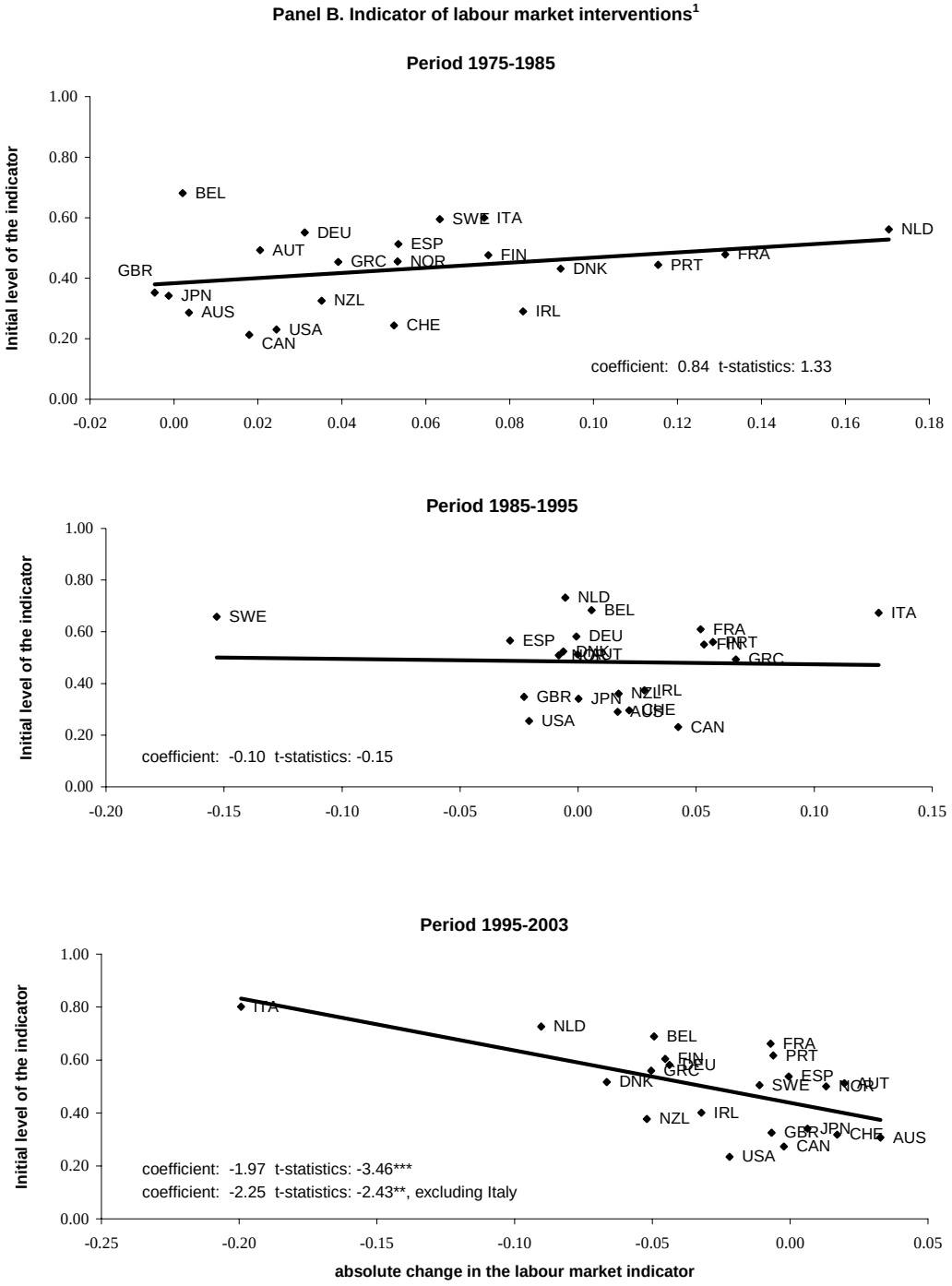


Source: OECD

1. The product market indicator of regulations is measured as a simple average of regulation in 7 non-manufacturing sectors: Rail, road, airlines, gas, electricity, telecom and post. The indicators are normalised, ranging from 0 to 1, expressed as percent of maximum score across OECD countries, where 1 reflects relatively most regulated product markets

Figure 5 (cont'd). Initial conditions, and policy reforms in product and labour markets

Panel B. Indicator of labour market interventions[1]

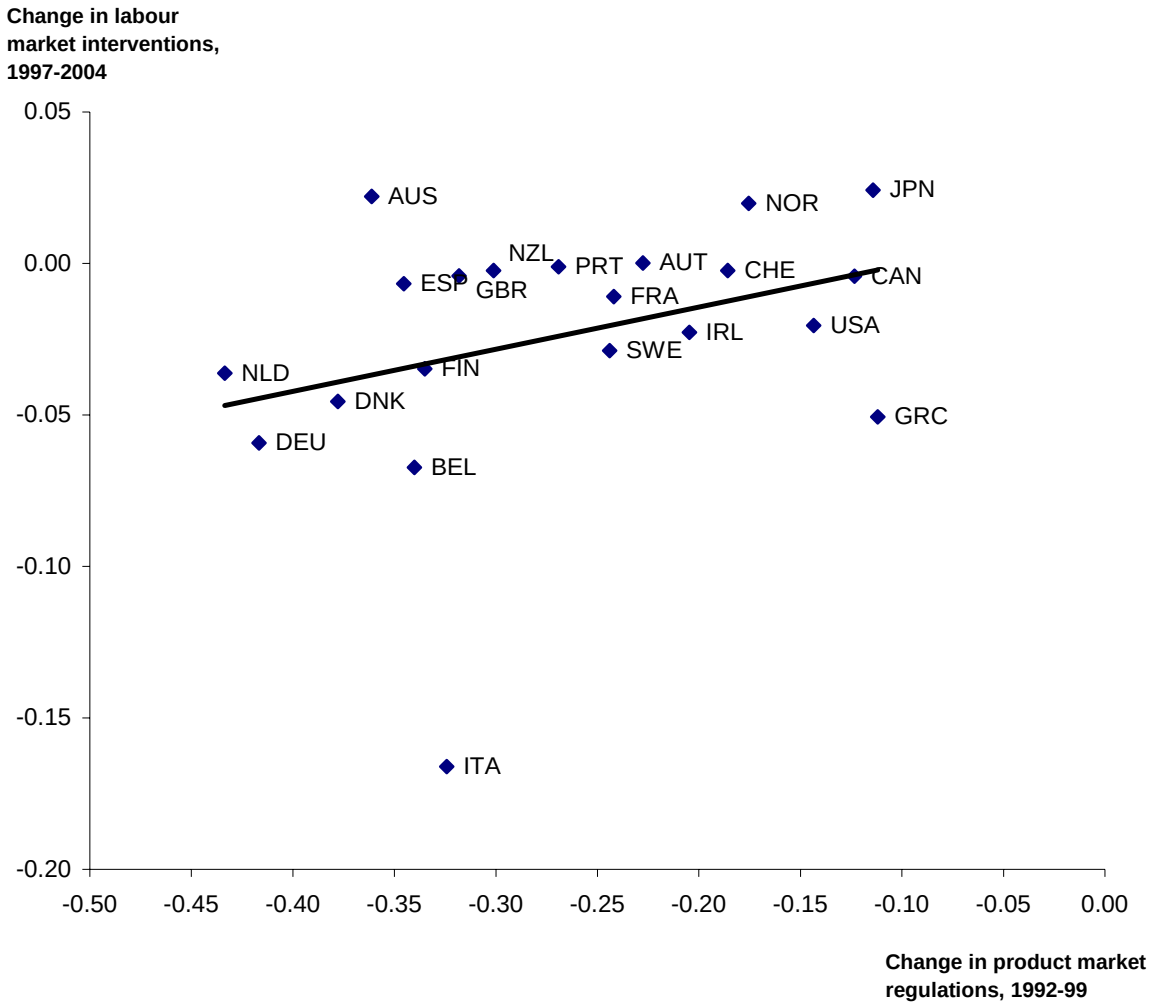


Source: OECD

1. The product market indicator of regulations is measured as a simple average of regulation in 7 non-manufacturing sectors: Rail, road, airlines, gas, electricity, telecom and post. The indicators are normalised, ranging from 0 to 1, expressed as percent of maximum score across OECD countries, where 1 reflects relatively most regulated product markets

Figure 6. Liberalisation of product market over 1992-1999 and reforms in labour market over 1997-2004

(absolute change)



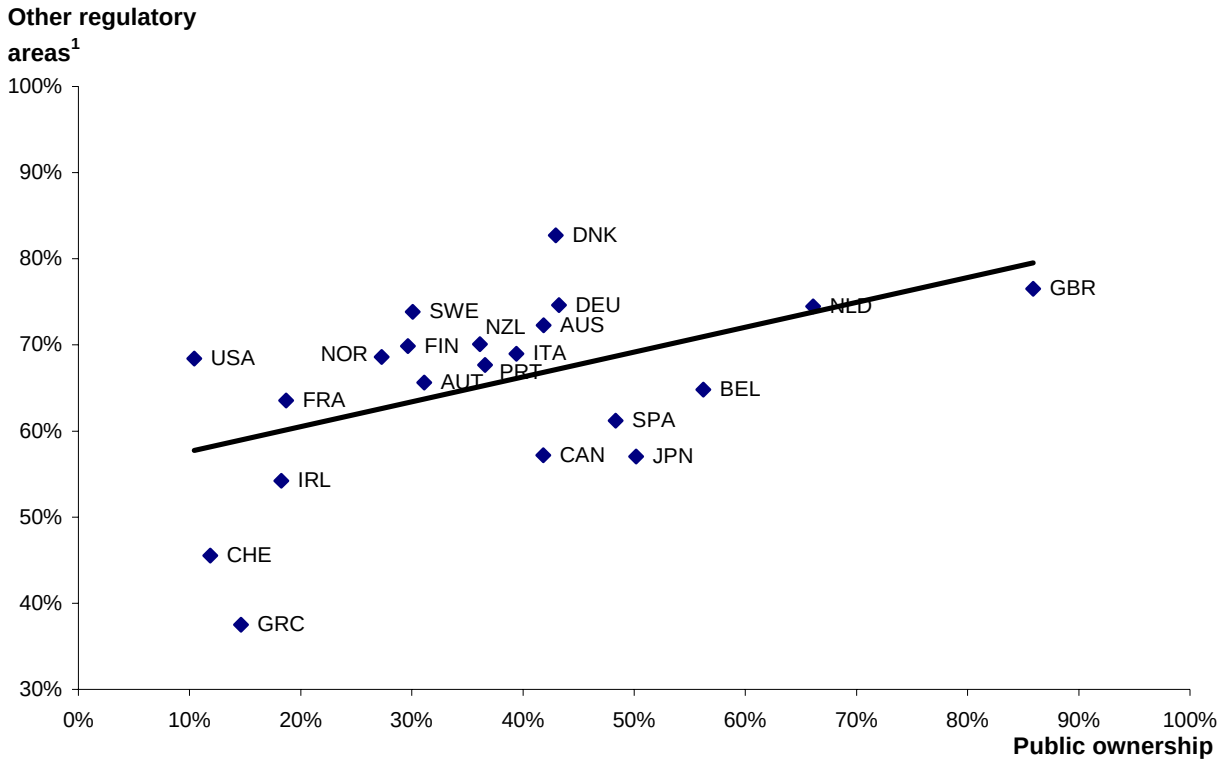
coefficient: 0.13 t-statistics: 1.54*

Note: Both restrictiveness indicators of labour and product markets are normalised, ranging form 0 to 1.

Source: OECD

Figure 7. Product market liberalisation and changes in other regulatory areas, 1975-2003

(percent change)



correlation coefficient: 0.28 t-statistics: 2.52**

1. Other regulatory areas include barriers to entry, price controls, vertical integration but exclude public ownership.

Source: OECD

ANNEX 2. THE POLITICAL ECONOMY OF STRUCTURAL REFORM

ECONOMETRIC ISSUES

Introduction

54. This annex describes the econometric issues involved in estimating the models of the political economy of structural reform, including econometric methods, the main problems encountered, and how these problems were addressed.

55. Explaining reform patterns within a political economy framework is a relatively recent development. The present investigation expands on existing work by IMF (2004) and Duval and Elmeskov (2005) by using a linear specification of both aggregate and specific structural policies, which allows for a more detailed investigation of the links between such policies and political economy factors. The analysis uses an annual dataset of indicators of labour and product market policies and a large set of explanatory variables for – at most – 21 OECD countries over the 1975-2003 period (1985-2003 for the labour market).

Empirical strategy

56. The analysis concentrates on identifying the political economy factors behind labour and product market reforms, using a three-stage strategy. First, an aggregate structural policy indicator (encompassing labour and product market policies) is constructed to assess the political economy determinants of overall structural reform. Next, reform experiences in the labour and product markets are examined separately by using a summary policy indicator for each of the two markets. Finally, a disaggregated analysis is performed by using indicators of specific policies (in the labour market) and sectors (in the product market), allowing for an examination of the possible interactions among policies in different labour market areas or in different industries.

57. The econometric analysis uses as dependent variables the annual variation in the above policy indicators. In general, the policy indicators for specific labour market areas and industries have a relatively low variability (especially in the time dimension), implying that some caution is warranted in the interpretation of the results for such policies **(**Table A2.1**).** This problem is less pronounced in the analysis based on the summary indicators, which feature greater variability over time, but this may come at the cost of possible aggregation biases.

Table A2.1. Descriptive statistics for the main variables

58. The explanatory variables used in the empirical analysis were divided in seven groups, comprising: macroeconomic conditions; macroeconomic policies; political factors; international influences; demography; interactions with policies in other areas; and industrial relations. A detailed explanation of the variables included in the regression results is provided in Table 1 of the main text. Some additional variables were included in the initial econometric analysis, but later dropped for a persistent lack of statistical significance. These additional explanatory variables covered a small country effect and features of the political systems (such as size of majority, electoral systems, and government fractionalization). Moreover, a number of interaction terms aimed at capturing interactions between labour market policies and macroeconomic conditions (*e.g.*, interacting the lagged level of the dependent variable with a proxy for big crisis, long-term unemployment or EU membership) were tried, but without success.

59. A preliminary issue in the empirical analysis of the political economy of structural reform is how to identify such reforms. Typically, radical reforms are characterized by sudden, large changes in the indicators, while more gradual reform processes would be reflected as moderate but continuous variations. Previous Secretariat work by Duval and Elmeskov (2005) concentrated on radical aggregate reforms by constructing a binary reform index and investigated which economic and policy factors may trigger these large reform episodes by using non-linear (probit) models of qualitative choice.[56] By contrast, the econometric analysis in this paper aims at examining all reforms, as measured by any variation in indicators of labour and product market policies. Hence, it is based on a linear specification. A linear specification also allows to test for policy convergence, by introducing the lagged level of the policy indicator among the explanatory variables in the regression equations.

Model to be estimated

60. The linear econometric model relates the annual variation in a policy indicator (Y) to the lagged level of the policy indicator and to a set of logged explanatory variables (X) according to the following equation:

$$\Delta Y_{i,t} = \alpha Y_{i,t-1} + \sum_j \beta_j X_{j,i,t-1} + \upsilon_i + \varepsilon_{i,t} ,$$

where i is a country index, t is a time index, υ_i is a fixed country effect and ε is a random error.

61. In this model a negative parameter α identifies policy convergence towards some (possibly country specific) level. Specific assumptions on the error term, on the included explanatory variables and on the country fixed effect will depend on the econometric specification used.

62. In selecting the political economy explanatory variables (X_j) to be included in the preferred specification of the above model, a general-to-specific estimation strategy was followed. Initially, a general model capturing all different factors identified in the first part of the paper was estimated. In this general model, the sample size was limited by the existence of missing observations for some of the explanatory variables. Subsequently, statistically insignificant variables were omitted to reach a more parsimonious model specification. This model was initially tested on the same sample used for the general specification and subsequently on a larger sample, using all the data available for the included explanatory variables.

63. Three alternative specifications – pooled OLS, fixed effects OLS and system GMM - have been used in order to deal with some of the econometric issues that emerged, such as dynamic bias, persistence of the dependent variable, unobserved heterogeneity and endogeneity problems, and to test for robustness of the results. All models are estimated accounting for heteroskedasticity by using White robust standard errors.

