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Reforming in a difficult macroeconomic context: A review of the issues and recent literature

Aida Caldera Sánchez,

Alain de Serres,

Naomitsu Yashiro

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REFORMING IN A DIFFICULT MACROECONOMIC CONTEXT: A REVIEW OF THE ISSUES AND RECENT LITERATURE

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By Aida Caldera Sánchez, Alain de Serres and Naomitsu Yashiro

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ABSTRACT/ RÉSUMÉ

Reforming in a difficult macroeconomic context: a review of the issues and recent literature

This paper reviews the main issues related to the short-term impact of structural reforms in different macroeconomic contexts and takes stock of existing theoretical and empirical studies. Taking reforms introduced in "normal" times as a benchmark, it reviews the available evidence on the impact of reforms that are implemented in "bad" times – *i.e*. in the presence of a sizeable negative output gap and persistently weak demand – as well as under different assumptions regarding the availability or effectiveness of macroeconomic policies in supporting the reforms. In doing so the paper focuses on the key channels through which different reforms influence short-term activity via the main components of demand and discusses how these channels operate under different macro conditions. Overall, the evidence suggests that in a context of weak demand, structural reform strategies will have significantly better chances of being successful if they put more weight on measures that in addition to stimulate employment or productivity in the medium term can best support demand in the short term.

JEL classification codes: *E21; E22; E23; E61; E65*
Keywords: Structural reforms, zero-lower bounds, reform packaging, reform sequencing.

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La mise en oeuvre de réformes structurelles en conjoncture défavorable : Une revue des enjeux et de la litérature récente

Cette étude passe en revue les principales questions concernant l'impact à court terme des réformes structurelles introduites en conjonctures différentes et fait état de la litérature théorique et empirique récente sur le sujet. Prenant le cas des réformes introduites en conjoncture « normale » comme base de référence, les effets des réformes mises en œuvre dans une conjoncture caractérisée par une demande anémique, un important déficit de production par rapport au potentiel ainsi qu'en présence de fortes contraintes sur les politiques macro-économiques sont ensuite passés en revue. L'étude met l'accent plus particulièrement sur les principaux mécanismes par lesquels les réformes affectent les principales composantes de la demande agrégée et discute dans quelle mesure ces mécanismes opèrent différemment selon le contexte macro-économique. Dans l'ensemble, les résultats des principales études passées en revue indique qu'en conjoncture défavorable, les stratégies de réformes doivent privilégier les mesures qui en plus de stimuler l'emploi et la productivité à moyen terme sont le plus susceptible de soutenir la demande à court terme.

Codes JEL: *E21; E22; E23; E61; E65*
Mots clefs: Réformes structurelles; stratégie de réformes ; séquençage des réformes

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REFORMING IN A DIFFICULT MACROECONOMIC CONTEXT: A REVIEW OF THE ISSUES AND RECENT LITERATURE[1]

By Aida Caldera Sánchez, Alain de Serres and Naomitsu Yashiro

1. Introduction

1. Quantifying the long-term gains from structural reforms with some degree of precision is not straightforward but there is at least broad consensus on the direction of impact and the main channels of transmission. Assessing the short-term effects is more challenging: not only are the various channels of influence more difficult to disentangle but the macro context in which the reforms are introduced raises ambiguity as to the direction of the impact.

2. Significant progress has been made in better understanding how reforms of product and labour markets affect the main components of supply and demand in the short term and hence how they impact on output gaps, external accounts and relative prices. In particular, several studies have in recent years extended dynamic stochastic general equilibrium (DSGE) models to introduce specific characteristics of product, labour and financial markets so as to capture more explicitly structural policy changes. Other studies have taken a more direct empirical route to addressing these issues, using either aggregate or micro data.[2] One challenge common to all studies is the difficulty in properly capturing the change in structural policy settings, which limits to some extent the set of reforms that can be explicitly examined and the variety of channels through which they affect performance. This has led notably to different types of reforms being modelled through a single mechanism (*e.g.* reduced mark-ups) or, conversely, similar reforms being captured in different ways depending on the characteristics of specific models, limiting thereby the comparability of outcomes.

3. While a further understanding of the short-run dynamic effects of reforms is still needed, it is particularly so in the case where reforms are introduced in a context of persistently weak demand, deflationary pressures, sizeable negative output gaps, and with only a partial support from demand-management policies. One concern is that some reforms may have a short-term contractionary effect on activity, prices or employment. For instance, such concern has been raised and debated in the context of reforms introduced at a time when monetary policy is constrained due to nominal interest rates hitting the zero lower bound (Eggertson, Ferrero and Raffo, 2014; Fernández-Villaverde, 2014; Vogel, 2014). More generally, the experience of southern euro area countries, which have implemented significant reforms in a context of anaemic domestic and external demand as well as without the support of macro policies, has led to renewed interest in better understanding the links between reforms and demand and raised questions about the timing, sequencing and packaging of reforms.

4. Against this background, the paper reviews the main issues related to the short-term impact of structural reforms in different macroeconomic contexts and takes stock of existing theoretical and empirical studies. An effort is made to assess the extent of knowledge about the short-term demand effect

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[2] A large number of studies looking at the short-term effect of structural reforms using either a model-based or reduced-form empirical analysis are reported in Appendix 1.

of specific structural reforms. This impact can have a huge bearing on political feasibility, as transitional losses are likely to erode popular support for reforms.

5. To set the scene, Section 2 lays out the case of reforms introduced in "normal" times, *i.e*. with the economy operating close to potential and with available support of macroeconomic policies. It identifies the main channels through which structural reforms influences short-term activity through consumption, investment and net exports. Section 3 then focuses on the case where reforms are introduced in "bad" times, *i.e*. with a sizeable negative output gap and persistently weak demand, and examines how the more adverse environment influences the relative strengths of the main channels. Section 4 goes one step further and considers cases where reforms are implemented in a weak conjuncture and under constrained macro policies.

6. The analysis of the short-run impacts of structural reforms is fraught with methodological challenges and, partly as a result, empirical assessments are limited. To complement this evidence, Section 5 draws on case studies of major reform episodes in OECD economies to shed light on the impact and some of the channels through which structural reforms operate in the short term. The last section concludes.

2. Structural reforms in normal times

7. The speed at which gains from structural reforms can be achieved depends on several factors, even in normal times, that is when cyclical factors are not in play. First, the credibility of announced reform packages plays a key role. Households and firms are more likely to act early in response to reforms if they believe in the implementation and the sustainability of the policy measures as a permanent change. Second, structural characteristics of the economy, including the structural policy settings in place will shape the speed at which a reform yields benefits. For instance, stronger price or wage stickiness is likely to delay the long-term benefit of reform, *ceteris paribus*, by constraining the scope and speed of real variables to adjust to the policy change. Third, well-functioning financial markets play a key role in bringing forward the gains from reforms by funding the necessary investment and allowing for income smoothing both in anticipation of future gains and to offset temporarily income loses (OECD, 2012).

8. Mainstream models predict a number of channels of transmission through which structural reforms affect the main components of demand. The key channels include i) *wealth* or *permanent income* effects which bring forward future reform-driven income gains in current consumption and investment, notably through rising asset prices and positive confidence channels, ii) *disposable income and cash-flow effects* for households and firms that are liquidity or cash-flow constrained, i.e. that do not have access to borrowing from banks or other financial institutions iii) *uncertainty or negative confidence* effects arising from households' and firms' perception of heightened (or diminished) income and profit insecurity, which come through the precautionary motive for saving and iv) a *real interest rate channel* which captures inter-temporal substitution effects: by making the holding of financial assets more attractive, a rise in the real interest rate induces a decline in current consumption in favour of higher savings. In addition, some reforms have budgetary implications when not introduced in a budget-neutral way and will affect demand through a fiscal multiplier effect. In what follows, the discussion considers mainly budget-neutral reforms.

What does the evidence tell us about the short-run impact of reforms in normal times?

9. A more detailed analysis of the impact of different types of reforms on short-term demand and activity through these channels is reported in Appendix 1. This analysis essentially comes from studies that simulate the impact of reforms, in particular based on DSGE models. There are also a few empirical studies looking at changes in policy indicators to define structural reform episodes and to estimate their short-term effects (Bouis et al., 2012). In any case, the empirical literature looking at the short-term effect

of reforms mostly refer to normal times, that is when macro policies can react to short-term demand developments. Therefore, when macro stimulus is not available, demand effects are generally stronger than in normal times after a reform. The main results from model-based and empirical analysis can be summarised as follows:

- Reforms of wage bargaining institutions, minimum wages and employment protection legislation generally increase wage flexibility and can improve competitiveness through downward pressures on labour costs.

  – Model-based analysis of this class of reforms generally indicate positive, albeit moderate, short-term impacts on consumption and output (Cacciatore, Duval and Fiori, 2012; Barkbu et al., 2012). One study shows that in the case of reform to employment protection legislation, the lower firing costs may lead to an increase in unemployment and a reduction in demand in the initial year after the reform but this effect is quickly reversed in subsequent years (Cacciatore, Duval and Fiori, 2012).[3]

  – In contrast, the evidence from reduced-form empirical analysis points to the absence of significant positive impacts on demand from reforms to employment protection legislation or wage bargaining in the first few years (Bouis et al., 2012).

- Reforms of the tax and transfer systems, including the tax structure, unemployment benefits and pension systems can boost both employment in general and the labour force participation of specific groups:

  – The evidence from reduced-form analysis indicates that reducing the share of direct taxes in overall tax revenue is found to quickly reduce unemployment, particularly for youth, to boost female and youth participation and private investment growth (Bouis et al., 2012). A special case of a growth-enhancing tax reform for countries in a monetary union is the so-called fiscal devaluation, which typically takes the form of a reduction in employer's social security contributions combined with an increase in the value-added tax rate. Empirical evidence points to a positive, but short-lived effect, on employment and net exports, with long-term GDP gains reflecting essentially productivity improvements (Johansson et al., 2008; Koske, 2013).

  – The evidence from both model-based simulations (e.g. Cacciatore, Duval and Fiori, 2012) and reduced-form estimates (Bouis et al., 2012) suggests that lowering unemployment benefits in normal conditions yields positive gains in consumption and overall demand within 2-3 years. In most studies, reforms of unemployment benefits are found to have a significantly stronger positive short-term impact on demand and output than reforms to wage bargaining and employment protection legislation.

  – Model-based evidence indicates that an increase in retirement age is most likely to have a positive effect on demand in the short run via lower private saving due to life-cycle motives (Karam et al., 2010; Barrell et al., 2009). This is corroborated by reduced-form analysis, which shows a positive impact on consumption, investment and GDP (Bouis et al., 2012).

  – The evidence on the impact of pension reforms is less clear in the cases of benefit reductions or increases in contribution rates as their effect is similar to a fiscal contraction, albeit a

3. The latter owes to the fact that while the destruction of jobs is immediate, job creation tends to be gradual as time is needed to match firms and available workers.

deferred one. They are found to stimulate private saving in the short run, but may also boost investment through anticipation of reduced public debt (Karam et al., 2010).