64. For all estimations, the initial econometric analysis featured a pooled OLS regression, which exploits the variation in the regulation indicator both across countries and over time. This regression model provides correlations between the variables of interest, but may lead to biased coefficient estimates due to unobservable heterogeneity. For instance, in the presence of unobservable country specific effects (such as country specific institutions or policies) results may be inaccurate, as the impact of the time-invariant country-specific features may be wrongly attributed to other determinants.

56. Interestingly, recent work by Duval (2005) confirms the results in Duval and Elmeskov (2005) using a linear specification.

65. Thus, in a second step, unobserved cross-country heterogeneity is accounted for by using a dynamic fixed effects specification. This fixed effect OLS regression concentrates on the within country – hence, over time – variation of each policy indicator. The significance of these fixed effects is then tested. In general, the F-tests reported in the annex tables indicate that fixed effects are significant in almost all regressions, the exceptions being in the estimations for EPL and the telecommunications sector.

66. In the presence of significant country fixed effects, however, the coefficients estimated with the dynamic fixed effects specification may still be biased. This is due to the potential endogeneity among the dependant and explanatory variables and to the existence of a lagged dependent variable in the regression, which leads to a (so-called Nickell) bias in the estimates of the convergence coefficient, α, and possibly of the other coefficients, β_j, (Nickell, 1981; Wooldridge, 2002). The latter effect may not be too worrisome, since the magnitude of the bias decreases as the time series dimension of the panel increases, and as the time series dimension has (roughly) the same order of magnitude as the country dimension (Judson and Owen, 1999).

67. To account for these partial sources of bias, the last econometric specification consists of a system-GMM approach (Blundell and Bond, 1998). The system-GMM technique has been specifically developed for the estimation of dynamic panel data equations with persistent dependant variables and potentially endogenous explanatory variables (Bond, 2002, and Arellano, 2003). It allows for the explanatory variables to be predetermined or endogenous, by instrumenting them with their lagged variations and with their lagged levels.

68. In the system-GMM regressions, all lagged policy and macroeconomic conditions variables are assumed to be endogenous, whereas institutional variables (such as EU membership or political factors) are treated as exogenous. This technique has been shown to be particularly effective in the presence of dependent variables with a large degree of persistence, such as most policy indicators used in the present work (Bond *et al.*, 2001). As for the previous econometric specification, however, the main drawbacks emerge in the case of a small time dimension, when the number of instruments may grow too large with respect to the available observations.

69. Two standard specification sets are used to check the validity of the system-GMM regressions: the Hansen tests of over-identifying restrictions and the Arellano-Bond tests of lack of serial correlation.[57] In the system GMM estimates shown in Tables 2-19, the Hansen tests suggest that the choice of instruments is appropriate, since the hypothesis of valid moment conditions is never rejected.[58] The Arellano-Bond test almost always rejects the hypothesis of no first-order correlation, while accepting – as expected – the hypothesis of no second-order correlation. However, in some cases, the hypothesis of no second order correlation was rejected, which calls for some caution in interpreting the results of the regressions for unemployment benefits in the labour market and for the telecom sector in the product market.

57. This test is based on the propensity that, if the error terms in levels are serially independent, the first-difference errors in the system GMM will exhibit first but not second order serial correlation.

58. However, particularly in the general specification, where the set of explanatory variables is rather large, the power of this test in identifying invalid restrictions falls dramatically.

Results

70. Tables A2.2 to A2.19 present the detailed results of this econometric analysis. Table A2.2 reports the estimates using the overall structural policy indicator, while Tables A2.3 and A2.4 refer to the overall policy indicators respectively for the labour and product markets. Tables A2.5 to A2.12 present the results for the indicators of specific labour market policies, whereas Tables A2.13 to A2.19 refer to estimates for the indicators of industry level product market policies. In every table, the first three columns present the estimates of the general model using respectively OLS, Dynamic Fixed Effect and System GMM. The next three columns display the result for the parsimonious models over the same sample as in the general model. Finally, the last three columns report the estimates of the parsimonious model over the larger sample, using all available observations for the retained explanatory variables. The results summarised and discussed in the synoptic tables of the main text correspond to the general models and the parsimonious models estimated over the longest available time period. Results are deemed to be relatively robust when the estimated coefficients are significant with the same sign across estimation methods and time samples.

71. The OLS specification is generally rejected in the product market sector (except in telecom) but cannot be rejected in some of estimates for the specific labour market policies (in all employment protection legislation regressions and in unemployment benefit generosity). As expected, System GMM estimates of the lagged level of the dependent variable, α, fall between OLS and fixed effect estimates in almost all regressions, with the exception of some unemployment benefit regressions in the labour market and some of the industry-level regressions in the product market. The estimated coefficient, α, is almost always significant and negative – thus indicating policy convergence in almost all labour market programmes and industry-level policies (except the air and railway sectors). Interestingly, the System GMM and OLS estimates tend to be similar, but both differ – often substantially – from the dynamic fixed effects estimates. Thus, the Nickel bias in the fixed effect estimates would appear to be substantial.

72. OLS and System GMM estimates of the coefficients of the other explanatory variables, β_j, are also similar; but differ from dynamic fixed effects estimates. This discrepancy in the results is only somewhat worrisome in the tax wedges regression (Table A2.10), where fixed effects, OLS and System GMM all deliver significant results, but of opposite signs. In most other cases, the major difference rests with the OLS or System GMM estimates being significant, while the fixed effects estimates are not, or vice versa.

73. Overall, estimations of the parsimonious model specifications using the largest possible sample largely confirmed the results obtained on the sample as for the general model specifications. However, in a number of cases, previously significant variables lost their significance a lack of robustness in moving to a larger time period. These estimates were hence not reported in the synoptic tables discussed in the main text. On the other hand, there were also a number of cases where the previous results were strengthened, since the explanatory variables retained or even increased significance as new information become available due the increased number of observations.

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LIST OF TABLES

Tables

Table A2.1 Descriptive statistics for the main variables

	Mean	Standard deviation			Min	Max	No of Obs.
		overall	across countries	across time			
Aggregate indicators							
Aggregate overall structural indicator	0.52	0.17	0.14	0.09	0.15	0.79	342
Aggregate labour market indicator	0.49	0.15	0.15	0.03	0.21	0.81	342
Aggregate product market indicator (incl. public ownership)	4.25	1.25	0.79	0.98	1.11	6.00	588
Aggregate product market indicator (excl. public ownership)	4.32	1.33	0.66	1.16	1.14	6.00	588
Aggregate public ownership indicator	4.17	1.34	1.15	0.73	0.74	6.00	588
Structural policy indicator in main trading partners	0.45	0.16	0.13	0.09	0.15	0.74	342
International tariff barriers	0.16	0.18	0.13	0.13	0.00	1.00	554
Financial market policy indicator	0.36	0.35	0.19	0.30	0.00	1.00	528
Labour market indicators							
Overall EPL	2.16	1.10	1.09	0.27	0.21	4.19	373
EPL Temporary Workers	2.21	1.54	1.49	0.50	0.25	5.38	373
EPL Regular Workers	2.11	0.97	0.97	0.17	0.17	5.00	373
Replacement benefits for low income workers	0.51	0.20	0.20	0.07	0.00	0.92	378
Generosity for long term unemployed	0.37	0.36	0.36	0.09	0.00	1.04	377
Tax wedges	0.34	0.09	0.09	0.02	0.17	0.49	378
Implicit tax rate on continued work (55-59 years)	0.29	0.26	0.25	0.08	-0.16	0.78	360
Implicit tax rate on continued work (60-64 years)	0.41	0.32	0.31	0.10	-0.16	1.05	360
Long term unemployment rate	35.24	18.12	17.09	6.25	1.52	76.17	351
Product market indicators (excl. public ownership)							
Airline	4.17	2.27	0.70	2.16	0.00	6.00	588
Road	3.16	2.42	1.72	1.75	0.00	6.00	588
Post	3.36	1.60	1.22	1.07	0.00	6.00	588
Gas	4.35	1.41	1.38	0.44	0.47	6.00	588
Telecomunication	4.69	1.87	0.85	1.68	0.24	6.00	588
Electricity	4.92	1.76	0.78	1.59	0.00	6.00	588
Railways	5.35	1.14	0.65	0.94	0.70	6.00	588
Public ownership (Airline)	3.78	2.36	1.85	1.52	0.00	6.00	588
Public ownership (Post)	4.73	0.63	0.51	0.39	3.00	6.00	588
Public ownership (Gas)	2.77	2.37	2.28	0.81	0.00	6.00	588
Public ownership (Telecomunication)	4.28	2.35	1.84	1.52	0.00	6.00	588
Public ownership (Electricity)	4.03	1.83	1.64	0.90	0.00	6.00	588
Public ownership (Railways)	5.43	1.34	1.00	0.92	0.00	6.00	588
Other variables							
Unemployment rate	6.65	3.58	2.68	2.45	0.18	18.44	588
Big economic crisis	0.07	0.26	0.07	0.25	0.00	1.00	638
Large increase in unemployment rate	0.06	0.24	0.05	0.23	0.00	1.00	567
Net lending of general government	-3.01	3.53	2.52	2.56	-15.96	8.03	522
Change in cyclically adjusted primary surplus	0.12	1.44	0.14	1.43	-6.73	5.23	497
Old age dependency ratio	13.60	2.23	1.82	1.34	7.92	18.62	588
Indicator of corporatism	2.08	0.78	0.73	0.34	1.00	3.00	582
Union density	41.57	19.77	19.03	6.78	7.38	83.86	574
Strikes	166.56	272.51	154.37	226.96	0.00	1743.00	420

Table A2.2 Determinants of aggregate structural policy indicator

ident variable	Overall structural policy indicator								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
structural conditions, convergence									
Lagged dependendant variable	-0.00228	-0.12911	0.00778	-0.00183	-0.10537	0.02338	-0.00183	-0.10537	0.00703
	[0.17]	[3.14]***	[0.32]	[0.17]	[3.14]***	[0.81]	[0.17]	[3.14]***	[0.21]
economic conditions									
Unemployment rate (-1)	0.00028	-0.00016	0.00098						
	[0.67]	[0.21]	[1.62]						
Big economic crisis									
… Lagged 1	-0.01082	-0.01215	-0.01568	-0.01089	-0.01209	-0.01354	-0.01089	-0.01209	-0.01297
	[2.65]***	[2.68]***	[4.13]***	[3.23]***	[3.36]***	[3.06]***	[3.23]***	[3.36]***	[3.41]***
... Lagged 2	0.01196	0.01137	0.01057	0.01243	0.01148	0.01204	0.01243	0.01148	0.01193
	[2.52]**	[2.30]**	[2.54]**	[2.78]***	[2.33]**	[3.10]***	[2.78]***	[2.33]**	[2.91]***
… Lagged 3	-0.01723	-0.018	-0.01899	-0.01695	-0.01702	-0.01742	-0.01695	-0.01702	-0.01702
	[3.34]***	[3.33]***	[3.31]***	[3.33]***	[3.21]***	[2.94]***	[3.33]***	[3.21]***	[3.06]***
Large increase in unemployment rate (-1)	0.00599	0.02572	0.01919						
	[0.37]	[1.46]	[1.05]						
… interacted with lagged dependant variable	-0.01397	-0.0527	-0.03938						
	[0.37]	[1.32]	[0.70]						
economic policies									
Net lending of general government (-1)	-0.00031	0.0005	-0.00114						
	[0.67]	[0.81]	[1.46]						
Change in cyclically adjusted primary surplus (-1)	0.00236	0.00195	0.00218	0.00247	0.00224	0.00237	0.00247	0.00224	0.00232
	[2.96]***	[2.45]**	[2.73]***	[3.47]***	[3.22]***	[3.98]***	[3.47]***	[3.22]***	[3.77]***
Fixed exchange rate policy (-1)	0.00059	0.0081	0.00078						
	[0.14]	[1.32]	[0.14]						
al institutions									
Ideology, left of center government	0.00702	0.00716	0.00686	0.00671	0.00655	0.00592	0.00671	0.00655	0.00535
	[3.13]***	[2.74]***	[2.11]**	[3.02]***	[2.66]***	[1.83]*	[3.02]***	[2.66]***	[1.57]
Mature government (more than 2 years in office)	-0.00063	-0.00066	0.00019						
	[0.26]	[0.28]	[0.11]						
ational influences									
Structural policy indicator in main trading partners (-1)	0.01235	0.18253	0.00049	0.01083	0.1593	-0.00839	0.01083	0.1593	0.00649
	[0.98]	[4.52]***	[0.03]	[0.91]	[4.43]***	[0.33]	[0.91]	[4.43]***	[0.22]
International tariff barriers (-1)	-0.00813	0.03711	-0.0228						
	[0.54]	[1.45]	[1.47]						
EU membership dummy(-1)	0.00082	0.01219	-0.00399	0.00283	0.01433	0.00228	0.00283	0.01433	-0.00111
	[0.21]	[1.23]	[0.91]	[0.89]	[1.90]*	[0.74]	[0.89]	[1.90]*	[0.41]
EU Single market programme dummy	-0.02487	-0.02866	-0.0246	-0.02587	-0.02816	-0.02608	-0.02587	-0.02816	-0.01563
	[3.46]***	[3.27]***	[4.08]***	[4.09]***	[3.94]***	[4.71]***	[4.09]***	[3.94]***	[2.43]**
Financial market policy indicator (-1)	0.00724	-0.02034	0.01055	0.00652	-0.01556	0.00652	0.00652	-0.01556	0.01011
	[1.01]	[2.25]**	[1.30]	[1.05]	[2.19]**	[0.90]	[1.05]	[2.19]**	[1.40]
graphy									
Old-age dependency ratio (-1)	-0.00032	0.00067	-0.00047						
	[0.41]	[0.36]	[0.51]						
ction with policies in other areas									
Product market policy indicator (-1)	n.c	n.c	n.c						
Public ownership(-1)	n.c	n.c	n.c						
rial labour relations									
Indicator of corporatism (-1)	-0.00017	-0.00116	0.00046						
	[0.09]	[0.22]	[0.21]						
Union density (-1)	-0.00002	0.00011	0.00004						
	[0.27]	[0.31]	[0.49]						
Strikes (-1)	0	-0.00001	-0.00001	0	-0.00001	-0.00001	0	-0.00001	-0.00001
	[1.00]	[1.09]	[1.51]	[1.04]	[1.28]	[1.92]*	[1.04]	[1.28]	[1.18]
Constant	-0.0164	-0.04754	-0.02029	-0.02074	-0.05886	-0.02388	-0.02074	-0.05886	-0.02246
	[1.26]	[1.10]	[1.17]	[5.57]***	[3.72]***	[4.38]***	[5.57]***	[3.72]***	[3.60]***
Observations	254	254	254	254	254	254	254	254	254
R-squared	0.2	0.33		0.2	0.31		0.2	0.31	
Number of COUNTRY			18			18			18
F-Test for FE		3.57***			3.25***			3.29***	
Hansen test			chi(139)=0			chi(85)=0.37			chi(96)=2.29
Arrelano Bond test for AR(1)			-3.36***			-3.37***			-3.47***
Arrelano Bond test for AR(2)			0.42			0.25			0.46

Table A2.3 Determinants of OECD labour market policy indicator

Dependent variable	Labour market policy indicator								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependendant variable	-0.03769	-0.13688	-0.04086	-0.03533	-0.14638	-0.09235	-0.04416	-0.12942	-0.05692
	[3.05]***	[2.96]***	[1.35]	[3.21]***	[4.19]***	[2.54]**	[3.52]***	[2.73]***	[1.47]
Macroeconomic conditions									
Unemployment rate (-1)	-0.00026	-0.00063	-0.00034						
	[0.88]	[1.12]	[0.54]						
Big economic crisis									
… Lagged 1	0.0008	0.00367	0.00058						
	[0.26]	[0.97]	[0.28]						
... Lagged 2	0.00148	0.00091	0.00037						
	[0.29]	[0.18]	[0.07]						
… Lagged 3	-0.001	-0.00217	-0.00307						
	[0.21]	[0.46]	[0.53]						
Large increase in unemployment rate (-1)	0.01019	0.02192	0.01376						
	[0.82]	[1.41]	[1.37]						
… interacted with lagged dependant variable	-0.02908	-0.06049	-0.0436	-0.01688	-0.02106	-0.02703	-0.01078	-0.01573	-0.02169
	[0.75]	[1.48]	[1.23]	[1.15]	[1.60]	[2.01]**	[0.63]	[1.03]	[1.53]
Macroeconomic policies									
Net lending of general government (-1)	-0.00016	-0.00081	-0.00124	-0.00044	-0.00057	-0.00141	-0.0004	-0.00063	-0.00125
	[0.39]	[1.40]	[1.49]	[1.57]	[1.65]*	[2.37]**	[1.12]	[1.52]	[2.09]**
Change in cyclically adjusted primary surplus (-1)	0.00176	0.00217	0.00195	0.00112	0.00145	0.00099	0.00166	0.00182	0.00151
	[2.42]**	[2.53]**	[2.78]***	[1.88]*	[2.45]**	[1.74]*	[2.58]**	[2.84]***	[3.32]***
Fixed exchange rate policy (-1)	0.00363	0.00604	0.00162						
	[0.79]	[0.82]	[0.56]						
Political institutions									
Ideology, left of center government	0.00295	0.00359	0.00261	0.00261	0.00192	0.00311	0.00261	0.0032	0.00254
	[1.63]	[1.88]*	[1.20]	[1.72]*	[1.16]	[1.73]*	[1.55]	[1.68]*	[1.15]
Mature government (more than 2 years in office)	-0.00406	-0.00419	-0.00408	-0.00312	-0.0038	-0.00336	-0.004	-0.00431	-0.00395
	[2.34]**	[2.42]**	[2.44]**	[2.16]**	[2.61]***	[2.10]**	[2.41]**	[2.58]**	[2.34]**
International influences									
Structural policy indicator in main trading partners (-1)	0.0252	-0.03178	0.02161	0.01962	-0.05435	0.06306	0.02317	-0.01344	0.03345
	[2.05]**	[0.37]	[1.21]	[1.78]*	[0.96]	[2.02]**	[1.90]*	[0.17]	[1.06]
International tariff barriers (-1)	-0.03105	-0.02943	-0.03116	-0.02124	-0.02049	-0.04758	-0.02491	-0.02846	-0.03768
	[3.29]***	[1.77]*	[2.78]***	[2.77]***	[1.85]*	[3.08]***	[2.90]***	[2.25]**	[2.42]**
EU membership dummy(-1)	-0.00009	-0.00196	-0.00347	-0.0035	-0.00902	-0.00534	-0.00252	-0.00381	-0.00532
	[0.04]	[0.25]	[1.30]	[2.15]**	[2.23]**	[1.31]	[1.46]	[0.51]	[1.29]
EU Single market programme dummy	-0.00422	-0.00522	0.00055						
	[0.72]	[0.67]	[0.10]						
Financial market policy indicator (-1)	-0.001	-0.00154	0.00318						
	[0.24]	[0.22]	[1.34]						
Demography									
Old-age dependency ratio (-1)	0	0.00021	-0.00035						
	[0.01]	[0.14]	[0.53]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.02319	0.02774	0.01658	0.0154	0.02001	0.02261	0.0204	0.0249	0.02053
	[3.03]***	[2.35]**	[2.36]**	[4.26]***	[3.56]***	[3.05]***	[4.55]***	[3.66]***	[2.41]**
Public ownership(-1)	n.c	n.c	n.c						
Industrial labour relations									
Indicator of corporatism (-1)	-0.00018	0.00561	0.00126						
	[0.10]	[0.85]	[0.39]						
Union density (-1)	-0.00006	-0.00021	0						
	[1.37]	[0.85]	[0.05]						
Strikes (-1)	0	0	0						
	[0.38]	[0.84]	[0.72]						
Constant	0.00138	0.07522	0.00767	0.00308	0.05088	0.00971	0.00307	0.04118	0.00611
	[0.13]	[1.30]	[0.82]	[1.15]	[2.10]**	[1.59]	[0.93]	[1.00]	[1.38]
Observations	254	254	254	318	318	318	254	254	254
R-squared	0.19	0.27		0.14	0.24		0.17	0.24	
Number of COUNTRY			18			18			18
F-Test for FE		1.41			2.75**			1.44	
Hansen test			chi(139)=0.00			chi(94)=3.28			chi(80)=4.18
Arrelano Bond test for AR(1)			-2.82**			-3.35***			-3.01**
Arrelano Bond test for AR(2)			-0.32			0.13			-0.19

Table A2.4 Determinants of product market policy indicator

Dependent variable	Product market policy indicator								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0584	-0.2006	-0.0304	-0.0433	-0.1963	-0.0207	-0.0597	-0.1567	-0.0468
	[2.6979]***	[4.7675]***	[1.0902]	[2.2387]**	[5.1658]***	[0.9545]	[4.0347]***	[6.0076]***	[2.6697]***
Macroeconomic conditions									
Unemployment rate (-1)	n.c	n.c	n.c						
Big economic crisis									
… Lagged 1	0.0063	-0.0156	0.0135						
	[0.1714]	[0.4016]	[0.3113]						
... Lagged 2	-0.1111	-0.1109	-0.1104	-0.1104	-0.1298	-0.1009	-0.1255	-0.1378	-0.119
	[2.2284]**	[2.2089]**	[2.4999]**	[2.8531]***	[3.4393]***	[2.4860]**	[3.3633]***	[3.7374]***	[2.7969]***
… Lagged 3	0.0071	-0.0225	0.0135						
	[0.1763]	[0.5601]	[0.3841]						
Large increase in unemployment rate (-1)	n.c	n.c	n.c						
… interacted with lagged dependant variable	n.c	n.c	n.c						
Macroeconomic policies									
Net lending of general government (-1)	-0.0051	-0.0028	-0.0047						
	[1.4052]	[0.5626]	[1.5323]						
Change in cyclically adjusted primary surplus (-1)	0.0038	0.0011	0.0034						
	[0.4205]	[0.1188]	[0.3462]						
Fixed exchange rate policy (-1)	0.0241	0.0283	0.0186						
	[0.8240]	[0.7401]	[0.8158]						
Political institutions									
Ideology, left of center government (-1)	0.022	0.0368	0.0268						
	[0.9900]	[1.4244]	[1.1388]						
Mature government (more than 2 years in office)	-0.0447	-0.0364	-0.0467	-0.045	-0.0399	-0.0503	-0.0297	-0.0312	-0.0361
	[2.1364]**	[1.8804]*	[2.9775]***	[2.0711]**	[2.0082]**	[2.8188]***	[1.8605]*	[2.0551]**	[3.0932]***
International influences									
Product market regulation in main trading partners (	0.034	0.1982	0.0303	0.0443	0.2056	0.0479	0.0609	0.1469	0.0612
	[2.0098]**	[3.8388]***	[1.6966]*	[3.1398]***	[4.5006]***	[2.7074]***	[5.3933]***	[5.9123]***	[4.5262]***
International tariff barriers (-1)	0.114	0.0192	0.0974	0.1303	-0.0418	0.1325	0.0887	0.0122	0.0935
	[1.7683]*	[0.1611]	[1.2936]	[2.2610]**	[0.3831]	[2.3755]**	[2.6238]***	[0.1804]	[2.7579]***
EU membership (-1)	0.0483	0.0602	0.0483						
	[1.3436]	[0.9696]	[1.2434]						
EU single market programme(-1)	-0.1494	-0.0983	-0.1371	-0.118	-0.0588	-0.0894	-0.1284	-0.0912	-0.1126
	[3.7221]***	[1.7666]*	[4.1387]***	[3.5637]***	[1.1581]	[2.8338]***	[4.7638]***	[2.5523]**	[4.2802]***
Financial market policy indicator (-1)	0.0739	0.0145	0.0516						
	[1.6319]	[0.2182]	[0.9158]						
Demography									
Old age dependency ratio (-1)	-0.0159	-0.0369	-0.0139	-0.015	-0.0329	-0.0131	-0.0133	-0.0296	-0.0118
	[2.7204]***	[2.9655]***	[2.5930]***	[2.7099]***	[2.7980]***	[2.4959]**	[3.4051]***	[3.9898]***	[2.5899]***
Interaction with policies in other areas									
Product market policy indicator (-1)	n.c	n.c	n.c						
Public ownership (-1)	0.0246	0.0795	0.0123	0.0259	0.0902	0.0053	0.0221	0.0633	0.0102
	[1.6022]	[2.0052]**	[0.8844]	[2.1159]**	[3.4585]***	[0.4550]	[2.2768]**	[3.2773]***	[1.0108]
Industrial labour relations									
Indicator of corporatism (-1)	-0.0126	0.0668	-0.0176						
	[0.5633]	[1.4229]	[0.7111]						
Union density (-1)	0.0002	0.0002	0.0003						
	[0.2886]	[0.0779]	[0.6081]						
Strikes (-1)	0	-0.0001	0						
	[0.2839]	[1.1066]	[0.6449]						
Constant	0.0676	-0.0324	-0.0001	0.0077	0.0373	-0.0513	0.0225	0.1633	-0.0079
	[0.6774]	[0.1481]	[0.0012]	[0.0845]	[0.1669]	[0.4651]	[0.3402]	[1.1707]	[0.0965]
Observations	364	364	364	364	364	364	554	554	554
R-squared	0.193	0.264		0.1689	0.2488		0.216	0.2779	
Number of Country		19	19		19	19		20	20
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.54*			2.02***			2.32***	
Hansen test			chi2(230)=0.00			chi2(203)=13.69			chi2(283)=5.46
Arellano Bond test for AR(1)			-3.69***			3.59***			-3.81***
Arellano Bond test for AR(2)			-0.09			-0.14			-0.51
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.5 Determinants of Employment Protection Legislation for temporary workers

Dependent variable	Employment Protection Legislation for temporary workers indicator								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0568	-0.1802	-0.0592	-0.0355	-0.1663	-0.0414	-0.0356	-0.1694	-0.0402
	[1.7559]*	[2.4770]**	[2.3522]**	[1.9337]*	[2.5030]**	[4.4484]***	[1.9488]*	[2.5745]**	[4.1702]***
Macroeconomic conditions									
Unemployment rate (-1)	-0.0018	-0.0199	-0.0024						
	[0.2967]	[1.2752]	[0.3014]						
Big economic crisis lagged 1	0.0586	0.1033	0.0605						
	[0.6276]	[1.0169]	[0.6099]						
…lagged 2	-0.0596	-0.046	-0.0584						
	[0.4023]	[0.3527]	[0.3807]						
… lagged 3	0.0569	0.0588	0.0588						
	[0.8607]	[0.8374]	[0.8301]						
Large increase in unemployment rate (-1)	0.1493	0.1399	0.1483	0.1571	0.1399	0.1288	0.1569	0.1308	0.146
	[1.1138]	[1.0767]	[0.9956]	[1.2605]	[1.2213]	[1.0714]	[1.2577]	[1.1619]	[1.0679]
....interacted with lagged dependent variable	-0.1776	-0.1712	-0.177	-0.1727	-0.1736	-0.1684	-0.1728	-0.1707	-0.1687
	[1.6494]	[1.6392]	[1.6818]*	[1.6281]	[1.7155]*	[1.6180]	[1.6282]	[1.6957]*	[1.6056]
Long term unemployment rate (-1)	-0.0022	-0.0032	-0.0022	-0.0027	-0.0039	-0.003	-0.0026	-0.0042	-0.0028
	[1.1276]	[0.9245]	[1.5910]	[2.5668]**	[1.2992]	[3.2296]***	[2.6519]***	[1.4502]	[3.3998]***
Macroeconomic policies									
Net lending of general government (-1)	0.0007	-0.0088	0.0009						
	[0.1225]	[0.9010]	[0.1537]						
Change in cyclically adjusted primary surplus (-1)	0.0267	0.0331	0.0269	0.0272	0.0278	0.0266	0.0271	0.0277	0.0266
	[1.3832]	[1.6836]*	[1.8255]*	[1.3933]	[1.4834]	[1.6924]*	[1.3952]	[1.4731]	[1.6877]*
Fixed exchange rate policy (-1)	0.0375	-0.034	0.0393						
	[1.1922]	[0.6453]	[1.2127]						
Political institutions									
Ideology, left of center government (-1)	0.0281	0.0206	0.0271						
	[0.7316]	[0.4806]	[0.8202]						
Mature government (more than 2 years in office)	0.023	0.0186	0.0224						
	[0.5358]	[0.4580]	[0.6154]						
International influences									
Structural policy indicator in main trading partners (-1)	0.0226	0.0389	0.0238						
	[0.8800]	[0.5099]	[1.0816]						
International tariff barriers (-1)	-0.1764	-0.0866	-0.1767	-0.1716	-0.0414	-0.1959	-0.1627	-0.0107	-0.1971
	[1.6301]	[0.6668]	[2.3229]**	[2.2414]**	[0.3682]	[4.0800]***	[2.2941]**	[0.1055]	[3.6238]***
EU membership dummy (-1)	-0.0266	0.0776	-0.0252						
	[0.3743]	[0.8242]	[0.4258]						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0931	-0.028	-0.0953						
	[1.1516]	[0.2661]	[1.5605]						
Demography									
Old age dependency ratio (-1)	0.0106	-0.0099	0.0118						
	[0.6747]	[0.4586]	[0.9414]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0866	0.1134	0.0883	0.0701	0.1235	0.0776	0.0677	0.1186	0.0741
	[2.3497]**	[2.1878]**	[3.0818]***	[2.8384]***	[2.7051]***	[3.8586]***	[2.8977]***	[2.7195]***	[3.8730]***
EPL regular workers (-1)	0.0259	-0.1171	0.0244	0.0317	-0.08	0.0294	0.0309	-0.0839	0.0323
	[0.9580]	[1.3880]	[1.4928]	[1.5015]	[1.4314]	[2.3318]**	[1.5350]	[1.4943]	[2.6841]***
Unemployment benefit replacement rate for low income work	-0.0679	-0.4435	-0.0658	-0.0446	-0.5208	-0.0482	-0.0419	-0.3968	-0.0525
	[0.4889]	[0.9490]	[0.7892]	[0.3901]	[1.2930]	[0.7763]	[0.3676]	[1.8315]*	[0.9905]
Generosity for long-term unemployed (-1)	0.0397	-0.2329	0.0366	0.0825	-0.1609	0.0774	0.0801	-0.1512	0.0824
	[0.5340]	[1.0301]	[0.6757]	[1.3237]	[0.9623]	[2.9279]***	[1.3238]	[0.9569]	[2.6425]***
Industrial labour relations									
Indicator of corporatism (-1)	-0.0476	-0.0419	-0.0477	-0.0488	-0.077	-0.0473	-0.0464	-0.0798	-0.0508
	[1.4085]	[0.8469]	[2.6511]***	[1.4604]	[1.4843]	[2.3201]**	[1.4399]	[1.4408]	[2.7297]***
Union density (-1)	-0.0017	-0.0087	-0.0018	-0.001	-0.0084	-0.0011	-0.0011	-0.0083	-0.0011
	[1.6657]*	[1.5280]	[2.0439]**	[1.3857]	[1.6678]*	[1.6673]*	[1.4702]	[1.6456]	[1.7838]*
Strikes (-1)	0.0001	0	0.0001	0.0001	0	0.0001	0.0001	0	0.0001
	[1.5303]	[0.2830]	[1.7213]*	[1.8043]*	[0.4184]	[2.2408]**	[1.8140]*	[0.4092]	[2.4623]**
Constant	-0.2336	1.1835	-0.2458	-0.0682	0.9788	-0.0615	-0.0617	0.9574	-0.056
	[0.9763]	[1.8651]*	[1.2734]	[1.4636]	[2.3432]**	[1.4466]	[1.3914]	[2.5156]**	[1.4673]
Observations	258	258	258	258	258	258	262	262	262
R-squared	0.1993	0.2198		0.1828	0.1993		0.1833	0.198	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		0.63			0.76			0.84	
Hansen test			chi2(310)=0			chi2(279)=3.54			chi2(285)=1.01
Arellano Bond test for AR(1)			-2.24**			-2.18**			-2.38**
Arellano Bond test for AR(2)			-0.23			-0.44			-0.32
Robust t statistics in brackets			* significant at 10%; ** significant at 5%; *** significant at 1%						