- Measures to improve job-search assistance and training for the unemployed or childcare services can raise labour force participation and address labour market frictions. However, these typically have implications for public spending and should be carefully assessed on a budget-neutral basis to capture the effects coming from the structural changes:[4]

  – In the case of a budgetary-neutral reform of active labour market policies (ALMPs), the effect is found to be similar to that of a tightening of unemployment benefits (Cacciatore, Duval and Fiori, 2012), except that by lowering firms' search costs or the costs of initial training, they may stimulate labour demand somewhat more rapidly.

- Product market reforms comprise essentially reductions in regulatory barriers to competition which can lead to lower mark-ups and export prices, lower input prices (and production costs) for downstream industries, and higher productivity through efficiency gains and improved product quality and variety through higher investment in innovation.

  – By and large, model-based evidence points to modest short-term GDP gains from product market reforms, with more visible impacts appearing after 2-3 years (Anderson et al., 2014); Barkbu et al., 2012).

  – Evidence from reduced-form empirical analysis based on aggregate data shows no significant short-term impact on GDP, except for a decline in the initial year, due to a temporary drop in investment (Bouis et. al., 2012). Evidence based on sector-level data indicates that productivity gains can be achieved after 2-3 years (Bourlès et al., 2013; Dabla-Norris et al., 2015).

  – The overall results at the aggregate level may mask very different outcomes depending on whether barriers to competition are lowered in manufacturing or service sectors, and within services whether the reforms affect primarily network industries (*e.g*. energy, telecoms and transport) or professional services, where regulatory barriers to entry and strict conduct regulation may create strong latent demand.

10. Overall, the bulk of evidence suggests that the gains from pro-growth structural reforms introduced in normal times generally exceed the potential losses even in the short run. This is generally the case including with reforms aimed at restoring competitiveness through lower relative production costs and prices. However, the positive effect is in many cases modest, especially in the three-year horizon. The aggregate benefits from reforms to unemployment benefits or pension systems (retirement age) tend to accrue more rapidly than those from other types of reforms, in particular the ones primarily focused on raising wage flexibility and facilitating resource reallocation. Furthermore, the modest net effect of reforms often masks more substantial shifts in the composition of demand, not only between domestic and foreign, but also within domestic demand, reflecting the opposite impact that reforms have on investment and consumption in the case of some reforms.

4. Model-based simulations indicate that unfunded increases in spending on active labour market policies or childcare services have stronger positive effects on demand within the first two years than after five years (Barkbu et al.; 2012).

Initial conditions and reform implementation play a role

11. The short-term effects of structural reform in one area may depend in part on initial policy and institutional settings in other areas. However, the evidence is inconclusive to the extent that it is difficult to empirically identify how interactions between policy settings and reforms affect outcomes (e.g. Bassanini and Duval, 2009; Bouis et al. 2012). For instance, model-based simulations by Cacciatore et al (2012) find that gains in the aftermath of product market reforms would be quicker if initially job protection is less stringent and unemployment benefits are low. That is because when entry barriers fall, new jobs are filled more quickly, minimising the risks of lengthy unemployment spells for laid-off workers. On the other hand, findings from reduced-form empirical analysis show that under initially weak job protection a relaxation of product market regulation leads to higher unemployment and lower employment (Bouis et al. 2012).

12. How reform is implemented also matters as there can be material interaction effects between policies:

- *Reform packages*: a package of labour and product market reforms that is sufficiently broad can induce a faster adjustment and alleviate the transitional costs of certain reforms (Anderson et al. 2013; Cacciatore et al. 2012; Everaert and Schule, 2008, Gomes et al. 2013). For instance, Cacciatore et al. (2012) find that a combination of product market, job protection and unemployment benefit reforms boosts GDP, employment and wages immediately, in contrast with the effects of some of these reforms taken in isolation.

- *Reform credibility:* an early announcement and credible commitment to future reforms can help bring forward the gains from reforms by fostering investment and consumption. Adjémian et al. (2007) find that announcing product market reforms in advance can trigger an immediate response by firms, accelerating the upside adjustment in investment and output even before the reform is actually implemented.

- *Pace of reform*: theoretical studies suggest that outcomes might be better if reforms were sequenced, with product market reforms preceding labour market reforms (Blanchard and Giavazzi, 2003). Reforming product markets first can also lower the resistance to labour market reforms by reducing rents and facilitate their subsequent implementation. Another political argument for gradualism is that as governments have a fixed amount of political capital, it is best if they allocate their scarce resources to one set of reforms at a time (Coeuré, 2014). However, too long a time lag between reforms might not be desirable. For instance, in the case of New Zealand's reforms in the 1980s (see Appendix 2) a significant time lag (about 5 years) between the liberalisation of product markets and labour market reforms mitigated the potential overall gains from reforms.

- *Reform boldness*: Recent empirical analysis has found incremental labour market reforms tend to raise household income instability while bolder reforms do not, increasing the risk of resistance and reversal in the former case (Cournède et al., 2015).

3. Structural reforms under weak demand conditions

13. The previous section has shown that the short-term impact of reforms on the main components of demand often depends on the net outcomes of conflicting channels. The short-term impact from many types of reforms depends notably on the net effect on disposable income and cash-flow as well as the relative strength of the wealth effect versus the precautionary motive for savings. While the bulk of

evidence indicates that positive channels dominate the negative ones in normal times, it may no longer be true when reforms are introduced at an unfavourable stage in the business cycle.

14. Several factors shift the relative strengths of these channels in downturns. First, the proportion of households and firms facing liquidity constraints can be expected to rise along with unemployment and the tightening of credit conditions, which are often features of downturns (Bernanke and Gertler, 1989; Fissel and Jappelli, 1990). Second, even for households or firms that are not liquidity-constrained, the positive wealth effect of reforms is likely to be weaker, especially if the downturn is associated with dysfunctions in financial markets or the need for private-sector deleveraging. Conversely, the precautionary motive for saving in the face of reforms is likely to be higher in a bad conjuncture. Heightened macro-economic and policy uncertainty can lead households and firms to postpone spending and investment "to wait and see". Finally, the efficiency of job matching may deteriorate in periods of persistent unemployment, given a rising share of long-term unemployed and declines in housing prices. Some of these factors may also condition the effectiveness of fiscal and monetary policies in supporting demand.

Reforms reducing the cost of labour and mark-ups are more likely to depress demand during downturns

15. Reforms entailing a bigger risk of further depressing demand in downturns include those whose most immediate impact is to put downward pressures on wages or mark-ups.

- Product market reforms that enhance competition in formerly protected sectors usually lead to incumbents to engage in restructuring as they seek efficiency gains to preserve mark-ups in the face of downward pressures on prices. In turn this leads to the displacement of workers and capital in the short run (Blanchard, 2006). Stronger competition also leads to the exit of least productive firms. In normal economic conditions, displaced resources are absorbed eventually by new entrants, more competitive firms that are expanding production or by other sectors. As a result of more efficient resource allocation, aggregate productivity increases and as lower prices stimulate demand employment is also expected to increase. However, when the economy is in a slump, demand may respond less to the lower prices resulting from competition. In such context, displaced resources are expected to remain unemployed for longer as a bleaker profit outlook and credit constraints slows the entry of new firms or the expansion of incumbent firms (Lee and Mukoyama, 2015; Barlevy, 2003; EC, 2013).

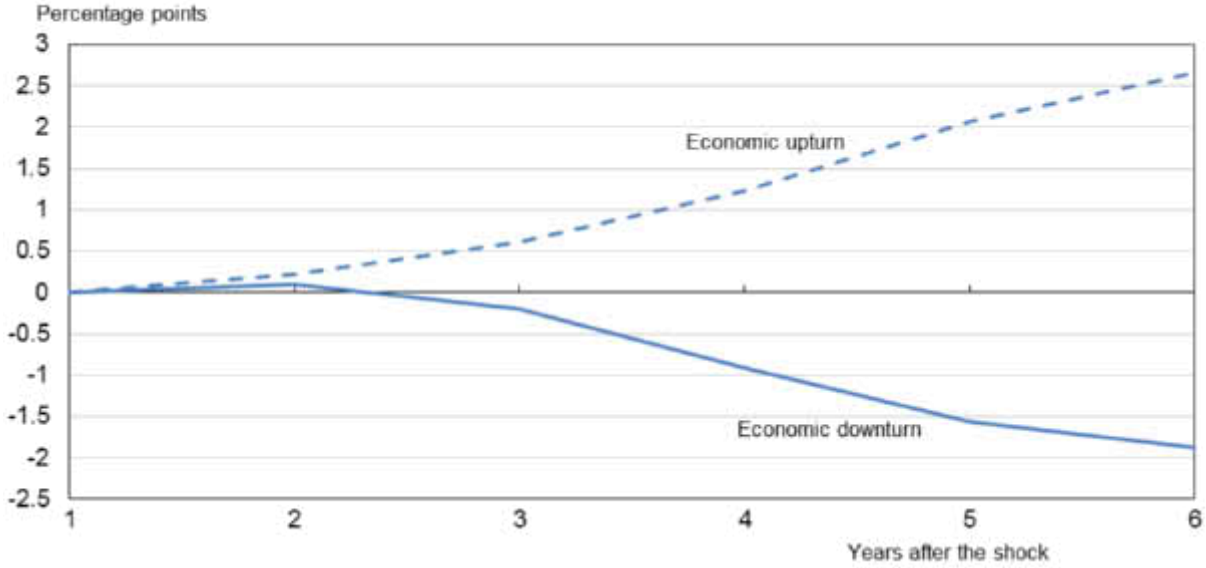
- Reforms of wage bargaining institutions or the minimum wage have an uncertain effect on demand in the short term during a downturn. The downward pressures on wages may not be as rapidly compensated by employment gains and the prospects of future productivity-related income gains as they would in normal times. This will weaken consumer demand in the short term by lowering disposable income and strengthening precautionary savings. An easing of employment protection legislation may lead to a similar outcome, as the outflow from unemployment may take more time to exceed the rise in the inflow rate than in normal times.

- Reforms that drive wages down and increase product market competition can boost competitiveness and net exports but their ultimate impact on aggregate demand may be muted in an environment of weak external demand, such as a global downturn. Conversely, Canada, Germany and Sweden have in the past introduced major reforms in a context of weak domestic demand but benefited from robust global trade growth helping to revive their economies relatively quickly (See Appendix 2).

Reforms raising incentives to take-up work may be contractionary during downturns

16. Reforms reducing the generosity of unemployment benefits (replacement rate and duration) are effective in reducing unemployment in the short run by encouraging the unemployed to intensify job search and accept existing offers, thereby increasing outflows from unemployment. However, when labour demand is weak reducing unemployment insurance could lower disposable income if no jobs are available in the short run negatively impacting demand. Indeed, evidence shows that when unemployment benefit reforms are undertaken during a typical economic upturn employment increases after two or three years (Figure 1). In contrast, if it is undertaken during a typical downturn, the gain in employment is muted and even turns negative from the third year after the reform (Figure 1).

Figure 1. The gains in employment of an unemployment benefit reform can turn negative during a downturn



Note: The lower (upper) line corresponds to the impact of the reduction in the initial unemployment benefit replacement rate during economic downturn (upturn), where the economic cycle is measured through the level of the pre-reform unemployment gap (i.e. the difference between the structural unemployment rate and the unemployment rate). The economic downturn (upturn) corresponds to the case where unemployment gap is set to the minimum (maximum) value within the sample.

Source: Bouis et al. (2012).

17. Other reforms aimed at increasing labour supply are also likely to be less effective in boosting employment and may even be contractionary when labour demand is weak. For instance, tax reforms to remove the fiscal disincentives to second earner's labour participation (such as reduction of spousal tax credits) or reforms that tighten access to disability benefits may not increase employment much if implemented in a context of weak demand, given that the targeted groups may face even more difficulties in finding work than the other unemployed. Instead, they may lower private consumption by reducing household disposable income, if the measure is introduced also to generate budgetary savings.

18. Indeed, one factor contributing to the higher risk of a negative impact of reforms is the potential increase in skills and geographical mismatches, combined with the heightened pressures on resources devoted to job-search assistance and training programmes. Even though evidence on mismatches is not always easy to interpret, increasing mismatches are a recurrent concern during cyclical downturns insofar as the impact differs across industries and regions (OECD, 2011). In such a case, a depressed housing market may slow geographical mobility, in particular where mobility is already hampered by housing and

rental market policies that create high transaction costs (Andrews et al., 2011). Also, active labour market policies that focus on the least employable workers may be less effective in downturns. Reinforcing job-search assistance may not help in this case as the probability of reemployment does not depend on search efforts when there is a lack of jobs (Boeri et al., 2015). Hence, there may be a case for shifting the focus on workers early in the unemployment spells as the chances to find a job are higher.[5]

Demand-side policies mitigate a negative impact from reforms in the short run when demand is weak

19. The short-term effect of reforms in downturns and the extent to which adverse effects can be quickly over-turned also depends on the timeliness and effectiveness of macro policies. As regards, monetary policy, its effectiveness in stimulating aggregate demand in the short run will in part depend on how well the financial market is functioning and on the share of liquidity constrained households and firms. A dysfunctional financial sector makes it harder for funds to flow to new investment opportunities, which is critical for reforms to pay off. On the other hand, a higher share of liquidity constrained agents may make monetary policy more effective by reducing the cost of debt services, leaving the net effect unclear.

20. The effectiveness of fiscal policy may be enhanced during recessions due to higher multiplier effects (Auerbach and Gorodnichenko, 2012; Blanchard and Leigh, 2013). During a recession government spending is less likely to cause an increase in the interest rate and crowd out private consumption and investment, provided long-term fiscal sustainability is not at risk. Similarly, the increase in the proportion of liquidity-constrained firms and households who have a higher propensity to consume out of their income makes fiscal policy more effective during a downturn (Gali et al., 2007), especially during a financial crisis or when the financial sector is weak (Corsetti et al., 2012).

21. The largest short-run impact on aggregate demand is likely to come from government spending measures rather than from tax cuts (e.g. Mineshima et al., 2014). This is largely because spending measures have a direct impact on aggregate demand while tax reductions will have a muted effect if they are saved because of, for instance, high uncertainty. In practice, fiscal stimulus measures can be designed on both the spending and tax side to have a rapid and substantial multiplier effect.

22. Among spending measures, public investment is usually found to be the most powerful instrument (Roehn, 2010). Boosting investment in public infrastructure is a typical way to boost demand during a downturn, as it pulls demand today, as opposed to other investments (e.g. R&D or education) that need longer to pay off. An increase in public infrastructure investment boosts aggregate demand via two channels, first, through the short-term fiscal multiplier, and second, by crowding in private investment. Indeed, evidence suggests that the positive short-term effect on demand is even stronger when there is economic slack – less crowding out of private investment –, and monetary policy is accommodative (IMF (2014). Furthermore, the productivity gains from infrastructure shocks are significantly higher during downturns (Dabla-Norris et al., 2015).

23. Some tax reductions can also be put in place to increase household disposable income and boost spending in the short term. While in theory consumption should not respond much to temporary changes in taxes, as consumers are likely to spread out their consumption over their lifetimes, evidence suggests that in some cases temporary tax reductions can be effective in boosting consumption spending in the short

5. Insofar as competition for jobs is fiercer in weaker labour markets, active labour market programmes that focus on some workers may improve the search ability of those workers by reducing the relative job-search success of others (Crépon et al. 2013; Michaillat, 2012). A meta-analysis of impact estimates of studies of active labour market programmes by Card, Kluve and Weber (2015) suggests that active labour market programmes are more likely to show positive impacts in a recession.

term. For instance, the income tax rebates the US federal government enacted in 2001 and 2008 as part of its economic stimulus packages significantly boosted spending in the short term, especially for households with low liquid wealth or low income (Johnson et al., 2006; Parker et al., 2013).[6] Reductions in labour taxes or social security contributions targeted to lower-income workers, can also increase aggregate demand in the short term, as spending by this group is closely tied to their disposable income (De Mooij and Keen, 2013).

24. The scope for expansionary fiscal policy may, however, be limited when long-run fiscal constraints are significant. An increase in government spending (or tax cuts) in countries with high debt levels may act as a signal that fiscal tightening will be required in the near future. The anticipation of such adjustment could have a contractionary effect – through for instance adverse effects on financial markets, interest rates and consumer spending – that would offset the short-term expansionary effects. Ricardian behaviour, implying that fiscal stimulus is at least partly offset through an increase in private sector savings, is stronger the higher the level of government debt (Roehn, 2010). Moreover, in a financial crisis, debt financed spending expansions might reinforce a negative feedback loop between bank and government balance sheets when government debt is high.

4. Structural reforms under weak demand and constrained macroeconomic policies

25. Monetary and fiscal policies may be limited in various ways in practice, making it difficult to smooth the transitional dynamics associated with structural reforms. This section discusses the short-run impacts of structural reforms when weak demand is compounded by three types of constraints: monetary policy has hit the zero lower bound and has to rely on unconventional monetary tools; participation in a monetary union; and fiscal policy is constrained by consolidation requirements or legislated bounds on the fiscal deficit.

Reforms at the Zero Lower Bound (ZLB)

26. The zero lower bound (ZLB) brings an additional channel through which structural reforms may lower demand and output in the short run, namely an increase in the real interest rate. In principle, structural reforms that boost aggregate supply can, in a weak demand environment, have a negative impact in the short run by putting downward pressures on prices and inflation expectations if the monetary policy stimulus cannot be increased. The inability of the monetary authority to adjust nominal interest rates in response to falling expectations would push up the real interest rate, further depressing rather than stimulating aggregate demand (Eggertsson et al., 2014; Fernandez-Villaverde, 2014).

27. In practice, this may be an issue only for a relatively limited set of reforms, mostly those that enhance competitiveness through downward pressures on domestic production costs and mark-ups. In the case of reforms that boost productivity through innovation and the reallocation of resources, it is less clear how much of an increase in production capacity can be achieved in the presence of anaemic demand, given the more limited incentives to make the necessary investments. Even if firms do invest, given the time required for these investments to translate into higher supply and downward pressures on inflation expectations, economies may have moved away from the ZLB, hence allowing monetary policy to react by lowering nominal interest rates. In any case, structural reforms that raise future potential growth will also increase the natural real interest rate, thereby reducing the stringency of the ZLB.

6. The Economic Growth and Tax Relief Reconciliation Act of 2001 gave tax rebates to most US households over a ten-week period from late July to the end of September 2001. The Economic Stimulus Act of 2008 consisted primarily of a USD 100 billion programme of tax rebates to approximately 130 million US tax filers.

28. Furthermore, other factors will contribute to mitigate the potential adverse real interest rate effect, even in the case of reforms that do result in rising real interest rates. First, liquidity-constrained households will not be very sensitive to the real interest rate increases but will benefit from falling price levels (Vogel, 2014). Second, insofar as the reforms yield competitiveness gains, increases in net exports will help mitigate the downward pressures on domestic demand, although this may not be sufficient to offset the impact of higher real interest rates (Eggertsson et al., 2014). Third, reforms leading to a price level adjustment need not create disinflationary expectations if the change is bold and implemented in a short time period rather than incremental and introduced gradually (Coeuré, 2014).[7]

29. Finally, in a country with its own currency, the presumption that monetary policy is incapable of responding to a deflationary shock at the ZLB is debatable given the now widespread use of unconventional monetary policies and their effectiveness in boosting demand up to a point. However, there is concern that unconventional tools could be insufficient in a context of falling real neutral interest rates and persistent negative output gaps, raising the risk of a downward spiral in output and inflation. In such a context, it is *a priori* unclear whether structural reforms would reduce the risks by raising the long-term real neutral rate or increase the risks by temporary increasing deflationary pressures. Such concerns are of particular importance in countries that do not have their own monetary policy, where cost-cutting structural reforms should be considered with particular attention and be part of wider policy packages.

Reforms in a monetary union

30. The real interest rate channel that plays a role at the zero lower bound also operates in a monetary union, even in normal times. With nominal rates set at the union-wide level, reforms undertaken by one member alone to reduce relative wages and prices could lead to a higher real interest rate. In such a case, internal devaluations can be contractionary in the short term, especially during a period of weak demand, as the positive gains on competitiveness and growth through a reduction in labour costs and domestic prices can be outweighed by the negative effects from higher real interest rates.[8] Furthermore, for countries in a monetary union, changes in the real exchange rate must come through adjustments in relative labour costs and prices. In the case of reforms that lead to a real exchange rate depreciation, such adjustment can be costly. This is especially the case when inflation in the union as a whole is near zero, as real depreciation would require reductions in nominal wages and prices.

31. On the other hand, fiscal devaluations – a reduction of employer's social security contributions combined with an increase in value-added (VAT) tax rate – is a type of measure that may have more traction for countries in a monetary union, in particular as a means to boost competitiveness and exports in the short run. As mentioned above, a fiscal devaluation is a special case of a reform that shifts taxation from more distortive (direct) sources to less distortive (indirect) ones. Such shifts have been found to yield permanent gains in output and productivity levels in the longer run. An additional competitiveness channel operates in the short term in the case of a monetary union, as long as not too many members introduce a similar reform at the same time, in which case the impact on net exports of each is diminished. With nominal wages fixed in the short run, a reduction in social security contributions rates lowers labour costs. If the fall in labour costs is passed on into prices, both export and domestic good prices fall leading to a

7. Indeed, using model-based simulations, a number of studies have found that the short-run negative impact of product and labour market reforms can be fairly small (or non-existent) and short-lived (only one year after reforms) (Gomes, 2014; Vogel, 2014).

8. In the case where private sector debt deleveraging is a major factor contributing to the weakness of demand, it has been shown that under the presence of collateral constraints and long-term debt contracts product market reforms may have a positive impact on output and employment even in the short run despite their deflationary effect (Andrés, Arce and Thomas, 2014). However, the effect of labour market reforms in thet same circumstances are less favourable.

boost in competitiveness. By contrast, the higher VAT only bears on domestic and import goods, but not on exports and, therefore will not dampen the positive effect on competitiveness and net exports.

32. The magnitude of the short-run benefits of a fiscal devaluation is, however, uncertain. Model-based simulations suggest that fiscal devaluations have beneficial, but moderate, short-term effects on net exports, output and employment (Koske, 2013). For instance, for Portugal, a fiscal devaluation of 1% of GDP would lift net exports by 0.1% of GDP in the first year of the reform (EC, 2011). By contrast, econometric estimates for the euro area show much larger effects in the short run, of an immediate impact on net exports of up to 4% of GDP for a 1% GDP shift in revenues (De Mooij and Keen, 2013). Given the uncertainty surrounding the short-term benefits, a fiscal devaluation cannot thus be a substitute for more fundamental reforms of labour and product markets to sustainably boost competitiveness, but can help sustain demand in the short term.