Table A2.6 Determinants of Employment Protection Legislation for regular workers

Dependent variable	Employment Protection Legislation for regular workers indicator								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0103	-0.1513	-0.0111	-0.0185	-0.0857	-0.0302	-0.0159	-0.087	-0.0277
	[1.3913]	[2.1392]**	[1.7253]*	[2.1802]**	[1.2609]	[3.4583]***	[2.4992]**	[1.5533]	[3.9635]***
Macroeconomic conditions									
Unemployment rate (-1)	-0.0051	-0.0064	-0.005	-0.0036	-0.0046	-0.0032	-0.0019	-0.0019	-0.0027
	[1.7868]*	[1.8128]*	[1.7076]*	[1.4018]	[1.6550]*	[1.6953]*	[1.0089]	[0.8875]	[2.0721]**
Big economic crisis lagged 1	0.0288	0.0319	0.0294						
	[1.3810]	[1.6474]	[1.6998]*						
…lagged 2	-0.0219	-0.0124	-0.0217						
	[0.9015]	[0.5539]	[1.1472]						
… lagged 3	0.0349	0.0453	0.0354						
	[1.3231]	[1.5891]	[1.4102]						
Large increase in unemployment rate (-1)	0.232	0.1939	0.2312						
	[1.4197]	[1.4452]	[1.5065]						
....interacted with lagged indicator	-0.1388	-0.1232	-0.1386						
	[1.3899]	[1.4775]	[1.6890]*						
Long term unemployment rate (-1)	0.0009	-0.0001	0.0008						
	[1.9471]*	[0.0911]	[1.6617]*						
Macroeconomic policies									
Net lending of general government (-1)	0	-0.0003	-0.0001						
	[0.0193]	[0.1430]	[0.0672]						
Change in cyclically adjusted primary surplus (-1)	0.0034	0.0041	0.0034						
	[0.9405]	[1.1035]	[1.3503]						
Fixed exchange rate policy (-1)	0.0093	-0.008	0.0097						
	[0.8026]	[0.2942]	[0.9909]						
Political institutions									
Ideology, left of center government (-1)	-0.0037	-0.0058	-0.0036						
	[0.3501]	[0.4709]	[0.4308]						
Mature government (more than 2 years in office)	-0.0019	-0.0002	-0.0018						
	[0.2211]	[0.0272]	[0.1802]						
International influences									
Structural policy indicator in main trading partners (-1	-0.0093	0.0387	-0.0101						
	[0.9962]	[1.2056]	[1.6947]*						
International tariff barriers (-1)	-0.0513	-0.0314	-0.0495						
	[1.3917]	[0.3444]	[1.0321]						
EU membership dummy (-1)	-0.0365	-0.0521	-0.0347						
	[1.6658]*	[1.3100]	[2.4571]**						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0392	-0.0229	-0.0382						
	[1.7898]*	[0.6294]	[1.6836]*						
Demography									
Old age dependency ratio (-1)	0.0015	-0.0188	0.0017						
	[0.3992]	[2.4683]**	[0.7776]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0012	-0.0124	0.0015						
	[0.1760]	[1.3208]	[0.2281]						
EPL temporary workers (-1)	0.0024	-0.0018	0.0027						
	[0.3434]	[0.1618]	[0.7374]						
Unemployment benefit replacement rate for low incor	0.0332	0.3338	0.0389						
	[1.4533]	[2.2312]**	[1.3180]						
Generosity for long-term unemployed (-1)	0.0235	-0.0361	0.0256						
	[1.0478]	[0.9385]	[1.2661]						
Industrial labour relations									
Indicator of corporatism (-1)	0.0018	-0.003	0.0019						
	[0.3156]	[0.2882]	[0.2683]						
Union density (-1)	-0.0004	-0.0033	-0.0005						
	[1.2933]	[1.7862]*	[1.3674]						
Strikes (-1)	0	0.0001	0						
	[1.2621]	[1.4768]	[0.5820]						
Constant	0.0238	0.635	0.021	0.0627	0.2134	0.0838	0.042	0.1919	0.0724
	[0.3545]	[2.5370]**	[0.5403]	[1.9763]**	[1.3714]	[2.6999]***	[1.9386]*	[1.5454]	[3.0702]***
Observations	258	258	258	258	258	258	373	373	373
R-squared	0.2659	0.2939		0.0757	0.0393		0.0498	0.04	
Number of Country		19	19		19	19		21	21
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		0.46			0.67			0.8	
Hansen test			chi2(310)=0			chi2(87)=14.44			chi2(108)=20.19

Table A2.7 Determinants of Employment Protection Legislation

Dependent variable	Employment Protection Legislation								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.028	-0.1963	-0.0305	-0.0296	-0.1591	-0.0667	-0.0252	-0.1204	-0.0485
	[1.2728]	[2.9233]***	[1.4797]	[3.2874]***	[2.7340]***	[2.3730]**	[3.7433]***	[2.5759]**	[2.8351]***
Macroeconomic conditions									
Unemployment rate (-1)	-0.0053	-0.0132	-0.0057						
	[1.3970]	[1.6270]	[1.2645]						
Big economic crisis lagged 1	0.0486	0.0678	0.05						
	[0.9409]	[1.3133]	[1.0188]						
…lagged 2	-0.0363	-0.0298	-0.0352						
	[0.4699]	[0.4534]	[0.4306]						
… lagged 3	0.0517	0.0509	0.0535						
	[1.3070]	[1.3491]	[1.3140]						
Large increase in unemployment rate (-1)	0.1786	0.1489	0.1779	0.1775	0.1587	0.1157	0.186	0.1615	0.122
	[1.9463]*	[1.7556]*	[1.7997]*	[1.9494]*	[1.9403]*	[1.0921]	[1.8805]*	[1.7701]*	[1.0999]
....interacted with lagged indicator	-0.1427	-0.1375	-0.1423	-0.145	-0.1422	-0.1061	-0.1453	-0.1422	-0.0924
	[2.1101]**	[2.1766]**	[2.6293]***	[1.9747]**	[2.0323]**	[1.5440]	[1.9448]*	[1.9881]**	[1.4304]
Long term unemployment rate (-1)	-0.0005	-0.0017	-0.0005						
	[0.4671]	[0.9022]	[0.6853]						
Macroeconomic policies									
Net lending of general government (-1)	0.002	-0.0046	0.0021						
	[0.7318]	[0.9461]	[0.8336]						
Change in cyclically adjusted primary surplus (-1)	0.0145	0.019	0.0145						
	[1.4867]	[1.8887]*	[1.9143]*						
Fixed exchange rate policy (-1)	0.0156	-0.0233	0.0167						
	[0.9144]	[0.7673]	[1.1370]						
Political institutions									
Ideology, left of center government (-1)	0.0115	0.007	0.0108						
	[0.5619]	[0.3153]	[0.6245]						
Mature government (more than 2 years in office)	0.0139	0.0084	0.0137						
	[0.5898]	[0.3907]	[0.6618]						
International influences									
Structural policy indicator in main trading partners (-1)	0.0099	0.0378	0.0105						
	[0.6137]	[0.7868]	[0.9073]						
International tariff barriers (-1)	-0.0793	-0.0592	-0.0789						
	[1.4031]	[0.7862]	[1.9543]*						
EU membership dummy (-1)	-0.0123	0.0136	-0.009						
	[0.3313]	[0.2541]	[0.3612]						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0574	-0.0358	-0.0601						
	[1.4208]	[0.6376]	[2.4716]**						
Demography									
Old age dependency ratio (-1)	-0.0002	-0.0114	0.0006						
	[0.0319]	[1.1333]	[0.1159]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0372	0.055	0.0385	0.0192	0.0619	0.0417	0.0122	0.0416	0.0234
	[2.1927]**	[2.3461]**	[3.0071]***	[2.1006]**	[2.8880]***	[2.1388]**	[2.4154]**	[3.0103]***	[2.1754]**
Unemployment benefit replacement rate for low income v	0.0157	-0.0779	0.0173						
	[0.2535]	[0.3581]	[0.4504]						
Generosity for long-term unemployed (-1)	0.0199	-0.1357	0.0173						
	[0.4355]	[1.2534]	[0.4606]						
Industrial labour relations									
Indicator of corporatism (-1)	-0.022	-0.024	-0.0223						
	[1.2515]	[0.9233]	[2.4325]**						
Union density (-1)	-0.0012	-0.0058	-0.0013	-0.0005	-0.0058	0	-0.0004	-0.0037	0.0003
	[1.9248]*	[1.8273]*	[2.0876]**	[1.1885]	[2.0719]**	[0.0342]	[1.1283]	[2.0841]**	[0.5309]
Strikes (-1)	0.0001	0	0.0001						
	[1.7991]*	[0.6818]	[1.6200]						
Constant	0.0096	0.8067	0.0033	-0.0084	0.3183	-0.0375	0.006	0.2279	-0.0147
	[0.1064]	[2.5102]**	[0.0444]	[0.2779]	[2.2083]**	[0.8532]	[0.3311]	[2.0789]**	[0.4936]
Observations	258	258	258	258	258	258	373	373	373
R-squared	0.2168	0.2572		0.1573	0.1893		0.131	0.1418	
Number of Country		19	19		19	19		21	21
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		0.71			1.03			0.7	
Hansen test			chi2(306)=0			chi2(114)=13.64			chi2(137)=15.47
Arellano Bond test for AR(1)			-2.40**			-2.44**			-2.83***
Arellano Bond test for AR(2)			-0.04			-0.09			-0.58

Table A2.8 Determinants of replacement benefits for low-income workers

Dependent variable	Replacement benefits for low income workers								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0566	-0.0571	-0.0599	-0.0397	0.1235	-0.0351	-0.0386	-0.0979	-0.0386
	[3.0287]***	[0.3344]	[3.8327]***	[3.0929]***	[0.9708]	[2.0948]**	[3.5031]***	[1.9353]*	[2.0078]**
Macroeconomic conditions									
Unemployment rate (-1)	0.002	0.0028	0.0019						
	[1.9049]*	[1.4526]	[1.3332]						
Big economic crisis lagged 1	-0.0127	-0.0099	-0.0117						
	[1.7608]*	[1.3435]	[2.6093]***						
…lagged 2	-0.0002	0.0043	0.0001						
	[0.0249]	[0.6081]	[0.0164]						
… lagged 3	-0.0016	0.0046	-0.0006						
	[0.2703]	[0.8003]	[0.1024]						
Large increase in unemployment rate (-1)	-0.0035	0.0058	-0.0058						
	[0.2795]	[0.4144]	[0.9354]						
....interacted with lagged indicator	-0.0028	-0.0137	0.0012						
	[0.1311]	[0.5798]	[0.0708]						
Long term unemployment rate (-1)	-0.0002	-0.0009	-0.0003						
	[1.5477]	[1.4760]	[1.3610]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0002	0.0009	-0.0002						
	[0.2611]	[0.6741]	[0.2178]						
Change in cyclically adjusted primary surplus (-1)	-0.0021	-0.0028	-0.0022	-0.0014	-0.0022	-0.0015	-0.0021	-0.0023	-0.0022
	[1.2269]	[1.7212]*	[1.9474]*	[0.8733]	[1.5723]	[2.1713]**	[1.8694]*	[2.0336]**	[3.3939]***
Fixed exchange rate policy (-1)	-0.0002	-0.0025	0						
	[0.0380]	[0.3440]	[0.0010]						
Political institutions									
Ideology, left of center government (-1)	-0.0067	-0.0103	-0.0069						
	[1.6531]*	[2.2234]**	[1.1540]						
Mature government (more than 2 years in office)	-0.0053	-0.0039	-0.0051						
	[1.1163]	[0.8809]	[1.1426]						
International influences									
Structural policy indicator in main trading partners	-0.0002	-0.0566	0.0003						
	[0.0084]	[0.6858]	[0.0203]						
International tariff barriers (-1)	-0.0218	-0.0168	-0.0223						
	[1.2629]	[0.4536]	[1.4144]						
EU membership dummy (-1)	-0.0127	-0.0092	-0.0108						
	[1.7349]*	[0.7156]	[1.2506]						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	0.0124	0.025	0.0118						
	[1.4364]	[1.7780]*	[1.1079]						
Demography									
Old age dependency ratio (-1)	0.0022	0.0045	0.0024						
	[1.0572]	[1.0727]	[1.0507]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0001	0.0025	0.0004						
	[0.0188]	[0.7307]	[0.1544]						
Overall EPL (-1)	0.0064	-0.0135	0.0063	0.0051	-0.0127	0.0066	0.0047	-0.0014	0.0022
	[2.1254]**	[1.2122]	[1.5714]	[3.2933]***	[1.4962]	[3.2841]***	[3.5947]***	[0.3044]	[1.2665]
Industrial labour relations									
Indicator of corporatism (-1)	0.0085	0.0166	0.0083	0.0065	0.02	0.0162	0.0053	0.025	0.0059
	[2.4052]**	[1.7713]*	[1.6818]*	[2.0054]**	[2.3718]**	[2.0480]**	[2.3578]**	[2.5034]**	[0.7931]
Union density (-1)	0.0001	-0.0011	0.0001						
	[0.8738]	[0.9961]	[0.4656]						
Strikes (-1)	0	0	0						
	[0.5521]	[1.7084]*	[0.7219]						
Constant	-0.0285	0.0411	-0.0289	-0.0038	-0.0758	-0.029	-0.0009	0.0014	0.0034
	[0.8364]	[0.4232]	[0.8278]	[0.5233]	[1.4119]	[1.8142]*	[0.1289]	[0.0511]	[0.1962]
Observations	259	259	259	259	259	259	349	349	349
R-squared	0.1496	0.1531		0.0922	0.1153		0.0908	0.0778	
Number of Country		19	19		19	19		20	20
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.60*			1.56*			1.48*	
Hansen test			chi2(293)=0			chi2(130)=11.99			chi2(149)=17.88
Arellano Bond test for AR(1)			-0.49			0.19			1.38
Arellano Bond test for AR(2)			-1.27			-1.86*			-1.90*
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.9 Determinants of generosity for long-term unemployed