Reforms under budgetary constraints and public finance consolidation

33. An expansionary fiscal policy can compensate the lack of support from monetary policy in addressing the demand shortfall, especially for euro area countries which cannot expect an expansionary monetary policy by the ECB to accommodate their individual reforms. However, the fiscal space in many OECD countries has been limited either because they have to engage in fiscal consolidation, face high debt financing costs or their fiscal balances are bound by rules. Indeed, for several countries needing to put public finances on a sustainable path, fiscal policy has been contractionary until recently. Negative impacts of fiscal consolidation are likely to be more pronounced during weak demand times as fiscal multipliers are significantly larger during economic recessions than expansions (Auerbach and Gorodnichenko, 2013).

34. Tight fiscal conditions and a limited ability of the government to cushion the transitory costs for losers may increase some of the contractionary effects of structural reforms in the short run (Duval, 2008). For instance, reforms that increase flexibility in employment protection and wage formation can negatively impact private consumption if governments cannot mitigate the increase in income risks with an expansion of unemployment benefits or active labour market policies (ALMPs). Fiscal constraints are particularly a concern if they undermine the ability of countries to carry out structural reforms that entail higher spending (e.g. in ALPMs, R&D or childcare), less revenue (e.g. labour taxes), or up-front public spending, for instance through transfer schemes, to compensate reform losers. Furthermore, they can also reduce the feasibility of growth-enhancing structural policies that could enhance short-term as well as long-term growth, such as high-quality infrastructure investment.

35. The urgency in the fiscal situation may bias structural reforms toward those that realise fiscal savings rapidly, but may be contractionary in the short run. An example of such reforms is a reduction in welfare expenditure that for example took place in New Zealand in the early 1990s amid the strong need for fiscal consolidation (see Appendix 2). While a strong pressure to reduce public spending may facilitate the implementation of reforms to public-sector administration and services, the success of the reforms in terms of raising cost-effectiveness and quality may be undermined if priority needs to be given to immediate budgetary savings.

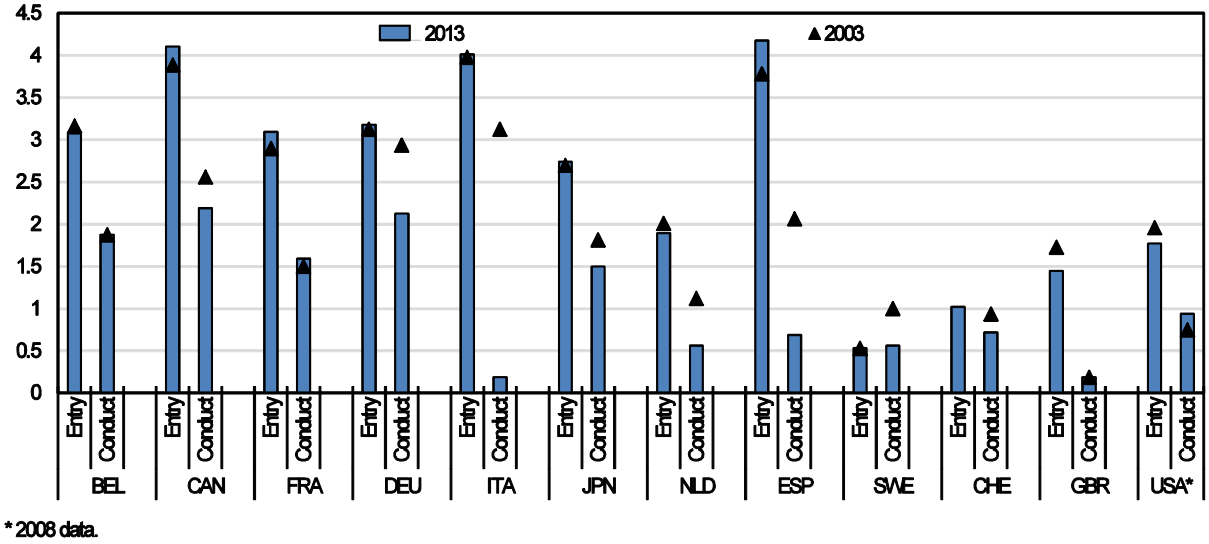
Reforms likely to boost short-run demand when demand is weak and macroeconomic policies are constrained.

36. Some reforms can be expansionary even under relatively weak demand and constrained macroeconomic policies if they encourage investment or generate rapid job gains:

- *Product market reforms that ease supply constraints*. Reducing entry barriers in service sectors with large pent-up demand and low entry costs can unleash the entry of new firms, boosting

investment and job creation relatively fast. Simulations for Italy show that half of the gains of reforms that facilitate the entry of new firms in the service sector would be realised within three years (Forni et al., 2010). Case studies have also found that liberalisation in sectors such as retail trade and telecommunications often resulted in fast decreases in prices and increases in output and employment (Bertrand and Kramarz, 2002; Faini et al., 2006; Skuterud, 2005). Another example is professional services that remain heavily regulated in many countries (i.e. legal, accounting, engineering and architecture professions), especially as regards entry regulations (Figure 2).[9]

Figure 2. Regulation in professional services



Source: OECD, *Product Market Regulation Database*.

- *Reforms that improve confidence or reduce uncertainty regarding future economic conditions*: By improving the sustainability of public finances, credible reforms in pensions and healthcare systems can boost consumption today through wealth effects and reduced need for precautionary saving. Empirical studies have, indeed, shown that the risk of unexpected healthcare expenditure is an important motive of precautionary saving, and policies that improve access to medical insurance increase consumption (Gruber and Yelowitz, 1999; Jappelli et al., 2007; Bai and Wu, 2014). However, such reforms may be less effective in reducing precautionary saving if the volatility of income and the risk of unemployment is very high (Mody et al., 2012). Product market reforms that reduce the economy-wide administrative burdens on firms and reduce the initial cost of starting-up a business can also improve expectations on future business conditions. For instance, simulations suggest that reforms to reduce the initial costs of starting-up a business implemented during the crisis in Italy, Portugal and Spain have significantly raised the birth rate of firms in those countries (Ciriaci, 2014).

5. Lessons from previous reform episodes

37. This section takes stock of lessons from case studies of reform episodes in five OECD countries (i.e. Canada, Germany, New Zealand, Spain and Sweden). The case studies are presented in Appendix 2.

[9] In the case of European countries, the regulation of legal and auditing services is mainly carried out by the EU.

The primary aim of the exercise is to complement the limited existing empirical evidence on the short-term impact of reforms to draw some general lessons that may be of use for policymakers seeking to implement structural reforms. In-depth case studies provide a means to discuss the channels through which reforms impact demand and supply in more detail compared to model based or econometric assessments and to have a more granular view of the macroeconomic and political context at the time of reforms. However, as with any assessment of the impact of reforms it is difficult to define a counterfactual of what would have happened in the absence of reforms, therefore evidence is suggestive and qualitative. The reform episodes have been selected on the basis of the following criteria:

1. ***Macroeconomic conditions***: in all cases reforms took place in times of weak demand. However, the weakness of domestic demand and the support from macroeconomic policies at the time of reform, differ across case studies.

2. ***Economic importance***: the cases selected concern major reform episodes that are expected to have a broad economic impact (e.g. comprehensive labour market reforms, substantial tax reforms), rather than narrowly focused reforms (e.g. specific product market regulation reforms). The short-term effects at the macroeconomic level of major reforms might arguably be easier to identify than those of narrowly focused ones. This said, even in the cases of major reform programmes selected, the measures taken are often spread over several years, making it difficult to define the pre- and post-reform period around a narrow time window. For instance in the case of Germany, the period chosen covers essentially the Hartz reforms, but significant changes to the wage bargaining process had been implemented a few years earlier.

3. ***Geographic coverage***: the cases include a mix of OECD countries, in terms of size and location.

38. From the selected case studies a number of lessons can be derived (See Appendix 2 and Appendix 3).

- ***The importance of internal demand conditions***: Reforms in New Zealand, Spain and Sweden took place in a context of a large negative output gap (Figure A3.1). Reforms in Canada and Germany took place in a more benign environment (Figure A3.1). This may explain why the growth performance in Canada and Germany was relatively better than in New Zealand and Spain in the aftermath of the reform (Figure A3.2). Germany benefited from relatively quick gains in employment and productivity, whereas Canada had relatively rapid gains in employment.

- ***The importance of macroeconomic policy support***: Reforms in all cases took place against the backdrop of fiscal consolidation efforts, but there are differences. In Germany and Sweden fiscal consolidation was more gradual and, importantly, the bulk of fiscal consolidation took place after the reform (Figure A3.1). By contrast, Canada, New Zealand and Spain (Figure A3.1), pursued vigorous consolidation at the time of the reforms. Monetary policy was found to be supportive in most cases, except for New Zealand and Spain. In the case of Canada, the fact that the budget consolidation efforts were achieved mainly through spending cuts may have helped to bring forward some of the long-term gains. In the case of New Zealand (See Appendix 2), where reforms were conducted without the support of demand-side policies, there were significant up-front costs in terms of very poor short-term economic performance.

- ***The importance of external conditions***: Canada, Germany and Sweden benefited from strong external demand (See export market size in Table A3.1), which contributed to maximise the short-term benefits from reform (Figure A3.2). In Canada and Sweden, the depreciation of the exchange rate provided further support from external demand (Figure A3.3). By contrast, external demand was less supportive in the case of New Zealand and, especially, Spain.

6. Summary and policy implications

39. The review of case studies has shown that reforms introduced during downturns have better chances to succeed and bring rapid benefits when they can be supported by macro policies (either monetary or fiscal if not both). Robust external demand also contributes to the success for countries with sufficiently large export bases.

40. In a context of weak demand, structural reform strategies should put more weight on measures that in addition to stimulating medium-term employment and productivity can best support demand in the short term. The reforms most likely to achieve this include:

- *Shift in the composition of public spending towards investment*: More specifically, public infrastructure investment that effectively increases the growth potential in the medium term (e.g. high-speed broadband network) can stimulate private investment in the short term. In the European Union, removing financial barriers and harmonising regulations, in particular in the area of network industries, would help achieve a higher return on investment.[10]

- *Product market reforms in specific service sectors:* Reforming rules restricting the entry of new suppliers (exclusive rights) and the capacity of existing suppliers to compete (fees control) in services characterised by relatively low entry costs (e.g. professional services, taxis, etc.) can yield positive short-term gains in employment and domestic demand. As such reforms reduce the relative price of non-tradables, their impact on net exports will be similar to that of an internal devaluation, with additional positive effects due to the fact that non-tradables are a major input into tradables.

- *Reforms of benefit entitlements in the areas of pension or health:* Reforming pension or health systems to contain future ageing-related costs can create the space for short-term stimulus measures and raise the effectiveness, notably through increased confidence in the sustainability of public finances. The gains from such reforms can exceed the cost in the short term to the extent that only future benefits are reduced.

- *Reforms easing frictions in the reallocation of resources*: Reducing barriers to geographic or jobs mobility can increase the speed of employment gains in difficult times. Housing market policies that promote residential mobility include the lowering of transaction taxes or costs on buying properties as well as the reduction of the stringency of rental regulation. Regarding job-search assistance, there may be a case for shifting the focus on workers early in the unemployment spells as the chances to find a job are higher in this case.

41. In contrast, the risks that reforms fail to lift activity in the short run – or that they even further depress demand – are highest in the case of reforms that initially put downward pressures on wages or mark-ups, such as reforms of employment protection legislation, minimum wages or product market regulation in network industries. A number of measures could help mitigate those risks:

- *Reform packaging*: There is no evidence that the potential adverse impact of these reforms is compounded. In fact, simultaneous reforms of labour and product markets may reduce the risk or extent of contractionary effects. First, the price reduction resulting from product market reforms will ease the downward pressure on the real wage from labour market reforms. Second, labour

10. Evidence by Fournier (2015) finds that lower heterogeneity in product market regulations between two countries leads to greater bilateral FDI.

market reforms will facilitate the necessary reallocation of workers arising from product market reforms as rents are redistributed across firms and sectors.

- *Reform synchronisation*: In the case of the euro area, a greater synchronisation of reforms will also help reduce the transition costs by giving greater scope to monetary policy to mitigate the potential rise in real interest rates.

42. Increasing the short-term payoff from structural reforms also calls for measures that shift the relative strength of the transmission channels from supply-side reforms to demand components.

- *Addressing financial sector dysfunctions to improve the credit flow:* Significant progress has been achieved in cleaning the banking sector balance sheet following the crisis. However, the share of non-performing loans in the banking system remains relatively high in a number of euro area countries. In fact, the relative speed at which banks' balance sheets were consolidated in the United States may have helped support the faster recovery.

- *Reducing policy uncertainty:* Reform strategies that are well communicated and sufficiently comprehensive to create synergies may also provide clearer guidance and confidence about the direction and sustainability of policy decisions.

43. Overall, the review of the evidence on the effects that specific reforms can have on demand when introduced in a difficult macro context allows for a tentative hierarchy of reforms to be drawn based on their likely effectiveness (Table 1). The measures most likely to bring short-term benefits even in a bad conjuncture are those aimed at raising investment in knowledge-based capital, including through infrastructure spending and tax structure reforms, as well as those focusing on helping unemployed workers to find jobs, including through higher mobility. In fact, the effectiveness of these measures even tends to be stronger in difficult context than in normal times. In the specific case of the euro area, one reform that is particularly to pay-off in a bad conjuncture is the shift in the tax composition from direct to indirect sources. Other reforms may have effects that do not necessarily differ much when introduced in a context of weak demand as compared to a normal conjuncture, which means in most cases modest short-term benefits. These include measures to raise competition in services sectors or to increase the retirement age. On the other hand, an easing of employment protection on regular contracts or reforms of collective wage bargaining arrangement are more likely to entail short-term costs if introduced in a difficult context. The same is true for reforms of pension systems, if they involve reductions in benefits or increases in contributions.

Table 1: Expected short-term effects of specific reforms on demand

	Effect on demand in normal times (1)	Change in effect relative to (1) due to downturns with macro policies (2)	Change in effect relative to (2) due to constrained macro policies (3)
Reduction in regulatory barriers to competition in network industries	Increase	Weaker	Weaker
Reduction in regulatory barriers to entry in professional services and retail trade	Increase	Equal	Equal
Shift in tax composition from direct to indirect sources	Small increase	Weaker	Stronger in EMU
Reform of collective wage bargaining arrangement and minimum wages	Small increase	Weaker	Weaker
Easing of employment protection legislation on regular contract	No effect or small decrease	Weaker	Weaker
Reform of unemployment benefits	Increase	Weaker	Weaker
Strengthening of job search assistance, training and wage subsidy programmes	Increase	Stronger	Stronger
Reforms of pension systems: Increasing retirement ages	Increase	Equal	Equal
Reforms of pension systems: Reducing benefits or raising contributions	No effect or small decrease	Weaker	Equal
Raising incentives for investment in knowledge-based capital, including through infrastructure spending	Increase	Stronger	Stronger

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APPENDIX 1: DETAILED ANALYSIS ON THE IMPACT OF REFORMS IN NORMAL TIMES

This appendix provides a summary of the expected effects of specific reforms on short-term activity and a review of the findings from selected studies. The information is reported in the table below, which describes some of the channels through which reforms affect the main components of demand and reports the results obtained from DSGE-type model-based analyses and empirical analyses. The specific reforms considered in the overview are the following:

- *Labour market reforms to enhance wage flexibility and facilitate labour resource reallocation.* They include reforms of **wage-bargaining institutions** to raise the responsiveness of wage adjustments to local labour market conditions; reductions in **minimum wages** to improve the jobs prospect of low-skilled workers; reforms of **employment protection legislation** again to facilitate relative wage adjustments as well as the reallocation of resources across firms and industries; By and large, they can also be thought of as measures to boost competitiveness through downward pressures on domestic production costs, in particular labour costs.

- *Reforms to stimulate labour force participation and improve matching:* This covers essentially **reforms of the transfer systems**, including **unemployment benefits** and other forms of income support for non-working individuals, but also measures to reduce the financial disincentive to labour force participation of specific groups such as women (including childcare support) and older workers (**pension systems**). Also covered are measures to increase the scope and effectiveness of **active labour market policies**, in particular job-search assistance and training programmes.

- *Reforms to boost product market competition:* This comprises essentially **reductions in regulatory barriers to competition** which operates through state control of business operations, various legal and administrative barriers to start-ups, protection of incumbents as well as via obstacles to foreign trade and investment.

- *Reforms aimed directly at enhancing the productive capacity and productivity of the business sector.* These cover **tax structure reforms** that encourage corporate activity, financial incentives for business innovation and investment in public infrastructure.

Model-based assessments

The model-based simulations covered in the table are taken from studies that make use of Dynamic Stochastic General Equilibrium (DSGE) models for the analysis of specific reforms. In particular, many studies have been conducted by international organisations on the basis of their core DSGE models.

- ***European Central Bank***: Studies based on the Euro Area and Global Economy model (EAGLE) include ECB (2015) **[1]** and Gomes et al. (2013) **[2]**.

- ***European Commission*:** Studies based on different versions of the QUEST model include EC (2013) **[3]**; Vogel (2014) **[4]**, Varga and in't Veld (2014) **[5]**, Varga, Roeger and in't Veld (2013) **[6]** and Arpaia et al.,(2007) **[7].**

- ***IMF*:** Studies based on the Global Integrated Monetary and Fiscal model (GIMF) include Anderson et al.,(2014), **[8]** Barkbu et al., (2012) **[9]**, Everaert and Schule (2008) **[10]**, Karam et al., (2010) **[11]**.

- ***OECD***: Studies using a DSGE-type model include Cacciatore, Duval and Fiori (2012) **[12]** and Mourougane and Vogel (2008) **[13]**.

The DSGE approach has the advantage of describing the response of the macro-economy to reforms within a consistent general equilibrium framework and to illustrate the transmission channels. DSGE model-based simulations also allow for assessing issues that are relevant today, but have little historical precedent, such as the zero lower bound on nominal interest rates in many advanced economies.

A direct comparison of model-based results across studies requires caution given that the same structural reform can be captured in different ways depending on the characteristics of the model. For instance, a reform of employment protection can be captured by a simultaneous reduction in firing costs and in the bargaining power of individual workers in one model, while it is captured as an increase in total factor productivity in another model. Important channels may also be missing in the modelling framework. In particular, the precautionary motive for saving and hence the adverse confidence effects arising from higher job and income volatility cannot be easily featured in such frameworks. Finally, to ensure models are tractable, analyses are typically limited to a small set of structural reforms, (most often product and labour market reforms that reduce price and wage mark-ups), which remains highly stylised.

Empirical analysis based on aggregate or sectoral data

There have been very few empirical studies that have used reduced-form equations to estimate the impact of reforms with a focus on the short-run effect using cross-country aggregate data or sectoral data:

- ***Studies using aggregate data*** include Bouis et al., (2012) **[14]**, Fiori et al., (2012) **[15]**, de Mooji and Keen (2012) **[16]**. For example, Bouis et al., (2012) estimate average impulse responses in terms of employment and output after one to five years following different types of structural reforms (e.g. product market reforms), based on a panel data of OECD countries over the period 1983 to 2007.

- ***Studies using sectoral data*** include Bourlès et al., (2013) **[17]** and Dabla-Norris et al., (2015) **[18]**. The latter estimates the impulse response mostly in terms of productivity after three years and five years following several types of structural reforms, based on a panel data of 23 industries in 11 advanced economies over the period 1970-2007.

While the estimation of reduced-form equations allows for a flexible empirical specification and the assessment of the impact of a wide array of reforms, it does not identify the channels through which reforms affect output or employment. Furthermore, the often incremental nature of reforms makes it difficult to clearly identify the short-run impacts. Estimations are also prone to specification error. For instance, a failure to control for the possible complementarity across reforms can bias the estimated impacts of a given reform (Bassanini and Duval, 2009 **[19]**).

Empirical analysis based on micro studies

Another branch of studies infers the impacts of structural reforms by investigating and looking at event studies and assessing the change in the variables of interest before and after a specific episode of reforms. Such event studies often employ a difference-in-difference or regression discontinuity estimation approach that exploits a micro panel dataset covering the periods before and after the reforms. Some studies also infer general tendencies on the effectiveness of specific reforms from a meta-analysis of the existing empirical evidences.

- ***Studies on wage bargaining/minimum wage reforms*** include Neumark et al., (2013) **[20]**, Anton and Muñoz de Bustillo (2011) **[21]** and Martins (2014) **[22]**.

- ***Studies on EPL reform*** include Kugler and Pica (2008) **[23]**, Von Below and Thoursie (2010) **[24]** and Orsini and Vila Nunez (2014) **[25]**. Kugler and Pica (2008) assess the consequences of Italy's legislation that strengthened the protection of regular employment for firms with less than 19 employees.

- ***Studies on unemployment benefits reforms*** include van Ours and Vodopivec (2006) **[26]** and Uusitalo and Verho (2010) **[27]** studying the effect of duration and replacement rate on unemployment duration from the reforms in Slovenia and Finland, respectively.

- ***Studies on ALMPs*** include Crépon et al., (2005) **[28]**, Rosholm and Shaver (2008) **[29]** which report significant impact on unemployment duration. Less favourable finding is reported for instance by Crépon et al., (2013) **[30]**. Kleuve (2010) **[31]** provide a meta-analysis of previous assessments.

- ***Studies on pension reforms*** include Cribb et al., (2014) **[32]** that observed the consequences of a UK reform raising women's pension eligibility age on their labour supply and unemployment rate.

- ***Studies on product market reform*** include Golsbee and Syverson (2008) **[33]**, Bertrand and Kramarz (2002) **[34]** and Skuterud (2005) **[35]**. Also, Faini et al., (2006) **[36]** provide case studies of liberalisation and privatisation in different sectors in three European countries.

While event studies allow for richer and more rigorous inference on reform impacts than the two previous methods, their focus on a specific policy in a given time and a country makes it difficult to generalise their findings. Also the aggregate macroeconomic implications are not always clear when the analysis focuses on very specific reforms and markets.