Dependent variable	Generosity for long-term unemployed								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0334	-0.1096	-0.0325	-0.0251	-0.097	-0.0316	-0.0243	-0.1007	-0.03
	[2.7768]***	[1.4122]	[2.8520]***	[2.5307]**	[1.3044]	[2.5818]***	[2.4977]**	[1.3910]	[2.6110]***
Macroeconomic conditions									
Unemployment rate (-1)	-0.0012	-0.001	-0.0012						
	[0.8061]	[0.3285]	[0.9566]						
Big economic crisis lagged 1	0.012	0.0147	0.0114						
	[0.3647]	[0.4493]	[1.3179]						
…lagged 2	0.0207	0.0213	0.0203						
	[0.6033]	[0.6980]	[1.2855]						
… lagged 3	-0.0202	-0.0168	-0.0208	-0.0122	-0.0132	-0.0118	-0.0113	-0.0134	-0.0105
	[1.2934]	[0.9880]	[1.9401]*	[2.7608]***	[1.6511]	[2.7967]***	[2.6216]***	[1.7294]*	[2.4464]**
Large increase in unemployment rate (-1)	0.026	0.0343	0.0259	0.021	0.0271	0.0282	0.021	0.0275	0.0222
	[1.3774]	[2.4198]**	[1.0975]	[3.1597]***	[3.6532]***	[3.3359]***	[3.1794]***	[3.7415]***	[2.6735]***
....interacted with lagged indicator	-0.0175	-0.0221	-0.0173						
	[0.5826]	[0.7816]	[0.6279]						
Long term unemployment rate (-1)	0.0005	0.0006	0.0005	0.0007	0.001	0.0007	0.0006	0.001	0.0006
	[0.9857]	[0.6149]	[1.6206]	[3.6670]***	[1.3250]	[3.9583]***	[3.5318]***	[1.4942]	[3.1539]***
Macroeconomic policies									
Net lending of general government (-1)	0.0018	0.0024	0.0018	0.0019	0.002	0.002	0.0017	0.0018	0.002
	[2.3274]**	[2.8302]***	[2.8666]***	[2.5612]**	[2.2746]**	[2.5800]***	[2.4046]**	[2.2494]**	[2.4692]**
Change in cyclically adjusted primary surplus (-1)	-0.0006	-0.0007	-0.0006						
	[0.2062]	[0.2535]	[0.2822]						
Fixed exchange rate policy (-1)	0.0018	0.0086	0.0015						
	[0.2227]	[0.6328]	[0.4747]						
Political institutions									
Ideology, left of center government (-1)	0.0097	0.0192	0.0098	0.0085	0.0179	0.0086	0.0073	0.0168	0.0064
	[1.3278]	[2.3411]**	[2.5905]***	[1.1638]	[2.3531]**	[2.2048]**	[1.0264]	[2.2620]**	[1.5692]
Mature government (more than 2 years in office)	0.0061	0.007	0.006						
	[1.0247]	[1.0496]	[0.7662]						
International influences									
Structural policy indicator in main trading partners (-1)	0.0182	-0.2095	0.0181	0.0326	-0.1887	0.0333	0.0312	-0.1919	0.0291
	[0.6732]	[0.7333]	[1.2922]	[1.5816]	[0.7730]	[2.7324]***	[1.5301]	[0.8009]	[2.3289]**
International tariff barriers (-1)	0.0572	0.0199	0.0557	0.0267	-0.0089	0.0249	0.0261	-0.0129	0.0238
	[2.3919]**	[0.8350]	[3.0882]***	[2.1181]**	[0.4074]	[2.7540]***	[2.0770]**	[0.6237]	[2.3789]**
EU membership dummy (-1)	0.0243	0.0204	0.0225						
	[1.4378]	[1.3470]	[2.1653]**						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0123	-0.0198	-0.0113						
	[0.8143]	[0.9715]	[0.8732]						
Demography									
Old age dependency ratio (-1)	0.0005	0.0008	0.0003						
	[0.4037]	[0.1528]	[0.3099]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0034	-0.001	0.0029						
	[0.9619]	[0.1511]	[0.9186]						
Overall EPL (-1)	-0.0168	0.0139	-0.0163	-0.0096	0.0116	-0.0104	-0.0089	0.011	-0.008
	[3.7696]***	[0.7105]	[4.8650]***	[3.8092]***	[0.7624]	[5.6926]***	[3.4944]***	[0.7892]	[3.4024]***
Lagged indicator (-1)	0.0181	0.0115	0.0176						
	[1.1423]	[0.1654]	[2.1244]**						
Industrial labour relations									
Indicator of corporatism (-1)	0.0009	0.0073	0.001						
	[0.2202]	[1.0035]	[0.5616]						
Union density (-1)	-0.0001	-0.0007	-0.0001						
	[0.6603]	[0.7770]	[0.7588]						
Strikes (-1)	0	0	0	0	0	0	0	0	0
	[2.0872]**	[0.8518]	[3.0405]***	[2.4576]**	[1.3076]	[1.6275]	[2.2722]**	[1.2547]	[1.0683]
Constant	-0.011	0.0599	-0.0092	-0.0005	0.0563	0.0024	-0.0016	0.0581	0.0001
	[0.5396]	[0.4837]	[0.4660]	[0.0591]	[0.4948]	[0.3618]	[0.1734]	[0.5202]	[0.0142]
Observations	257	257	257	257	257	257	261	261	261
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.07			1.22			1.2	
Hansen test			chi2(307)=0			chi2(201)=6.72			chi2(200)=5.95
Arellano Bond test for AR(1)			-0.37			-0.86			-1.15
Arellano Bond test for AR(2)			-1.72*			-1.56			-1.71*
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.10 Determinants of labour tax wedges

Dependent variable	Labour tax wedges								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0321	-0.2084	-0.0322	-0.0203	-0.1862	-0.0293	-0.0164	-0.1652	-0.0182
	[1.8696]*	[3.9043]***	[2.2023]**	[1.2903]	[4.2631]***	[2.2691]**	[1.2307]	[3.9708]***	[1.2469]
Macroeconomic conditions									
Unemployment rate (-1)	0.0008	0.0021	0.0008	0.0009	0.002	0.0008	0.001	0.0019	0.001
	[1.8740]*	[2.4997]**	[2.0978]**	[3.2616]***	[3.0609]***	[2.8157]***	[3.4643]***	[3.2795]***	[2.9686]***
Big economic crisis lagged 1	-0.0039	-0.0065	-0.0039	-0.0021	-0.0055	-0.0022	-0.0032	-0.0055	-0.0031
	[1.3568]	[2.1538]**	[1.4247]	[0.8297]	[2.1348]**	[0.6261]	[1.2512]	[2.2582]**	[0.8626]
…lagged 2	0.0015	0.0006	0.0013						
	[0.6533]	[0.2451]	[0.6712]						
… lagged 3	-0.0016	-0.0032	-0.0017						
	[0.7327]	[1.5017]	[0.8032]						
Large increase in unemployment rate (-1)	-0.005	0.0036	-0.0051						
	[0.5386]	[0.4559]	[0.4899]						
....interacted with lagged indicator	0.0254	-0.0178	0.0257						
	[0.7740]	[0.6074]	[0.6697]						
Long term unemployment rate (-1)	-0.0003	-0.0002	-0.0003	-0.0003	-0.0002	-0.0003	-0.0003	-0.0002	-0.0003
	[2.4332]**	[0.9718]	[2.7951]***	[3.7751]***	[1.2920]	[4.1991]***	[3.6084]***	[1.1942]	[4.4954]***
Macroeconomic policies									
Net lending of general government (-1)	-0.0016	-0.0015	-0.0016	-0.0016	-0.0015	-0.0015	-0.0014	-0.0014	-0.0014
	[4.8292]***	[3.5599]***	[5.5159]***	[4.8700]***	[3.6038]***	[6.0554]***	[5.0004]***	[3.8221]***	[6.7840]***
Change in cyclically adjusted primary surplu	0.0003	0.0005	0.0003						
	[0.5394]	[0.8731]	[0.4518]						
Fixed exchange rate policy (-1)	0.004	0.0006	0.004	0.004	0.0023	0.0044	0.0033	0.0026	0.0033
	[1.6567]*	[0.1431]	[2.1986]**	[2.0706]**	[0.8318]	[2.7808]***	[1.6761]*	[0.9446]	[1.8996]*
Political institutions									
Ideology, left of center government (-1)	0.0005	0.0018	0.0006						
	[0.3183]	[1.0015]	[0.4076]						
Mature government (more than 2 years in o	-0.0002	-0.0007	-0.0002						
	[0.1240]	[0.4212]	[0.1403]						
International influences									
Structural policy indicator in main trading pa	0.0193	-0.0046	0.0192						
	[0.7742]	[0.0916]	[0.9575]						
International tariff barriers (-1)	-0.0165	-0.0218	-0.0169	-0.0187	-0.0116	-0.0205	-0.0185	-0.0182	-0.0196
	[1.5824]	[1.8067]*	[1.9604]**	[2.1993]**	[1.1912]	[3.2086]***	[2.8511]***	[2.2007]**	[4.3739]***
EU membership dummy (-1)	-0.0052	-0.012	-0.0055	-0.004	-0.0088	-0.004	-0.0063	-0.0105	-0.0065
	[1.4393]	[2.4194]**	[1.8448]*	[1.3231]	[2.0947]**	[1.4923]	[2.2068]**	[2.7343]***	[2.4629]**
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0022	-0.0009	-0.0018						
	[0.7259]	[0.1932]	[0.5856]						
Demography									
Old age dependency ratio (-1)	-0.0001	-0.0008	-0.0001						
	[0.1171]	[0.3724]	[0.2690]						
Interaction with policies in other areas									
Product market policy indicator (-1)	-0.0002	-0.0004	-0.0002						
	[0.1891]	[0.2815]	[0.2246]						
Overall EPL (-1)	0.0036	-0.001	0.0037	0.004	-0.0014	0.0038	0.0039	-0.0012	0.004
	[1.8393]*	[0.2765]	[2.0387]**	[4.0502]***	[0.4165]	[2.9902]***	[4.2057]***	[0.4347]	[3.2722]***
Unemployment benefit replacement rate for	0.002	0.0027	0.0017						
	[0.3607]	[0.1410]	[0.4014]						
Generosity for long-term unemployed (-1)	0.0097	-0.0057	0.0099	0.0105	-0.003	0.0097	0.0097	-0.0116	0.0096
	[2.5932]**	[0.7266]	[3.1017]***	[3.4606]***	[0.4520]	[3.4537]***	[3.3578]***	[1.7049]*	[3.6813]***
Industrial labour relations									
Indicator of corporatism (-1)	-0.0005	0	-0.0006						
	[0.3443]	[0.0062]	[0.4299]						
Union density (-1)	0.0001	0.0005	0.0001						
	[0.9053]	[2.2136]**	[1.6182]						
Strikes (-1)	0	0	0						
	[0.2767]	[1.2870]	[0.0411]						
Constant	-0.0058	0.065	-0.0054	-0.0038	0.0605	-0.0006	-0.0039	0.0582	-0.0034
	[0.4803]	[1.7761]*	[0.5592]	[0.8120]	[3.5846]***	[0.1504]	[0.8866]	[4.1191]***	[0.6217]
Observations	258	258	258	258	258	258	310	310	310
R-squared	0.1995	0.2829		0.1785	0.2482		0.1659	0.2211	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		3.14***			2.87***			3.14***	
Hansen test			chi2(334)=0			chi2(269)=2.92			chi2(337)=6.77
Arellano Bond test for AR(1)			2.78***			-2.75***			2.64***
Arellano Bond test for AR(2)			-1.13			-1.12			-1.71*
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.11 Determinants of Implicit tax rate on continued work (55-59 years)

Dependent variable	Implicit tax rate on continued work (55-59 years)								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0278	-0.1258	-0.0304	-0.0207	-0.0518	-0.0242	-0.0258	-0.091	-0.0387
	[2.0327]**	[1.3036]	[4.0392]***	[1.8793]*	[0.7845]	[2.0089]**	[2.4077]**	[3.1328]***	[3.1250]***
Macroeconomic conditions									
Unemployment rate (-1)	-0.0013	-0.0002	-0.0014	-0.0011	-0.0032	-0.0005	-0.0013	-0.0041	-0.0014
	[0.8076]	[0.1082]	[1.2444]	[2.2373]**	[3.2411]***	[0.4707]	[2.0738]**	[2.9344]***	[1.9430]*
Big economic crisis lagged 1	0.0023	0.0044	0.003						
	[0.3998]	[0.6073]	[0.5173]						
...lagged 2	0.0029	0.0029	0.0029						
	[0.5714]	[0.4175]	[0.6905]						
... lagged 3	0.0019	-0.0002	0.0021						
	[0.3253]	[0.0293]	[0.3639]						
Large increase in unemployment rate (-1	0.0001	-0.002	-0.0005	-0.0017	0.0017	0.0003	-0.0043	-0.0037	-0.0085
	[0.0129]	[0.2450]	[0.1534]	[0.2421]	[0.2489]	[0.0213]	[0.6014]	[0.5717]	[1.0854]
....interacted with lagged indicator	0.022	0.0209	0.0238	0.024	0.0211	0.0008	0.0385	0.034	0.055
	[0.9462]	[0.7416]	[1.6796]*	[1.0684]	[0.6801]	[0.0124]	[1.9265]*	[1.4591]	[3.2439]***
Long term unemployment rate (-1)	-0.0002	-0.0004	-0.0002						
	[0.5557]	[0.7669]	[0.7974]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0015	-0.0015	-0.0015	-0.0017	-0.0026	-0.0015	-0.0013	-0.004	-0.0016
	[1.7866]*	[1.1340]	[1.6430]	[1.9678]*	[1.9483]*	[2.3391]**	[2.0190]**	[2.1782]**	[1.8450]*
Change in cyclically adjusted primary su	0.0026	0.0035	0.0027	0.0021	0.0031	0.0019	0.0019	0.0036	0.002
	[1.7689]*	[1.7936]*	[1.4249]	[1.3932]	[1.6882]*	[1.0334]	[1.5353]	[2.1872]**	[1.3529]
Fixed exchange rate policy (-1)	-0.0021	0.0008	-0.0019						
	[0.3097]	[0.0695]	[0.3548]						
Political institutions									
Ideology, left of center government (-1)	0.0027	0.0063	0.0025						
	[0.6294]	[1.0064]	[0.4687]						
Mature government (more than 2 years i	0.0033	0.0036	0.0032						
	[0.7700]	[0.8269]	[0.8529]						
International influences									
Structural policy indicator in main trading	0.0122	0.3379	0.0121						
	[0.2609]	[1.4537]	[0.3464]						
International tariff barriers (-1)	-0.0133	0.0231	-0.0169						
	[0.6815]	[1.2736]	[0.8491]						
EU membership dummy (-1)	0.0017	0.0058	0.0016						
	[0.1711]	[0.3351]	[0.3046]						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	0.006	0.0097	0.006						
	[0.4388]	[0.7988]	[0.5902]						
Demography									
Old age dependency ratio (-1)	-0.0023	-0.0023	-0.0022	-0.0048	-0.0063	-0.0046	-0.0046	-0.0063	-0.0048
	[1.3626]	[0.6090]	[1.3117]	[3.9681]***	[2.1569]**	[4.2218]***	[3.2000]***	[2.5711]**	[3.2998]***
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0102	0.0046	0.0104						
	[2.6370]***	[1.0754]	[3.0229]***						
EPL regular workers (-1)	0.0022	-0.0129	0.0025	0.0033	0.0029	0.0053	0.0042	-0.0025	0.0079
	[0.4358]	[0.9472]	[0.8263]	[1.4390]	[0.2527]	[2.1964]**	[1.8534]*	[0.2782]	[2.0326]**
EPL temporary workers (-1)	-0.0039	0.0121	-0.004						
	[0.8263]	[0.6739]	[0.8022]						
Unemployment benefit replacement rate	-0.002	0.0539	-0.0031						
	[0.1266]	[0.7473]	[0.4145]						
Generosity for long-term unemployed (-1	0.0102	0.081	0.0111						
	[1.0492]	[1.5875]	[1.0568]						
Industrial labour relations									
Indicator of corporatism (-1)	-0.0011	-0.0033	-0.001						
	[0.2297]	[0.3198]	[0.2680]						
Union density (-1)	-0.0001	-0.001	-0.0001						
	[0.5225]	[1.4315]	[0.9627]						
Strikes (-1)	0	0	0						
	[0.7906]	[0.1604]	[0.9696]						
Constant	0.0094	-0.0736	0.0078	0.0652	0.1116	0.0566	0.0664	0.139	0.0643
	[0.4875]	[1.0101]	[0.3611]	[4.0572]***	[1.7984]*	[3.5262]***	[3.1947]***	[2.3383]**	[3.3226]***
Observations	258	258	258	258	258	258	337	337	337
R-squared	0.1879	0.1653		0.1249	0.1019		0.1026	0.1155	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM

Table A2.12 Determinants of Implicit tax rate on continued work (60-64 years)