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Table A1.1. The impact of structural reforms in normal times: a synthesis

Reform area	Channels of transmission	Evidence on short-term impacts
Collective wage bargaining arrangement and minimum wages	- Raises responsiveness of wages to local labour and product markets. - Puts downward pressures on real wages, in particular for low-skilled workers but raises labour demand with an ambiguous effect on aggregate disposable income and consumption. - If reduced costs lead to higher mark-ups for firms, this may raise investment among firms dependent on internal financing. - If the lower costs are largely and quickly passed through lower prices, then net exports may contribute to short-term demand gains.	**Model-based evidence**: - Employment gains exceed short-term real wage losses. Small and temporary negative impact on inflation (**[1], [2]**). - Moderate increase in consumption, investment and GDP. Small net effect on the current account. (**[1], [2]**). **Evidence from empirical analysis**: - **Aggregate data**: Empirical analysis confirms short-term gains in employment, consumption and GDP of reduction in the excess coverage of collective wage agreements. Less evidence of impact on investment.(**[14]**) - **Micro studies**: Most studies find negative employment effects of minimum wages, especially for youth and low-skilled (**[20], [21]**). Effect of extending collective wage bargaining is found to be similar to minimum wage.(**[22]**)
Employment protection legislation on open-ended contracts	- Reduces wage bargaining power of employees on regular contracts. Increases both hiring and lay-off rates by reducing expected costs of terminating a match. Boosts long-run productivity by encouraging job-to-job mobility and facilitating reallocation of workers across firms and sectors. - Net impact on **consumption** ambiguous: Impact on disposable income depends on employment and wages. Higher wealth through future productivity and income gains but potentially higher precautionary saving if increased instability in employment. - Impact on **investment** and on **net export s**imilar to that of reform of wage bargaining. Potential wage moderation effect of reform reflected in improved competitiveness and/or higher mark-ups.	**Model-based evidence**: - Small positive effect on consumption despite initial and short-lived rise in unemployment. More rapid positive effect on investment and GDP. No visible effect on net exports.(**[12]**) **Evidence from empirical analysis**: **Aggregate data**: No evidence of significant impacts on consumption or GDP but mild positive effect on private investment (**[14]**). No evidence of significant positive effect in the five-year horizon. Some evidence of negative effects on productivity and output at the 2-3 years horizon (**[18]**). **Micro studies**: Increase in lay-off rates is generally found to exceed the rise in hiring rates in the short term leading to higher unemployment (**[23],[24]**). Some evidence of increase in on-the-job search by employees on open-ended contracts following recent reform in Spain (**[25]**).

Table A1.1. The impact of structural reforms in normal times: a synthesis (*cont.*)

Reform area	Channels of transmission	Evidence on short-term impacts
Unemployment benefits: Extension of the benefit coverage, stronger conditionality and tapering of benefits along the spell	- Lowers benefits and the reservation wage of the unemployed and puts downward pressures on wages. - Raises incentives to take-up jobs and labour demand. Stimulates job creation without affecting job destruction. - Net effect on disposable income and **consumption** depends on speed of employment gains and strength of wealth effect arising from higher future income. - Speed of rise in employment depends on extent of vacancies left unfilled due to high reservation wage. Employment gains further accelerated if reform is accompanied by lower social security contributions. - Households not directly involved by the reform may raise precautionary savings to compensate for reduced generosity of benefits.	**Model-based evidence**: - Positive gains GDP, investment and to a lesser extent consumption. Decline in consumption for LC-households more than offset by increases for others through wealth effects (**[5]**). Unemployment falls as employment rises more rapidly than labour force. Small positive contribution from net exports (**[12]**). **Evidence from empirical analysis**: **Aggregate data**: Positive impact on employment across all age and gender groups, as well as on consumption and GDP (**[14]**). **Micro studies**: Reduction in replacement rates and/or duration lead to a short-term increase in employment among those closer to benefit exhaustion (**[26], [27]**).
Active labour market policies: Job search assistance, training programmes and hiring or wage subsidies	- Improves matching efficiency and facilitates reallocation of labour; raises employment in the short run and productivity in the long run. - If unfunded, raises disposable income and can be perceived by firms as a reduction in non-wage costs. Effect on consumption and investment works like fiscal expansion and depends on size of multiplier.	**Model-based evidence**: - Impact of budgetary neutral reforms of ALMPs is similar to that of reduction in unemployment benefit, except for more rapid increase in labour demand (**[5], [12]**). - Unfunded increases in ALMP spending have stronger positive effects on demand in the first two years than after five years (**[8], [9]**). **Evidence from empirical analysis**: **Aggregate data**: Increases in ALMP spending, after controlling for cyclical influences, are found to raise aggregate employment but not consumption or GDP (**[14]**). **Micro studies**: Most studies (though not all) find evidence that active job search assistance and mandatory participation to programmes help reduce the duration of unemployment in the short term (**[28]**, **[29], [31]**).

Table A1.1. The impact of structural reforms in normal times: a synthesis (*cont.*)

Reform area	Channels of transmission	Evidence on short-term impacts
Pension systems: Increase in the retirement age, reduction in pension benefits or rise in contributions	- Raising the retirement age increases pension wealth by extending working lives. Raises **consumption** for non-liquidity constrained households, if confident about prospects of keeping jobs at age close to pension. - Reducing pension benefits has the opposite effect if workers seek to maintain pension wealth and retirement age. Negative effect on **consumption** amplified if benefit reductions applied to all current pensioners. - Increasing contribution rates reduces disposable income and/or mark-ups depending on whether measure is borne by workers or firms. May be partly offset by a positive wealth effect if contributes to future pension funding.	**Model-based evidence**: - Positive effect on consumption and GDP in the case of increases in the retirement age. Evidence less clear in the case in the cases of benefit reductions or rises in contributions as their effect is similar to a (deferred) fiscal contraction. They are found to lower consumption and investment but to have a positive effect on net exports, with a net small or negative impact on GDP (**[11]**). **Evidence from empirical analysis**: **Aggregate data**: An increase in the retirement age has a positive impact on consumption, investment and GDP (**[14]**). **Micro studies**: Some studies find a non-negligible positive short-term impact on employment rates of affected population but also a rise in unemployment (**[32]**).
Product market Reduction in regulatory barriers to competition	- Stronger competition reduces mark-ups and export prices, lowers input prices and production costs in downstream industries and raises productivity through process (efficiency gains) and product innovation. - Upward pressures on investment through future profitability gains and entry of new firms but also downward pressures through lower mark-ups (for cash-flow-constrained incumbents). - Upward pressures on consumption through positive disposable income (lower prices and gains in employment) and wealth effects. Downward pressures if lower mark-ups and prices lead to high real interest rates (e.g. in monetary union) or if business restructuring initially lead to high job turnover and income instability and hence higher precautionary saving. - Rapid employment gains in sectors with strong pent-up demand and low entry costs.	**Model-based evidence**: - Modest short-term GDP gains with more visible impacts after 2-3 years (**[8]**,**[9]**). Slowly rising gains in investment and (to a lesser extent) consumption (prompted by real wage gains) and negative contribution from net exports. Employment rises in services but falls in manufacturing. One study finds consumption falling in the 2-3 years horizon due to higher real interest rate (**[12]**). **Evidence from empirical analysis**: **Aggregate data**: No significant short-term impact on GDP **[14]**. Evidence from sector-level data indicates productivity gains within 2-3 years on average **[17]** but one study finds that the impact on productivity in professional services is negative in the first 2-3 years but turns positive after 5 years **[18]**. **Micro studies**: Industry-specific analyses provide evidence of rapid price declines in response to reduction in entry barriers (**[33]**). Rapid gains in productivity, employment and output are found in industries such as retail trade or telecommunication (**[34]**, **[35]**, **[36]**). In other industries, a significant productivity gain but a decrease in employment is reported, as firms enhance competitiveness by reducing initial over-manning (**[36]**).

Reform area	Channels of transmission	Evidence on short-term impacts
Tax structure: Shift in the composition of taxation from direct (capital, labour) to indirect sources (VAT, property, inheritance)	- Reductions in capital and labour taxation raise employment and **investment** until initial return to both production factors is restored. - Positive impact of employment gains and lower income taxes on disposable income offset by higher price level from increased VAT. Higher price effect likely to dominate in the short run, entailing a reduction in **consumption**. - Shift in relative price of domestic and foreign goods will boosts **net exports** unless quickly offset by nominal exchange rate adjustment.	**Model-based evidence**: - Increases in investment and net exports only partly offset by a decline in consumption, leading to moderate short-term gains in GDP (**[6]**). Since the gains in employment due to competitiveness are temporary, the increase in employment is stronger in the short than long term (**[8]**). **Evidence from empirical analysis**: **Aggregate data**: A decline in the share of income tax in total tax revenues is found to have a positive impact on investment but no significant effect on consumption or GDP (**[14]**). Strong positive impact found on net exports in euro area countries but smaller effect in non-euro area OECD countries (**[16]**).

Note: The numbers in brackets in bold script indicate the studies cited earlier in the Appendix 1. For instance, [1] corresponds to ECB (2015).

APPENDIX 2: CASE STUDIES

1. Canada: The 1994-1996 Labour market reforms and privatisations

Deteriorating competitiveness and public finances prompted the reforms

The Canadian economy entered the 1990s facing several challenges, including: deteriorating competitiveness due to high wage growth, weak productivity gains and an exchange rate that had been appreciating for a few years; chronic fiscal deficits and the quick build-up of public debt that exceeded 90% of GDP in 1993 (general government). In addition, the 1990s began with a recession (1990-91) followed by a slow and jobless recovery. The unemployment rate that peaked at 11.4 per cent in 1993 and labour participation fell especially among youths. Also, the stock of foreign debt had grown to over 40% of GDP, fuelling concerns about rising risk premia on foreign borrowing and a feeling that the country was losing ground relative to other advanced economies.

The reforms

The new administration that came into power in 1993 launched an ambitious public finance consolidation programme combined with a package of structural reforms. Since many reforms in the area of trade as well as financial and product markets had taken place in earlier years, the reforms of the mid-1990s focused more on the labour market, with a core element being a shift in policies from passive income supports to more active market interventions. The prime objective was to enhance the flexibility of, and workers' attachment to, the labour market, although the reform was also driven by the need to reduce public sending. A significant reform in unemployment benefits (UB) programme was introduced in 1996 when it was relabelled as *Employment Insurance* (EI). Incremental changes to the system – notably to tighten eligibility conditions – had been introduced in earlier years, but the 1996 reform went further with the introduction of a new system that tied benefit replacement rates to the frequency of unemployment spells. The reform also shifted from a week basis to an hour basis to allow better coverage for part-time workers, tightened further the eligibility requirements, reduced the duration as well as the maximum insurable income on which premium was calculated (OECD, 1996a).

The UB reform was coupled with a significant revamping of active labour market policies (ALMPs), which were re-organised under the umbrella of *The Employment Benefits and Support Measures* (EBSMs) and focused on five categories: wage subsidies; employee earning supplements (targeted to low-income employees); self-employment assistance; job-creation partnership (employment of EI recipients in community-based projects); and skill loan grants (supports to attend credited institutions to develop job-skills). The ALMP programmes were decentralised as the federal government transferred the authority to design, deliver and finance those measures to provincial governments via *Labour Market Development Agreements*. The greater provincial control over ALMPs was expected to encourage experimentation and tailoring of measures to local labour market needs (OECD, 2000). In addition to such reforms, a special policy package targeted to youth employment (*Youth Employment Strategy*) was launched in 1997.