Dependent variable	Implicit tax rate on continued work (60-64 years)								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0248	0.0488	-0.0262	-0.0207	-0.0562	-0.0291	-0.0345	-0.177	-0.055
	[1.8125]*	[0.7670]	[3.3306]***	[2.4967]**	[0.9796]	[2.7709]***	[2.0063]**	[1.8387]*	[1.6497]*
Macroeconomic conditions									
Unemployment rate (-1)	-0.0002	-0.0029	-0.0002						
	[0.1518]	[1.6556]*	[0.2122]						
Big economic crisis lagged 1	-0.0091	-0.0057	-0.0086						
	[1.1774]	[0.8126]	[1.8999]*						
…lagged 2	0.0002	0.0014	-0.0002						
	[0.0199]	[0.1887]	[0.0264]						
… lagged 3	-0.0031	-0.0021	-0.003						
	[0.4444]	[0.2903]	[0.5000]						
Large increase in unemployment rate (-1)	-0.0149	-0.0136	-0.0153						
	[1.2644]	[1.0876]	[1.6355]						
....interacted with lagged indicator	0.0062	0.0296	0.0069						
	[0.1679]	[0.8041]	[0.2609]						
Long term unemployment rate (-1)	0.0004	0.0003	0.0004						
	[1.1171]	[0.5926]	[1.5471]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0001	-0.0014	-0.0001						
	[0.1741]	[1.1465]	[0.2014]						
Change in cyclically adjusted primary surplus (-1)	0.0026	0.0018	0.0027	0.0032	0.003	0.0033	0.003	0.0032	0.0031
	[1.2858]	[0.9185]	[1.5919]	[1.4079]	[1.1964]	[1.3593]	[1.6890]*	[1.4978]	[2.1099]**
Fixed exchange rate policy (-1)	-0.0092	-0.0047	-0.009	-0.0102	-0.0024	-0.0072	-0.0104	-0.01	-0.0074
	[1.4548]	[0.4312]	[1.4372]	[2.4747]**	[0.2899]	[1.0400]	[2.8511]***	[0.9425]	[0.8968]
Political institutions									
Ideology, left of center government (-1)	-0.01	-0.0195	-0.0099	-0.0109	-0.0184	-0.0119	-0.0024	-0.0139	-0.0004
	[1.7127]*	[2.2240]**	[2.1932]**	[2.1364]**	[2.2202]**	[2.1872]**	[0.3956]	[2.0536]**	[0.0537]
Mature government (more than 2 years in office)	0.002	0.0017	0.002						
	[0.3841]	[0.3248]	[0.6303]						
International influences									
Structural policy indicator in main trading partners	0.0676	0.0041	0.0678	0.0463	0.0233	0.0602	0.0485	0.017	0.069
	[2.4781]**	[0.0260]	[2.3814]**	[3.2110]***	[0.2849]	[3.8155]***	[3.3285]***	[0.4166]	[2.7296]***
International tariff barriers (-1)	0.0081	-0.0534	0.0061						
	[0.5464]	[1.6670]*	[0.3899]						
EU membership dummy (-1)	-0.0077	0.0158	-0.0083						
	[0.7701]	[0.8797]	[0.8603]						
EU Single market programme dummy	n.c	n.c	n.c						
Financial market policy indicator (-1)	-0.0157	-0.0139	-0.0151						
	[1.3884]	[0.8663]	[1.1143]						
Demography									
Old age dependency ratio (-1)	-0.0002	-0.0073	0						
	[0.0888]	[2.0705]**	[0.0071]						
Interaction with policies in other areas									
Product market policy indicator (-1)	0.0023	0.0018	0.0026						
	[0.5253]	[0.2268]	[0.5703]						
EPL regular workers (-1)	0.0019	-0.0029	0.0024						
	[0.3925]	[0.1320]	[0.5678]						
EPL temporary workers (-1)	-0.0069	-0.0312	-0.0073						
	[1.6883]*	[2.2366]**	[1.4755]						
Unemployment benefit replacement rate for low in	-0.0345	-0.1167	-0.0376	-0.0226	-0.1068	-0.0531	-0.0305	-0.3817	-0.0599
	[1.6236]	[1.6285]	[2.4056]**	[1.6615]*	[1.6516]*	[2.6530]***	[1.9383]*	[1.5648]	[2.0388]**
Generosity for long-term unemployed (-1)	-0.0277	-0.0709	-0.0277						
	[2.0348]**	[1.6807]*	[1.7190]*						
Industrial labour relations									
Indicator of corporatism (-1)	0.0053	0.009	0.0054						
	[1.4165]	[1.2385]	[1.3038]						
Union density (-1)	0.0001	0	0.0001						
	[0.1662]	[0.0230]	[0.5203]						
Strikes (-1)	0	0	0						
	[1.0437]	[1.5819]	[1.2338]						
Constant	0.0112	0.2407	0.009	0.0122	0.0771	0.0246	0.0164	0.2724	0.0293
	[0.4175]	[1.7986]*	[0.4180]	[1.5909]	[1.3643]	[1.8546]*	[1.8946]*	[1.5630]	[1.6756]*
Observations	258	258	258	258	258	258	337	337	337
R-squared	0.1554	0.1794		0.0988	0.0703		0.0564	0.2013	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM

Table A2.13 Determinants of product market policy indicator in the airline sector

Dependent variable	Product market policy indicator in the Airline sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.1874	-0.3033	-0.0695	-0.2018	-0.3252	-0.2728	-0.1525	-0.2377	-0.3086
	[4.3845]***	[4.2818]***	[2.4206]**	[4.5651]***	[5.1331]***	[3.4817]***	[4.1931]***	[4.8910]***	[4.0472]***
Macroeconomic conditions									
Big economic crisis lagged 1	0.0538	0.0076	0.0145						
	[0.3810]	[0.0512]	[0.0875]						
…lagged 2	-0.1321	-0.1371	-0.1085						
	[0.8421]	[0.8487]	[0.7245]						
… lagged 3	-0.1994	-0.2207	-0.2339	-0.2027	-0.2851	-0.2447	-0.2381	-0.2764	-0.286
	[1.5525]	[1.5978]	[1.8391]*	[1.5453]	[2.0717]**	[1.7791]*	[1.8538]*	[2.1852]**	[1.9672]**
Macroeconomic policies									
Net lending of general government (-1)	0.0257	0.0123	0.0199						
	[1.5488]	[0.7140]	[1.2846]						
Change in cyclically adjusted primary surplus (-1)	-0.0228	-0.0224	-0.0123						
	[0.6348]	[0.6289]	[0.3985]						
Fixed exchange rate policy (-1)	-0.0308	-0.0283	-0.0882						
	[0.3016]	[0.1882]	[0.7337]						
Political institutions									
Ideology, left of center government (-1)	-0.0015	0.044	-0.0788						
	[0.0182]	[0.5007]	[1.1064]						
Mature government (more than 2 years in office)	-0.0496	-0.0413	-0.0709						
	[0.6492]	[0.5486]	[1.3386]						
International influences									
Product market regulation in main trading partners (-1)	-0.1066	-0.0654	-0.0441						
	[2.6917]***	[0.8038]	[1.1983]						
International tariff barriers (-1)	0.2686	0.4703	-0.1011						
	[0.9132]	[0.9117]	[0.3329]						
EU membership (-1)	0.5261	0.3141	0.3078	0.3346	0.3595	0.46	0.2314	0.4179	0.2562
	[4.0388]***	[1.6225]	[2.5273]**	[3.9188]***	[2.1795]**	[2.4893]**	[3.7327]***	[2.8834]***	[1.1682]
EU single market programme(-1)	-1.1708	-1.2459	-0.4341	-1.0014	-1.2259	-1.1239	-0.8025	-0.9341	-1.1004
	[4.3424]***	[4.1757]***	[6.9185]***	[4.0970]***	[4.1492]***	[3.1411]***	[3.8838]***	[3.8398]***	[3.3264]***
Financial market policy indicator (-1)	0.4934	0.5952	0.0897	0.2625	0.4602	0.5503	0.2695	0.439	0.6411
	[3.4425]***	[2.8215]***	[0.4158]	[2.0339]**	[2.6080]***	[1.6987]*	[2.9623]***	[3.6586]***	[1.9933]**
Demography									
Old age dependency ratio (-1)	-0.039	-0.0285	-0.02	-0.0296	-0.0625	-0.0954	-0.025	-0.0672	-0.0853
	[1.8134]*	[0.6332]	[0.8100]	[1.4866]	[1.4985]	[1.4972]	[1.7916]*	[2.3265]**	[1.3263]
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1)	-0.027	0.0183	-0.0182						
	[0.4141]	[0.2585]	[0.1685]						
Public ownership (-1)	0.1189	0.1791	0.121	0.0685	0.1749	0.0875	0.0436	0.1173	0.1378
	[3.3257]***	[3.8873]***	[2.9138]***	[2.9844]***	[4.8308]***	[1.6843]*	[2.5326]**	[4.1149]***	[2.3662]**
Industrial labour relations									
Indicator of corporatism (-1)	-0.1015	-0.1353	-0.1975						
	[1.2950]	[0.6136]	[2.0715]**						
Union density (-1)	0.003	0.0076	-0.0017						
	[1.3698]	[0.8787]	[1.0397]						
Strikes (-1)	0	0	0						
	[0.3709]	[0.0145]	[0.4331]						
Constant	1.1482	0.8052	0.7978	0.7366	1.2761	1.7344	0.6176	1.1568	1.6738
	[2.4676]**	[1.0127]	[1.5198]	[2.1403]**	[1.8378]*	[1.7892]*	[2.3219]**	[2.3417]**	[1.7116]*
Observations	364	364	364	364	364	364	508	508	508
R-squared	0.215	0.2632		0.1647	0.2488		0.1326	0.1998	
Number of Country		19	19		19	19		20	20
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.42			1.69**			1.54*	
Hansen test			chi2(252)=0.00			chi2(116)=14.47			chi2(150)=12.59
Arellano Bond test for AR(1)			-3.03***			-3.42***			-3.54***
Arellano Bond test for AR(2)			1.12			1.17			1.15
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.14 Determinants of product market policy indicator in the road transport sector

Dependent variable	Product market policy indicator in the Road transport sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0819	-0.168	-0.0672	-0.0698	-0.1421	-0.067	-0.0465	-0.0884	-0.0575
	[2.8574]***	[3.0715]***	[1.8966]*	[3.6289]***	[3.3830]***	[2.9161]***	[3.8728]***	[3.3158]***	[3.8808]***
Macroeconomic conditions									
Big economic crisis lagged 1	0.1105	0.0471	0.1263						
	[1.0624]	[0.4083]	[1.4560]						
…lagged 2	-0.1748	-0.2015	-0.1782						
	[0.9998]	[1.1734]	[1.5788]						
… lagged 3	0.0495	0.0141	0.0677						
	[0.4372]	[0.1301]	[1.0545]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0158	-0.0214	-0.0095						
	[1.1659]	[1.3353]	[0.7116]						
Change in cyclically adjusted primary surplus (-1)	-0.0147	-0.0174	-0.0249						
	[0.4844]	[0.5612]	[0.7174]						
Fixed exchange rate policy (-1)	0.0716	-0.0547	0.0763						
	[0.7485]	[0.5602]	[1.2588]						
Political institutions									
Ideology, left of center government (-1)	0.1502	0.1572	0.1331	0.134	0.1321	0.1459	0.1153	0.1255	0.119
	[2.5920]***	[1.9377]*	[2.7525]***	[2.4090]**	[1.7761]*	[2.7153]***	[2.8488]***	[2.5206]**	[3.2856]***
Mature government (more than 2 years in office)	-0.1105	-0.094	-0.1038						
	[1.7479]*	[1.5215]	[1.8062]*						
International influences									
Product market regulation in main trading partners	0.0648	0.1173	0.0802	0.0568	0.0525	0.0255	0.0513	0.0168	0.0482
	[1.8623]*	[1.8459]*	[2.2254]**	[2.5592]**	[1.8544]*	[1.2564]	[3.6022]***	[1.0782]	[3.0321]***
International tariff barriers (-1)	0.0027	-0.6359	-0.0602						
	[0.0134]	[1.8194]*	[0.3588]						
EU membership (-1)	-0.0088	-0.0342	-0.0396						
	[0.0722]	[0.2347]	[0.4919]						
EU single market programme(-1)	0.1047	0.1116	0.1629						
	[0.9507]	[0.8196]	[1.4163]						
Financial market policy indicator (-1)	0.0835	0.2693	0.0622						
	[0.5177]	[1.1569]	[0.3120]						
Demography									
Old age dependency ratio (-1)	0.0032	-0.11	0.0062	0.0056	-0.0907	0	0.0032	-0.0784	-0.0017
	[0.1862]	[2.7431]***	[0.4771]	[0.3505]	[2.3183]**	[0.0018]	[0.2991]	[3.7030]***	[0.1729]
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1)	-0.0222	-0.0589	-0.0233						
	[0.7518]	[1.3204]	[0.5142]						
Industrial labour relations									
Indicator of corporatism (-1)	-0.028	0.0066	-0.0614						
	[0.5623]	[0.0585]	[1.2746]						
Union density (-1)	-0.0011	0.0032	-0.0006						
	[0.5381]	[0.6151]	[0.4667]						
Strikes (-1)	0	-0.0002	-0.0001						
	[0.3223]	[1.2151]	[0.9065]						
Constant	-0.1182	1.5778	-0.1506	-0.2782	1.2742	-0.1173	-0.2424	1.1102	-0.1315
	[0.4374]	[2.6090]***	[0.7434]	[1.1083]	[2.0730]**	[0.5563]	[1.3604]	[3.3060]***	[0.9225]
Observations	364	364	364	364	364	364	588	588	588
R-squared	0.0925	0.1306		0.0639	0.0935		0.0467	0.0641	
Number of Country		19	19		19	19		21	21
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.58*			2.38***			3.72***	
Hansen test			chi2(212)=0			chi2(133)=13.02			chi2(168)=16.68
Arellano Bond test for AR(1)			-2.93***			-2.88***			-3.05***
Arellano Bond test for AR(2)			-0.38			0.08			0.04
Robust t statistics in brackets						* significant at 10%; ** significant at 5%; *** significant at 1%			

Table A2.15 Determinants of product market policy indicator in the post sector

Dependent variable	Product market policy indicator in the Post sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0609	-0.1595	-0.054	-0.0553	-0.1459	-0.0398	-0.051	-0.1034	-0.0304
	[2.4085]**	[2.9906]***	[2.4676]**	[3.4839]***	[3.2463]***	[1.7080]*	[4.3019]***	[3.6885]***	[1.2554]
Macroeconomic conditions									
Big economic crisis lagged 1	-0.2439	-0.2468	-0.2477	-0.2395	-0.2788	-0.2519	-0.2211	-0.2406	-0.2313
	[2.0872]**	[2.0497]**	[2.4488]**	[2.3446]**	[2.4850]**	[2.9788]***	[2.2779]**	[2.3530]**	[2.7668]***
…lagged 2	-0.0202	-0.0332	-0.0219						
	[0.1805]	[0.2951]	[0.1797]						
… lagged 3	0.0337	0.0035	0.0389						
	[0.4646]	[0.0556]	[0.5116]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0099	0.0019	-0.0096						
	[1.1316]	[0.1607]	[1.0120]						
Change in cyclically adjusted primary surplus (-1)	0.0017	-0.0063	0.0026						
	[0.1392]	[0.4704]	[0.2098]						
Fixed exchange rate policy (-1)	-0.0179	0.1255	-0.0372	-0.0158	0.1146	-0.024	-0.0185	0.1157	-0.0392
	[0.2728]	[1.6947]*	[0.7221]	[0.3101]	[1.9901]**	[0.6337]	[0.5668]	[2.4990]**	[1.2998]
Political institutions									
Ideology, left of center government (-1)	-0.0153	0.0268	-0.0259						
	[0.3032]	[0.4066]	[0.5581]						
Mature government (more than 2 years in office)	-0.0358	-0.037	-0.0453						
	[0.7610]	[0.7972]	[0.9597]						
International influences									
Product market regulation in main trading partners	-0.0234	0.0627	-0.044						
	[0.6961]	[1.1978]	[1.4409]						
International tariff barriers (-1)	0.0715	-0.0368	0.1145						
	[0.5644]	[0.1793]	[1.0595]						
EU membership (-1)	-0.0551	-0.1194	-0.0691						
	[0.8111]	[1.2997]	[1.4507]						
EU single market programme(-1)	0.0998	0.1939	0.1063						
	[1.1081]	[1.8901]*	[1.5475]						
Financial market policy indicator (-1)	0.0581	0	0.0379						
	[0.6569]	[0.0000]	[0.5410]						
Demography									
Old age dependency ratio (-1)	-0.0142	-0.0485	-0.0156	-0.0158	-0.0512	-0.0148	-0.0159	-0.0417	-0.0113
	[1.1921]	[2.0143]**	[2.4041]**	[1.3253]	[2.1332]**	[1.6338]	[1.8632]*	[2.3918]**	[1.6113]
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1)	0.0638	0.1154	0.0605	0.0506	0.0843	0.053	0.0606	0.0893	0.0734
	[1.6024]	[2.1209]**	[1.1947]	[2.0660]**	[2.4077]**	[1.3701]	[3.8538]***	[3.1578]***	[2.6389]***
Public ownership (-1)	-0.0008	-0.0345	0.056						
	[0.0145]	[0.3982]	[1.2186]						
Industrial labour relations									
Indicator of corporatism (-1)	-0.0118	-0.057	0.0147						
	[0.2702]	[0.6486]	[0.3499]						
Union density (-1)	0.0002	-0.0036	0.0003						
	[0.1987]	[0.7599]	[0.3532]						
Strikes (-1)	0.0001	0.0001	0.0001						
	[1.8158]*	[1.5048]	[2.4978]**						
Constant	0.1166	0.7915	-0.1105	0.1265	0.6921	0.0552	0.0526	0.3706	-0.1231
	[0.3780]	[1.0101]	[0.4350]	[0.5652]	[1.5930]	[0.2619]	[0.3432]	[1.2076]	[0.8156]
Observations	364	364	364	364	364	364	588	588	588
R-squared	0.0975	0.1354		0.0774	0.1105		0.0794	0.1014	
Number of Country		19	19		19	19		21	21
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		2.51***			2.79***			2.63***	
Hansen test			chi2(244)=0			chi2(134)=11.69			chi2(182)=18.73
Arellano Bond test for AR(1)			-2.96***			-2.98***			-3.42***
Arellano Bond test for AR(2)			0.03			0.52			0.05
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.16 Determinants of product market policy indicator in the gas sector