Another important set of reforms driven by the fiscal consolidation was a series of privatisation of state-owned enterprises (so-called the Crown corporations) taking place between the mid-1980s to the mid-1990s. Many of the privatised entities operated in natural resource or related sectors (such as fisheries, mining or oil and gas), transportation (shipping, air, rail, truck) or telecommunications. Privatisations took place either as direct sales of Crown corporations to existing private-sector entities, or as public offering of

the government's share. The proceeds from the 10 largest federal privatisations between 1986 and 1996 totalled 7.2 billion dollars (of which 3.8 billion from the sale of shares in CN and Petro-Canada in 1995), contributing significantly to the fiscal consolidation (Bank of Canada, 1997).

The macro context in which reforms were introduced

The reforms were introduced at a time when fiscal consolidation – achieved mainly via spending cuts – was putting downward pressure on demand. The 1994 and 1995 federal budgets included cuts in unemployment benefits and defence expenditure as well as of federal government salary and employment (OECD, 1996a). The main vehicle of such spending cuts was the *Programme Review* that scrutinised all programmes provided by the ministries to identify the government's core roles and prioritised fiscal resource. As a result of these efforts, the general government's fiscal deficit, which stood at 6% of GDP in the 1993/94 budget, was brought to balance in 1997/98. The cyclically-adjusted primary balance had turned to surplus already in 1995 (Figure A3.1).

In contrast to fiscal policy, monetary policy remained accommodative in the early 1990s. While the focus of monetary policy was redirected to price stabilisation in 1991, the policy target of 1 to 3% CPI inflation rate was extended until the end of 1998. The short-run interest rate declined until early 1994, down to 3.75% which was the lowest level in 30 years, but began to rise shortly after.

Also, the Canadian economy benefited from the robust growth in the U.S. economy in the years following the reforms. The implementation of the Canada-U.S. Free Trade Agreement in 1989—replaced by the North American Free Trade Agreement in 1994 contributed to the strong export performance and improvement in the trade balance (Figure A3.1). The Canadian economy thus enjoyed a short spurt in 1994 led by a strong growth in export and investment, before slowing down in early 1995 under the pressure from fiscal consolidation.

What was the short-term impact of the reforms?

By the end of 1990s, Canada's employment rate of prime-age workers and that of older workers had returned to the level of 1989. This was not the case for youth, whose employment rate recovered only slowly throughout the 2000s until dented by the Great Recession. Nevertheless, Canada's labour utilisation gap vis-a-vis the upper half of OECD countries with highest GDP per capita narrowed steadily after the mid-1990s (Figure A3.2).

Following the implementation of the *Employment Insurance* (EI) and active labour market policies (ALMPs) reforms, the number of EI claimants initially plummeted for the first two years but levelled off later, due to the large increase of those claiming sickness benefits. While the number of frequent claims was reduced following the tightening of eligibility conditions, the small reduction in benefit rate may not have sufficiently discouraged the frequent use of EI (Fortin and Van Audenrode, 2000). Furthermore, the regional difference in generosity of UB and exemptions and benefits for low-income households may have prevented the labour mobility from high-unemployment areas to others (OECD, 2000).

Whether the series of privatisation in network industries boosted Canada's productivity is less clear. Canada's labour productivity gap vis-a-vis the upper half of OECD countries did level off after mid-1990s, but the reforms were not sufficient to prompt a narrowing of the gap and the latter began to widen again in the early 2000s (Figure A3.2). It should be said that the success in employment – in particular with the integration of low-skilled workers in the labour force – over the same period may have contributed to the slower productivity performance.

A study observing the privatisation of eleven large Crown corporations reported that, on average, privatisation resulted in a quick increase in their sales and investments but also to a significant decrease in

their employment within the three years following the privatisation (Boardman and Vining, 2012). Indeed, the rapid increase in their productivity was realised primarily by reducing employment without reducing output level significantly.

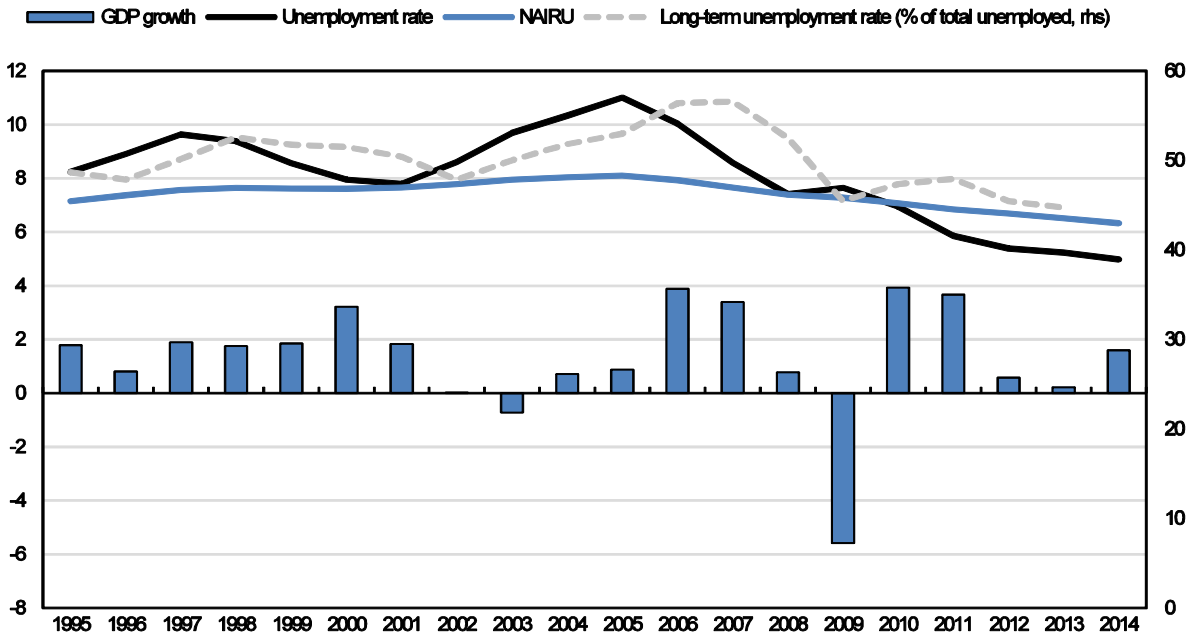
2. Germany: The Hartz labour market reforms 2003-05

A deteriorating economic environment triggered the reforms

In the years 2003-05, Germany implemented a series of labour market reforms, collectively known as the Hartz reforms, which share the view that policy intervention should provide both assistance and incentives for successful integration into the labour market (the principle 'assist and demand', "*Fördern und Fordern*"). The reforms took place against the backdrop of a deteriorating economic situation in the early 2000s in Germany (see Figure A2.1). The unemployment rate started increasing sharply from the second half of 2001, GDP growth slowed and the fiscal position deteriorated markedly on the back of accelerating social expenditures. In addition, a large-scale data falsification scandal at the Federal Employment Agency provided further impetus and consensus to reform the agency.

The Hartz reforms were a subset of a broader reform effort, the so-called Agenda 2010, which was carried out more or less in parallel. These other reforms comprised deregulation in the handicraft sector, reforms of the pension system, the healthcare system, aspects of apprenticeship training, and some reorganisation in the school system. The Hartz reforms were preceded by significant changes in the collective bargaining system, dating back to the middle of the 1990s, which led to increased working time and wage flexibility. These changes were initiated and carried out by the social partners.

Figure A2.1. The effect of the Hartz reforms on unemployment



Source: OECD, *Economic Outlook* and *Labour Force Statistics Databases*.

The reforms

The reforms were packaged into four comprehensive bills and sequenced so as to address the least contentious issues first, leaving the more controversial reforms until a later stage. The first three Hartz reforms (Hartz I-III) mainly focused on increasing job matching efficiency: private firms were allowed to

offer placing services, temporary agency work was liberalised, the Federal Employment Agency reorganised towards a more efficient service provider and conditions for accepting job offers tightened. Hartz IV raised work incentives notably by abolishing the formerly income related unemployment assistance (UA), which was paid after the maximum years of unemployment insurance (UI) benefits were exhausted, and merging it with the means tested social assistance into a new means-tested flat-rate unemployment benefit (UB II). In addition and most contended, the benefit duration of the unemployment insurance (henceforth known as UB I) was cut to 12 months for recipients up to 54 years (from a maximum of 26 months before) and to 18 months for recipients aged 55-64 (from up to 32 months before). There has been some backsliding on the Hartz reforms since then. In 2007 the maximum duration of the UB I was extended again for older workers, though not to the pre-reform level and job-search requirements were tightened to encourage older workers to search more actively (see OECD, 2008, 2009 and 2012b for a more detailed description of the Hartz reforms).

What was the short-term impact of the reforms?

At first glance, the labour market reforms appear to have been an immediate success (Figure A2.1). The unemployment rate fell from 11% in 2005 to 7.4% in 2008. While this drop has to be viewed against a sharp rebound in economic growth, the unemployment rate continued falling even in aftermath of the global financial crisis, notwithstanding a modest increase in 2009. In addition, OECD estimates of the NAIRU suggest a trend reversal in 2005. Finally, the share of long-term unemployed, a primary aim of the reforms, dropped substantially. Between 2007 and 2009, the share of long-term unemployed in total unemployed fell from 57% to 45%.

More thorough evaluations of the reforms provide a more nuanced picture but generally confirm the positive effects on unemployment both in the short and in the long-term.[11] Evaluations generally distinguish between the reforms aiming at improving job matching (Hartz I-III) and the overhaul of the unemployment benefit system (Hartz IV). Assessments of the effects of Hartz IV vary greatly. On the one hand Krause and Uhlig (2012) and Krebs and Scheffel (2013) using calibrated macro models, find that the UB reforms brought about a substantial decline in the unemployment rate of 2.8 and 1.4 percentage points, respectively. Both studies find that most of the decline already materialised three years after the reform. Krebs and Scheffel (2013) also report a 0.1% increase in the annual long-term growth rate in steady state (reached after approx. 20 quarters), with even higher growth rates in the transitional phase. On the other hand, Launov and Wälde (2013a, 2013b) only find very modest unemployment reduction effects of the Hartz IV reforms of 0.1-0.3 percentage points. The bulk of the difference in estimates seems due to different assumptions about the severity of the benefit cut implied by the reform. The Hartz IV reform affected different groups of long-term unemployed very differently, with some groups even experiencing a positive income effect whereas others suffered marked income losses. Studies assuming a larger average cut generally find stronger effects on unemployment. Empirical evidence using detailed income data (Launov and Wälde, 2013b) and the partial backtracking of the reform in 2007 suggests that the average cut in the benefit level and in turn the implied fall in unemployment may have been more modest. This is also in line with OECD (2008) estimates based on average net replacement rates of a decline of the NAIRU of about ½ percentage point.