Dependent variable	Product market policy indicator in the Gas sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0052	-0.1157	-0.0035	-0.0021	-0.0802	0.0017	-0.0045	-0.0214	0.0025
	[0.5225]	[1.6645]*	[0.3515]	[0.2306]	[1.3517]	[0.1840]	[0.5650]	[0.4339]	[0.1992]
Macroeconomic conditions									
Big economic crisis lagged 1	-0.0182	-0.0195	-0.0243						
	[0.5597]	[0.5591]	[0.6342]						
…lagged 2	-0.0284	-0.036	-0.0279						
	[0.7882]	[1.0271]	[0.8710]						
… lagged 3	0.0528	0.045	0.0488	0.0396	0.0414	0.0428	0.0438	0.0336	0.0492
	[2.0475]**	[1.6347]	[1.8272]*	[1.8954]*	[1.7024]*	[1.5320]	[2.0752]**	[1.4756]	[1.9267]*
Macroeconomic policies									
Net lending of general government (-1)	-0.0005	-0.0008	-0.0006						
	[0.2696]	[0.2190]	[0.2354]						
Change in cyclically adjusted primary surplus (-1)	-0.001	-0.0037	-0.0007						
	[0.2424]	[0.8320]	[0.1672]						
Fixed exchange rate policy (-1)	-0.0201	-0.0275	-0.0185						
	[0.8898]	[1.3187]	[0.8873]						
Political institutions									
Ideology, left of center government (-1)	0.0186	0.0168	0.0211						
	[1.1083]	[0.8442]	[1.1845]						
Mature government (more than 2 years in office)	-0.0023	0.0053	-0.002						
	[0.1423]	[0.3380]	[0.1133]						
International influences									
Product market regulation in main trading partners (-1	0.006	0.1081	0.0099	0.0077	0.0842	0.0146	0.0128	0.1089	0.0299
	[0.4544]	[1.8062]*	[1.0454]	[0.6663]	[1.5789]	[1.1331]	[1.0244]	[2.0065]**	[1.7637]*
International tariff barriers (-1)	-0.0036	-0.0583	-0.0053						
	[0.0779]	[0.7013]	[0.0990]						
EU membership (-1)	-0.0538	0.0142	-0.0553	-0.0335	0.0193	-0.0397	-0.0298	0.0154	-0.0505
	[2.1247]**	[0.2593]	[1.9123]*	[2.0841]**	[0.3842]	[1.7057]*	[2.3375]**	[0.3482]	[2.5916]***
EU single market programme(-1)	-0.0333	-0.0776	-0.0415	-0.0332	-0.0826	-0.0377	-0.0354	-0.0723	-0.0268
	[1.3063]	[2.2123]**	[1.8095]*	[1.2405]	[2.4766]**	[1.4947]	[1.2655]	[2.2649]**	[0.9159]
Financial market policy indicator (-1)	-0.0251	-0.1361	-0.0298	-0.0303	-0.1287	-0.0319	-0.0178	-0.0684	-0.0346
	[1.0464]	[2.8960]***	[1.0726]	[1.3514]	[3.0770]***	[0.8908]	[0.9236]	[2.1444]**	[0.9790]
Demography									
Old age dependency ratio (-1)	0.0019	-0.0013	0.0012						
	[0.4233]	[0.0947]	[0.2550]						
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1)	0.034	0.0215	0.0297	0.0367	0.0313	0.0311	0.0383	0.0155	0.0367
	[2.7203]***	[1.1184]	[2.4032]**	[3.3710]***	[1.9334]*	[2.5125]**	[3.8158]***	[0.9991]	[3.3751]***
Public ownership (-1)	0.0112	0.0256	0.0108						
	[2.0847]**	[1.4335]	[1.3563]						
Industrial labour relations									
Indicator of corporatism (-1)	0.0104	0.0777	0.0092	0.0103	0.0697	0.0042	-0.0081	0.0502	-0.0245
	[0.6214]	[3.0898]***	[0.7441]	[0.7610]	[3.5712]***	[0.3629]	[0.5214]	[2.6886]***	[1.6101]
Union density (-1)	-0.0003	0.0041	-0.0003						
	[0.6683]	[1.9050]*	[0.6637]						
Strikes (-1)	0	0	0						
	[0.1854]	[0.5103]	[0.7219]						
Constant	-0.1974	-0.3013	-0.1841	-0.204	-0.202	-0.202	-0.1887	-0.4437	-0.2206
	[2.5265]**	[1.0862]	[2.2286]**	[4.7318]***	[1.0651]	[3.1822]***	[4.9779]***	[2.3656]**	[3.6549]***
Observations	364	364	364	364	364	364	508	508	508
R-squared	0.1602	0.1784		0.1343	0.1405		0.1524	0.1682	
Number of Country		19	19		19	19		20	20
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.15			1.09			1.50*	
Hansen test			chi2(200)=0			chi2(160)=10.97			chi2(210)=8.52
Arellano Bond test for AR(1)			-2.43**			-2.43**			-2.82***
Arellano Bond test for AR(2)			-0.35			-0.71			-1.02
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.17 Determinants of product market policy indicator in the telecommunications sector

Dependent variable	Product market policy indicator in the Telecommunications sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1)	(2)	(3)	(1)	(2)	(3)	(1)	(2)	(3)
	OLS	FE	SGMM	OLS	FE	SGMM	OLS	FE	SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.1542	-0.281	-0.1542	-0.1237	-0.2574	-0.1483	-0.1353	-0.2193	-0.1597
	[3.4885]***	[4.4476]***	[5.5186]***	[3.3631]***	[4.7279]***	[6.8502]***	[3.8014]***	[4.2170]***	[7.4496]***
Macroeconomic conditions									
Big economic crisis lagged 1	0.0874	0.0974	0.1052						
	[0.8179]	[0.9215]	[1.0846]						
…lagged 2	-0.1745	-0.1715	-0.176						
	[1.3573]	[1.3646]	[1.3200]						
… lagged 3	0.0165	-0.0182	0.0031						
	[0.1802]	[0.2051]	[0.0318]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0165	-0.002	-0.0155	-0.0171	0.003	-0.017	-0.0143	-0.0022	-0.0155
	[1.8283]*	[0.1549]	[2.2314]**	[2.1293]**	[0.2308]	[2.2746]**	[2.1869]**	[0.2124]	[3.0288]***
Change in cyclically adjusted primary surplus (-1	0.0296	0.0177	0.0323						
	[1.6438]	[0.9692]	[1.7151]*						
Fixed exchange rate policy (-1)	-0.0051	0.0941	0.0012						
	[0.0749]	[0.9375]	[0.0190]						
Political institutions									
Ideology, left of center government (-1)	0.0005	0.0437	-0.019						
	[0.0083]	[0.5982]	[0.2833]						
Mature government (more than 2 years in office)	-0.0679	-0.0667	-0.0657						
	[1.2617]	[1.3091]	[1.0183]						
International influences									
Product market regulation in main trading partne	0.1116	0.3628	0.134	0.1243	0.3622	0.1582	0.106	0.1899	0.1244
	[3.1142]***	[4.5178]***	[4.2896]***	[3.9821]***	[5.0185]***	[6.1865]***	[3.7802]***	[3.9242]***	[4.7000]***
International tariff barriers (-1)	0.3488	-0.1872	0.3369	0.286	-0.3833	0.3403	0.1483	-0.063	0.1416
	[2.3853]**	[0.7517]	[1.4421]	[2.4222]**	[1.6102]	[1.9285]*	[1.9259]*	[0.3754]	[1.1572]
EU membership (-1)	0.0323	-0.0362	0.0356						
	[0.4866]	[0.2311]	[0.3836]						
EU single market programme(-1)	-0.2759	-0.0976	-0.2955	-0.2656	-0.1148	-0.2482	-0.2063	-0.236	-0.2135
	[3.5406]***	[0.9015]	[5.0072]***	[3.2673]***	[1.2741]	[3.3024]***	[3.0531]***	[3.0019]***	[2.9220]***
Financial market policy indicator (-1)	-0.011	-0.0639	-0.0216						
	[0.0927]	[0.4287]	[0.1447]						
Demography									
Old age dependency ratio (-1)	-0.0149	-0.0887	-0.0168	-0.0193	-0.0798	-0.0224	-0.0125	-0.0504	-0.0144
	[0.7826]	[2.0368]**	[0.8708]	[1.1144]	[2.2997]**	[1.1592]	[0.9706]	[2.2446]**	[0.9345]
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1	0.0593	0.0331	0.0278						
	[1.0155]	[0.3985]	[0.4643]						
Public ownership (-1)	0.0351	0.0776	0.0387	0.0382	0.0562	0.0507	0.0347	0.0305	0.0459
	[1.4803]	[1.8651]*	[2.5540]**	[2.0196]**	[1.5452]	[2.0510]**	[2.0169]**	[1.0933]	[1.8748]*
Industrial labour relations									
Indicator of corporatism (-1)	0.0396	0.028	0.0226						
	[0.6544]	[0.2623]	[0.5565]						
Union density (-1)	-0.0005	-0.0129	-0.0007						
	[0.2656]	[1.8614]*	[0.5380]						
Strikes (-1)	0	0	0						
	[0.4194]	[0.3891]	[0.4434]						
Constant	-0.2097	0.9314	-0.1002	-0.0571	0.4885	-0.1004	0.0373	0.7008	0.0553
	[0.6375]	[1.2203]	[0.2771]	[0.2433]	[0.9371]	[0.3538]	[0.2086]	[2.0239]**	[0.2595]
Observations	364	364	364	364	364	364	489	489	489
R-squared	0.1896	0.2791		0.1677	0.2558		0.1278	0.1751	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.37			1.44			1.07	
Hansen test			chi2(258)=0			chi2(181)=14.08			chi2(232)=13.15
Arellano Bond test for AR(1)			-3.68***			-3.65***			-3.86***
Arellano Bond test for AR(2)			-1.96*			-1.72*			-1.08
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.18 Determinants of product market policy indicator in the electricity sector

Dependent variable	Product market policy indicator in the Electricity sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0659	-0.2068	-0.0751	-0.0649	-0.2002	-0.0822	-0.0856	-0.1772	-0.0982
	[2.6517]***	[3.3737]***	[3.0470]***	[2.6846]***	[3.1479]***	[3.1564]***	[3.7683]***	[3.5213]***	[3.9167]***
Macroeconomic conditions									
Big economic crisis lagged 1	-0.0002	0.031	0.0134						
	[0.0026]	[0.3368]	[0.1372]						
…lagged 2	-0.2713	-0.2312	-0.2828						
	[1.7818]*	[1.6464]	[1.8302]*						
… lagged 3	0.0874	0.0799	0.0772						
	[0.7429]	[0.7104]	[0.7484]						
Macroeconomic policies									
Net lending of general government (-1)	-0.0168	-0.0192	-0.0196	-0.011	-0.014	-0.0123	-0.0083	-0.0229	-0.008
	[1.8487]*	[1.5305]	[2.2954]**	[1.3113]	[1.1605]	[1.3587]	[1.1075]	[1.9913]**	[0.9951]
Change in cyclically adjusted primary s	0.0404	0.0376	0.0411	0.0394	0.037	0.036	0.0302	0.0366	0.0269
	[2.2783]**	[2.0119]**	[3.3468]***	[2.0715]**	[1.9824]**	[2.5958]***	[1.8406]*	[2.2103]**	[2.0307]**
Fixed exchange rate policy (-1)	-0.0057	0.0989	-0.0117						
	[0.0710]	[1.0257]	[0.1606]						
Political institutions									
Ideology, left of center government (-1)	0.0001	0.0013	0.045						
	[0.0015]	[0.0159]	[0.5966]						
Mature government (more than 2 years	-0.0201	-0.0176	-0.0198						
	[0.3463]	[0.3134]	[0.3380]						
International influences									
Product market regulation in main tradi	0.0582	0.1717	0.011	0.0773	0.148	0.0372	0.0767	0.1192	0.0593
	[1.3052]	[2.5100]**	[0.2899]	[1.8466]*	[2.3182]**	[0.9098]	[2.2471]**	[2.4623]**	[1.4466]
International tariff barriers (-1)	0.3171	0.763	0.2793	0.3182	0.7951	0.3452	0.3233	0.6832	0.3092
	[1.4723]	[2.5124]**	[1.3630]	[1.5315]	[3.0327]***	[2.2125]**	[2.1536]**	[3.3591]***	[1.8355]*
EU membership (-1)	-0.0312	-0.1537	-0.0521						
	[0.3400]	[0.9940]	[0.6582]						
EU single market programme(-1)	-0.087	-0.0484	-0.0768						
	[0.9351]	[0.4795]	[0.8285]						
Financial market policy indicator (-1)	-0.0753	-0.2707	-0.0477						
	[0.5770]	[1.7951]*	[0.5366]						
Demography									
Old age dependency ratio (-1)	-0.048	-0.026	-0.0501	-0.041	-0.006	-0.0435	-0.0388	-0.0168	-0.0389
	[2.3294]**	[0.6227]	[3.3901]***	[2.3231]**	[0.1439]	[3.0978]***	[2.6175]***	[0.5682]	[2.8256]***
Interaction with policies in other areas									
Product market policy indicator, other s	0.0973	0.1336	0.1466	0.0783	0.1641	0.1331	0.087	0.1476	0.1295
	[1.6454]	[1.2459]	[2.4809]**	[1.8787]*	[1.5892]	[1.9987]**	[2.4183]**	[1.9533]*	[2.3392]**
Public ownership (-1)	-0.032	0.0229	-0.0348						
	[1.3995]	[0.2085]	[1.4114]						
Industrial labour relations									
Indicator of corporatism (-1)	0.065	0.3726	0.0464	0.0388	0.3402	0.0197	0.0068	0.2046	-0.0108
	[1.1224]	[3.5711]***	[1.0620]	[0.6791]	[3.3130]***	[0.3924]	[0.1472]	[2.0252]**	[0.3000]
Union density (-1)	0.0015	0.0016	0.0014						
	[1.0188]	[0.2237]	[0.8509]						
Strikes (-1)	-0.0001	0	-0.0001						
	[0.7460]	[0.1883]	[0.9172]						
Constant	0.0617	-1.119	0.2019	-0.1544	-1.3492	-0.0356	-0.0341	-0.8401	-0.0246
	[0.2103]	[1.4670]	[0.6603]	[0.5777]	[1.7615]*	[0.1125]	[0.1504]	[1.5561]	[0.0852]
Observations	364	364	364	364	364	364	465	465	465
R-squared	0.1502	0.2173		0.1149	0.1995		0.1246	0.1868	
Number of Country		19	19		19	19		19	19
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.58*			2.05***			2.40***	
Hansen test			chi2(215)=0			chi2(163)=13.69			chi2(225)=13.03
Arellano Bond test for AR(1)			-2.51**			-2.46**			-3.14***
Arellano Bond test for AR(2)			-0.59			1.06			1.62
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

Table A2.19 Determinants of product market policy indicator in the rail sector

Dependent variable	Product market policy indicator in the Rail sector								
	General framework			Specific framework			Specific framework (sample test)		
change in structural policy indicator	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM	(1) OLS	(2) FE	(3) SGMM
Initial structural conditions, convergence									
Lagged dependent variable	-0.0823	-0.1216	-0.0751	-0.0653	-0.1	-0.077	-0.0305	-0.0515	-0.0233
	[2.2574]**	[2.0886]**	[2.0565]**	[2.4347]**	[2.1327]**	[2.3096]**	[1.6497]*	[1.9422]*	[0.7605]
Macroeconomic conditions									
Big economic crisis lagged 1	0.075	0.081	0.0818	0.1038	0.1108	0.0949	0.0619	0.0706	0.0387
	[1.9686]**	[1.8993]*	[2.5718]**	[2.4516]**	[2.5134]**	[2.2603]**	[1.9424]*	[2.0717]**	[1.2473]
…lagged 2	0.0761	0.0649	0.0726						
	[1.2340]	[1.0651]	[1.1912]						
… lagged 3	-0.0392	-0.046	-0.0334						
	[0.5634]	[0.6744]	[0.5960]						
Macroeconomic policies									
Net lending of general government (-1)	0.0037	0.0041	0.0032						
	[0.7900]	[0.6054]	[0.5664]						
Change in cyclically adjusted primary surplus (-1)	-0.0163	-0.0213	-0.0158						
	[1.4350]	[1.8848]*	[1.6294]						
Fixed exchange rate policy (-1)	0.0703	-0.0101	0.0715	0.0877	0.0075	0.0733	0.0643	0.0627	0.0507
	[1.6091]	[0.2119]	[2.5286]**	[1.8817]*	[0.1619]	[1.5894]	[2.2474]**	[2.1065]**	[1.7219]*
Political institutions									
Ideology, left of center government (-1)	0.019	0.0107	0.0068						
	[0.5490]	[0.2642]	[0.1699]						
Mature government (more than 2 years in office)	-0.0094	-0.0023	-0.0158						
	[0.2828]	[0.0713]	[0.4377]						
International influences									
Product market regulation in main trading partners	0.0059	-0.0938	-0.0082						
	[0.2267]	[1.7915]*	[0.2196]						
International tariff barriers (-1)	0.1331	0.3139	0.1165						
	[1.2013]	[1.5162]	[0.8595]						
EU membership (-1)	0.071	0.3218	0.0607	0.0367	0.1908	0.0355	0.0239	0.1336	0.0201
	[1.6641]*	[3.1299]***	[0.8733]	[1.0727]	[2.6069]***	[0.7051]	[1.3558]	[2.7840]***	[0.7459]
EU single market programme(-1)	-0.1585	-0.2101	-0.1396	-0.1521	-0.1267	-0.129	-0.1543	-0.1691	-0.1363
	[2.6396]***	[2.4596]**	[1.4084]	[2.9589]***	[1.9918]**	[1.3243]	[3.7646]***	[3.4080]***	[2.0274]**
Financial market policy indicator (-1)	-0.075	-0.0889	-0.054						
	[0.9937]	[0.9004]	[0.7309]						
Demography									
Old age dependency ratio (-1)	-0.0042	0.0592	-0.0031						
	[0.4676]	[2.1430]**	[0.3330]						
Interaction with policies in other areas									
Product market policy indicator, other sectors (-1)	0.0908	0.2137	0.0968	0.0667	0.1194	0.0847	0.0413	0.0603	0.0481
	[2.5845]**	[3.2556]***	[2.0735]**	[2.9158]***	[3.6610]***	[2.1736]**	[2.7454]***	[3.3538]***	[1.7517]*
Public ownership (-1)	-0.0332	-0.0641	-0.0335						
	[1.2436]	[1.4198]	[1.5202]						
Industrial labour relations									
Indicator of corporatism (-1)	0.0684	0.1911	0.0699						
	[1.4142]	[2.6802]***	[1.3011]						
Union density (-1)	0.0004	0.0099	0.0004						
	[0.4302]	[2.2799]**	[0.3884]						
Strikes (-1)	0	0	0						
	[0.1998]	[0.4480]	[0.2380]						
Constant	-0.0136	-1.2862	-0.0268	-0.0699	-0.1391	-0.0758	-0.1097	-0.1284	-0.1683
	[0.0921]	[2.9536]***	[0.1564]	[0.8187]	[0.7026]	[0.4404]	[2.0100]**	[1.3536]	[1.4511]
Observations	364	364	364	364	364	364	588	588	588
R-squared	0.1499	0.1976		0.1171	0.1234		0.1026	0.1122	
Number of Country		19	19		19	19		21	21
	OLS	FE	SYSGMM	OLS	FE	SYSGMM	OLS	FE	SYSGMM
F-test for FE		1.56*			1.42			1.47*	
Hansen test			chi2(198)=0			chi2(114)=7.05			chi2(162)=11.11
Arellano Bond test for AR(1)			2.79***			-2.79***			-3.01***
Arellano Bond test for AR(2)			-0.23			-0.32			-0.07
Robust t statistics in brackets	* significant at 10%; ** significant at 5%; *** significant at 1%								

ANNEX 3. DATA SOURCES

A.3.1 Data Sources

A.3.1.1 Product and labour market policy variables

Product Market Regulation

Definition: OECD summary indicator of regulatory impediments to product market competition in seven non-manufacturing industries. The data used in this paper[59] covers regulations and market conditions in seven non-manufacturing industries: gas, electricity, post, telecommunications, passenger air transport, railways (passenger and freight services) and road freight.

Source: Conway, P. and G. Nicoletti (2006), "Product market regulation in non-manufacturing sectors of OECD countries: measurement and highlights", *OECD Economics Department Working Papers*, forthcoming.

Employment Protection Legislation (EPL)

Definition: OECD summary indicator of the stringency for Employment Protection Legislation for:

- Indefinite contract (regular) workers
- Fixed-term contract (temporary) workers
- All contracts (measured as a simple average of indefinite and fixed-term contracts).

The data are only available as from 1985.

Source: OECD, *Employment Outlook* 2004.

Unemployment benefit indicators

Definition:

- *Generosity of unemployment benefit for long-term unemployed* is measured as the replacement rate for workers in unemployment for duration longer than 4/5 years relative to the average replacement rate for first year unemployed. The latter is calculated as the average of two income situations (100% and 66% of Average Production Worker's income), three family situations (single, with dependent spouse, with spouse in work) with unemployment durations of 1 year or less.

[59] Details on the broader PMR indicator for the whole economy – which is available only over the period 1998-2003 and therefore is not used in this paper – can be found in Conway, P., V. Janod and G. Nicoletti (2005) "Product Market Regulation in OECD Countries: 1998 to 2003", *Economics Department Working Paper* No. 419, OECD, Paris.

- *Unemployment benefit replacement rate for low-income workers in 1st year of unemployment* is calculated as the average replacement rate for earners with 66% of APW earnings

Source: OECD, Benefits and Wages and Secretariat calculation.

Data manipulations: original data are available only for odd years and data for even years are obtained by linear interpolation.

Tax wedges on labour income

Definition: The share of personal income tax and all social security contributions (net of social benefits) to total labour cost and averaged over two family types (single household and a couple with a dependent spouse and two children, both family types earning 100% of an APW income).

Source: OECD, *Taxing Wages*.

Implicit tax on continued work

Definition:

- The implicit tax rates on continued work workers in the age cohort 55-59 years in early retirement pathway.

- The implicit tax rates on continued work for workers in the age cohort 60-64 years in early retirement pathways and in old-age pension schemes.

Both implicit tax rates reflect current/recently implemented policy parameters that are phased in or will be effective over a longer time period.

Source: Original data on implicit taxes on continued work for various age groups in both early retirement pathways and old-age pension schemes are described in detail in Duval, R. (2004), "Retirement Behaviour in OECD Countries: Impact of Old-Age Pension Schemes and Other Social Transfer Programmes", *OECD Economic Studies,* No.37.

Data manipulation: For *Italy,* the modelling of recent reforms in the Italian old-age pension scheme lead to very radical changes in the indicator, leading to an adjustment of the indicator to reflect more gradual changes over the next 40 years.

A.3.1.2 Other policy variables

Financial market policy indicator

Definition: A composite index that includes credit controls, interest rate controls and restrictions on international transactions.

Source: IMF (2004) *Fostering structural reforms in industrial countries*, World Economic Outlook.

International tariff barriers policy indicator

Definition: The ratio of custom and import duties to the value of imports.

Source: IMF (2004) *Fostering structural reforms in industrial countries*, World Economic Outlook.

A.3.1.3 Macro-economic conditions and policy variables

Output gap

Definition: OECD measure of the gap between actual and potential output as a percentage of potential output.

Source: OECD (2005) *Economic Outlook* 77

Big economic crisis

Definition: Dummy variable set to 1 when output gap is larger than -4%.

Source: OECD Secretariat's calculations

Unemployment rate

Definition: Unemployed workers as share of the total labour force, in %.

Source: OECD (2005) *Economic Outlook* 77

Unusual large increase in unemployment rate

Definition: Dummy variable, which is equal to 1 when the annual increase in the unemployment rate is larger than 2 times its standard deviation in the overall sample (*e.g.,* across all OECD countries and the entire 1975-2003 time period).

Source: OECD Secretariat's computation

Long-term unemployment rate

Definition: Share of unemployed that have been unemployed for more than 1 year, in %.

Source: OECD, Database on Labour Force Statistics; OECD, Annual Labour Force Statistics.

Net lending government expenditure

Definition: general government net lending (including debt interest payments) as a percentage of GDP.

Source: OECD (2005) *Economic Outlook* 77

Change in cyclically adjusted primary surplus

Definition: The change in the general government structural budget deficit (excluding debt interest payments) as a percentage of GDP.

Source: OECD (2005) *Economic Outlook* 77

A.3.1.4 Political institution variables

Ideology left-of-centre government

Definition: Dummy variable set to 1 for when the political orientation of the government is left-of-centre. The dummy is based on an ideology variable, which is measured as a simple average of the chief executive's ideology and the average of the two main parties in the coalition (if applicable). Ideological scores were attributed as follow: 2 = right-of-centre, 1 = centre and 0 = left-of-centre. The dummy is set to 1 for when the average value of ideology is lower than 0.8.

Source: OECD Secretariat's calculation and World Bank, Database of Political Institutions, 2004

Mature government

Definition: Dummy variable set to 1 for when government has been in office for more than two years.

Source: OECD Secretariat's calculation and World Bank, Database of Political Institutions, 2004

A.3.1.5 International influences

Structural policy indicator in the main trading partners

Definition: For each domestic policy indicator a similar indicator is calculated for the tree main trading partners as a weighted average of their structural policy indicator, using the trading partners' relative export trade shares with the home country

Source: OECD Secretariat's calculation

EU membership

Definition: Dummy variable set to 1 when a country is a member of the European Union

Source: OECD Secretariat's computation

EU's single market programme

Definition: Time break variable set to 1 after the implementation of the EU's Single Market Programme in 1993 and interacted with EU membership.

Source: OECD Secretariat's computation

A.3.1.6 Demography

Old-age dependency ratio

Definition: Share of the total population older than 64 years.

Source: OECD Labour Force Statistics, OECD/DELSA Population database

A.3.1.7 Industrial relation variables

Indicator of corporatism:

Definition: summary indicator of the degree of wage centralisation weighted by the prevalence of automatic extensions of wage contracts.

Source: Nicoletti, G., A. Bassanini, E. Ernst, S. Jean, P. Santiago and P. Swaim (2001), "*Product and Labour Market interactions in OECD countries*", OECD Working Paper 312.

Union density:

Definition: trade union density rate, *i.e.*, the share of workers affiliated to a trade union, in %.

Source: OECD, *Employment Outlook* 2004.

Data manipulations: Data for missing years are obtained by linear interpolation. Furthermore, original data are typically available until 2001 for most OECD countries. Extrapolations have therefore been made in order expand data availability up to 2003. These are mainly based on national sources but, in some cases, an assumption of unchanged union densities over the period 2001-2003 was applied.

Strikes:

Definition: Days lost in strikes per 1000 workers.

Source: OECD Social Indicators, 2003

A.3.2 Aggregate structural policy indicators

A.3.2.1 Methodology

74. The OECD-wide policy indicator encompasses labour and product markets. Each sub-indicator is based on different factors and sectors measuring the degree of interventions by which governments and policies affect these markets. The indicator for labour market interventions includes employment protection legislation, the generosity of unemployment benefit systems, tax wedges on labour income, and early and old-age retirement schemes. The indicator for product market policies are based on specific regulatory areas such as barriers to entry, market structure, vertical integration, price controls, and public ownership. A decline in the structural policy indicator signals a reduction in the degree of interventions and is assumed to reflect new implemented policy reforms. This approach, however, does not take into account qualitative policy measures (Brandt and *al.*, 2005) and it is mostly based on voted reforms.[60] Countries with missing data over a long time period were excluded from aggregate indicators and the sample more generally (Poland, Hungary, Czech Republic, Slovak Republic, Turkey, Mexico, Luxembourg and Island).

A.3.2.2 Comparison with other sources

75. The ranking of OECD countries is mainly influenced by the choice of the policy indicator used in different studies. This section explains some of the existing differences between this work, the OECD Job Study (2005) and the IMF.

60. Brandt, N., J-M. Burniaux and R. Duval (2005) "Assessing the OECD Jobs Strategy: Past Developments and Reforms", *OECD Economics Department Working Paper*s No.429.

Table A.3.1. Comparing country ranking based on different policy indicators

	OECD Secretariat's indicator					OECD Job Study					IMF
Country	Aggregate indicator	EPL	Unemployment Benefit system	Labour tax on income	Incentives to retire	Aggregate indicator	EPL	Unemployment benefit system	Taxes and social security contributions	Early retirement, inv. & OA pension schemes	Aggregate lbour market indicator
Australia	28	29	3	24	29	7	25	6	9	14	17
Austria	22	11	23	26	10	8	7	4	7	5	4
Belgium	5	2	27	18	6	6	13	11	5	14	15
Canada	20	17	5	21	23	13	17	4	16	14	13
Czech Republic	18	17	14	20	12	28	23	16	23	5	11
Denmark	3	3	2	14	12	1	13	1	16	10	15
Finland	6	14	9	8	5	3	7	2	16	1	15
Framce	8	24	22	16	1	16	25	28	7	3	13
Germany	4	4	12	19	4	4	3	6	16	10	9
Greece	7	6	4	15	12	17	16	16	16	30	10
Hungary	13	27	13	4	12	19	25	6	9	5	..
Iceland	29	17	24	30	8	30	17	6	30	18	..
Ireland	10	26	30	1	20	9	28	11	1	26	6
Italy	1	1	1	5	2	5	2	30	2	1	11
Japan	19	10	7	27	9	25	7	26	28	18	6
Korea	30	5	15	29	30	19	1	22	23	18	..
Luxembourg	11	17	19	10	7	15	17	26	6	5	..
Mexico	9	17	15	3	12	29	17	28	23	26	..
Netherlands	2	7	11	2	22	2	7	16	9	3	4
New Zealand	12	30	8	9	3	19	30	11	14	5	5
Norway	26	9	28	23	26	13	13	3	29	18	5
Poland	21	27	20	13	12	23	23	11	23	10	..
Portugal	16	13	29	11	11	12	3	22	9	14	2
Slovak Republic	14	8	18	25	12	18	6	6	9	18	..
Spain	24	15	10	12	28	24	3	22	14	18	5
Sweden	23	12	6	22	27	9	7	16	16	18	1
Switzerland	25	17	26	17	21	25	17	11	22	26	1
Turkey	27	16	15	28	12	27	12	22	23	18	..
United Kingdom	17	25	21	7	25	11	28	16	2	10	2
United States	15	17	25	6	24	22	17	16	4	26	1

76. Table A.3.1 compares the ranking of OECD countries based on labour market policy indicators from 1994 to 2003-4 used in the different studies above mentioned. The differences can mainly be explained by two factors:

- *Definitions*: The indicators cover different policy areas. The IMF indicator covers only EPL and the unemployment benefit system, which is half of the areas covered by the indicator in this study. On the other hand, the OECD Job Study indicator includes a wider range of policy measures such as wage setting and industrial relations, working time flexibility, and more particularly activation policies where major reforms took place over the last decade in many OECD countries.

- *Methodological approach*: Another key difference between the indicator in this study and the OECD Job Study Indicator is that the latter uses a time invariant scoring method and includes qualitative assessments. The OECD Job Study indicator assigns a policy score or a single value reflecting the progress in policy reforms for the entire period of 1994 to 2004. Moreover, the scoring, although based on quantitative indicators when they are available, also includes qualitative policy measures such as evaluation efforts or tightening eligibility/conditions.

77. To take an illustrative example Table A.3.1 shows noticeable differences in the ranking of Italy across the two OECD studies.

- *The case of Italy*: Key differences in the country ranking are found in the assessment of the Unemployment Benefit system. While both indicators assign a negative assessment to unemployment benefit policies for the gross benefit replacement rate. However, when focusing on the long-term unemployed the poor evaluation tends to be largely offset by the fact that the generosity of the benefits targeted at this population group has not increased. By contrast, focusing

on benefit duration (for the OECD Jobs Study indicator), benefit entitlement has been raised from a maximum of 1 year to a maximum of 2 years of unemployment, reinforcing the negative assignment. In addition, the OECD Jobs Study indicator includes qualitative information, such as work requirements or benefit conditions, which in both cases have been made tighter. Though, both elements were assigned relatively low weights, implying that these had a relatively limited impact in the final assessment.