Evaluations of the other parts of the labour market reforms (Hartz I-III) suggest a more unambiguous positive effect on unemployment thanks to improved job matching. The results in Fahr and Sunde (2009) and Klinger and Rothe (2012) suggest that Hartz I-III almost instantaneously increased the job finding rate of the unemployed by between 5 and 15 %, with stronger effect for the long-term unemployed. Using these

11. To the extent that some reforms can reduce the unemployment rate but also labour force participation rates (e.g. discouragement effects) ideally the impact of reforms should be assessed on the basis of their unemployment and employment effects. The studies discussed in the text seem to hold the labour force constant, therefore, a drop in unemployment equals the employment gains.

estimates as inputs, Krebs and Scheffel's (2013) calibrated macro model suggests that the Hartz I-III reforms reduced the unemployment rate by 1.5 percentage points. Launov and Wälde, 2013b focus on the effect of the reorganisation of the Federal Employment Agency (Hartz III) and their estimates suggest that this reform alone contributed 1.3 percentage points in to the reduction of the unemployment rate between 2005-08.

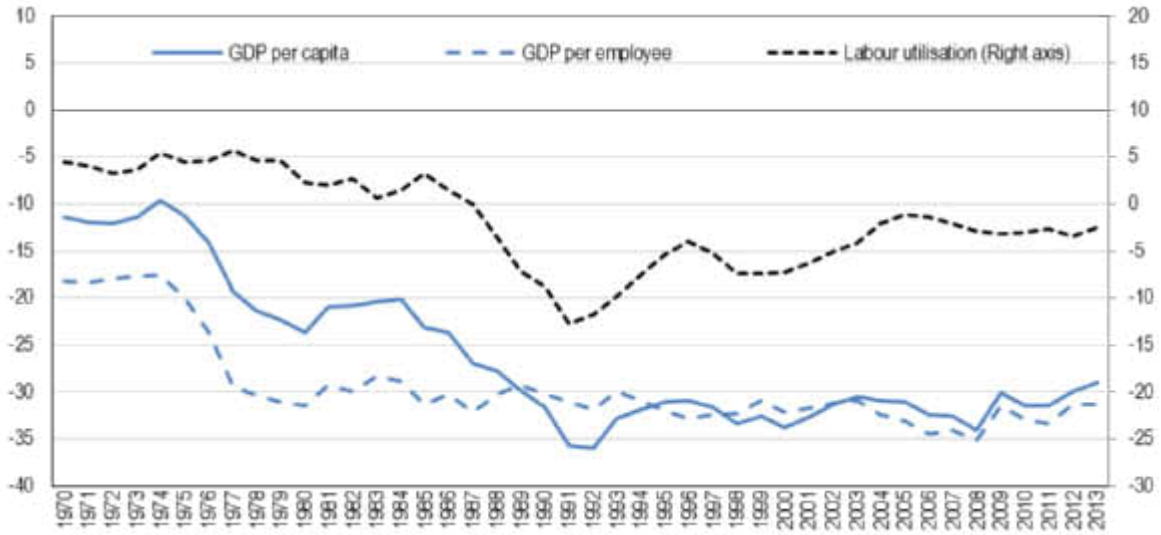
3. New Zealand's wide ranging reforms of the 1980s and 1990s

A period of sluggish growth boosted the reforms

After the oil shocks in 1972/73, the New Zealand economy endured a period of stagnated growth and rising unemployment, rapid exchange rate depreciation, high inflation and increasing budget and current account deficits (OECD, 1985). The gap in per capita GDP vis-a-vis the 17 richest OECD countries opened up during the 1970s due mostly to the notable decline in labour productivity but also of labour utilisation since the late 1970s (Figure A2.2). In order to redress the economy out of the long declining trend, New Zealand engaged in a radical and wide range of structural reforms in the mid-1980s and early 1990s (OECD, 1985; OECD, 1993).

Figure A2.2. New Zealand's GDP per capita, labour productivity and labour utilisation

Gap to the upper half of OECD countries, %



Note: Labour utilisation is defined as total employees over population.

Source: OECD, *National Account and Productivity Databases*.

A first wave of reforms started in the mid-1980s and was aimed to move the New Zealand economy out of the heavy government interventions to a market-based resource allocation (OECD, 1985). Reforms included a drastic reduction in barriers to trade and capital movement, the scale down of agricultural assistance, and reduction of state involvement in major industries through deregulation as well as corporatisation of state activities into state-owned enterprises and eventual privatisation of some of them. The pace of reforms, however, slackened off after 1988 and the labour markets remained rigid (OECD, 1993).

A second wave of reforms from 1990 onwards featured four main elements (OECD, 1993): 1) Enhancing labour flexibility through regulatory reform in the labour market (namely, the 1991 introduction of the Employment Contract Act that enabled individual employee/employer negotiation), as

well as raising skill levels by additional investment in education, training, and employment schemes, and immigration focused on attracting high-quality human capital; 2) promoting participation and self-reliance through reforms to the welfare system; 3) improving the overall competitiveness of the economy through continued supply-side reforms including the legal framework, resource management, and 4) tax policy; and strengthening international linkages by encouraging foreign investment and trade development.

New Zealand also carried out extensive reforms to its macroeconomic policy framework (White, 2013). Fiscal policy was re-oriented from short-term macroeconomic stabilisation to medium run control of fiscal deficit. Also, a major tax reform introduced a flat Goods and Service tax of 10% in 1986 (raised to 12.5% in 1989) while reducing labour tax wedge and corporate tax. The monetary policy, originally assigned vast policy objectives including employment, was refocused to pursue price stability after 1984. The 1989 legislation introduced inflation targeting and granted autonomy of the Federal Reserve Bank of New Zealand in monetary policy to achieve such an inflation goal.

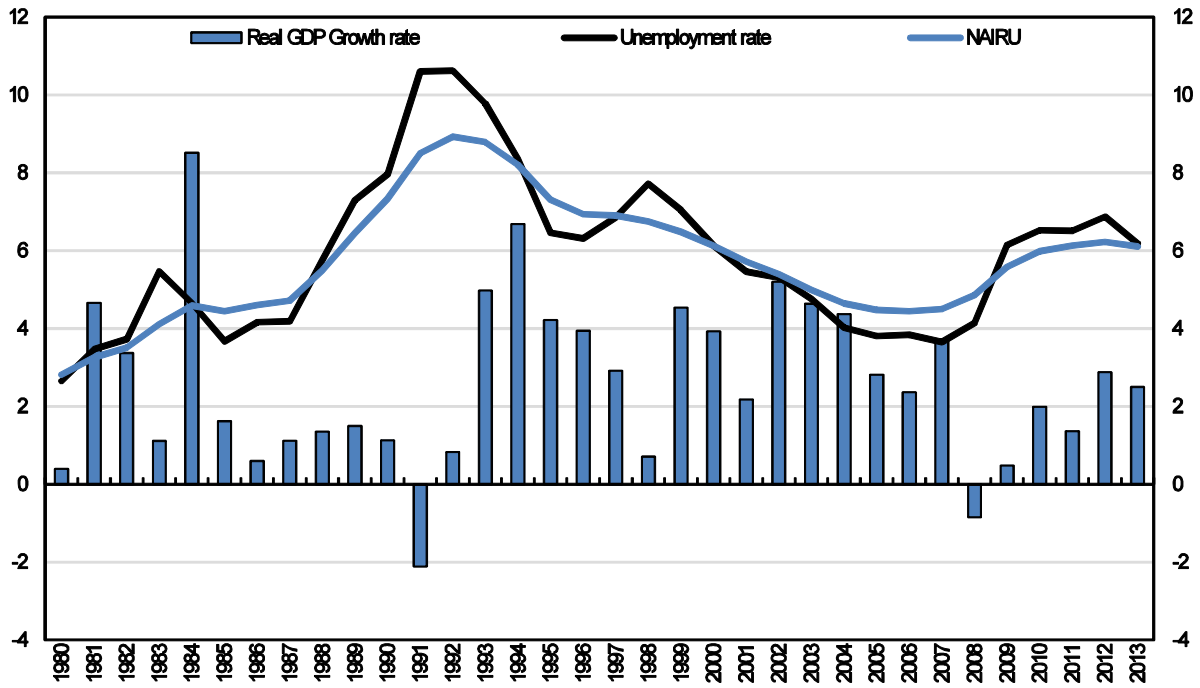
Whereas the reforms in the mid-1980s took place as the economy was recovering from the 1982/83 recession, the early 1990s reforms took place amid the recession that began in 1990 ended in September of 1991 (chart 2). Both waves of reforms received little support from expansionary macroeconomic policy as fiscal consolidation and disinflation were pursued. While fiscal consolidation during the late 1980s was pursued through tax reforms and strong restrictions on expenditure (Evans et al.,1996). Reductions in welfare expenditure were put in place since 1990. Also, the December 1990 mini-budget and the 1991 Budget were firmly focused on fiscal consolidation in spite of the adverse economic condition (White, 2013). The monetary policy pursuing disinflation resulted in high real interest rate and exchange rate during the mid-1980s pressuring the tradable sector (OECD, 1991). Monetary policy also remained tightened in the early 1990s despite the recession until it was eased in September 1991.

What was the short-term impact of the reforms?

Overall, the two waves of structural reforms were successful in curbing the gap in per capita income against the advanced OECD economies from widening further and even in slightly reducing it (Figure A2. 2). Especially, the early 1990s reforms are likely to have reversed the decline in labour utilisation and rise in the structural unemployment rate. Empirical studies indeed reported significant contribution by the Employment Contract Act (ECA) and benefits reforms in increasing employment and labour participation during the recovery stage (Maloney and Savage, 1996; Maloney, 1997; 2002). For instance, Maloney (1994) shows that the ECA had been responsible for one-sixth of the increase of employment between 1991 to mid-1995. On the other hand, there is no sign that New Zealand's gap in labour productivity vis-a-vis advanced OECD countries has narrowed significantly after the reforms (Figure A2. 2).

However, New Zealand's structural reforms were associated with significant up front costs in terms of very poor short-term economic performance and increases in inequality (OECD, 2015). The mid-1980s reforms were followed by a large loss of employment and deterioration in labour utilisation (Figure A2.2 and Figure A2.3). The aftermath of the early 1990s reforms was also characterised by a large output gap and unemployment rate that peaked at 11% in March 1992. Although employment grew strongly after the economy entered the recovery phase in the late 1991, the two waves of reforms are considered to have increased income inequality and decrease in real income of low-income households (Dalziel, 2002; OECD, 2015). Those severe short-run consequences following the reforms called into question the adequacy of reforms sequencing and macroeconomic policy stance. It was often argued that costs of reform would have been smaller if labour market reforms took place earlier (Evans et al.,1996; Brash, 1998). For instance, compulsory unionisation during the late 1980s led to a sharp increase in real wage while New Zealand was liberalising trade and reducing subsidies, undermining considerably its export competitiveness (OECD,1991;1993). Macroeconomic policies pursuing fiscal consolidation and price stability were also criticised to have imposed considerable output losses (Easton,1994;Hall, 1996).

Figure A2.3. New Zealand's real GDP growth and unemployment rate



Source: OECD *Economic Outlook Database.*

4. Spain: The 2012 Labour Market reforms

Soaring unemployment and inflexibility in the labour market prompted the reform

At the onset of the Great Recession, Spain experienced the sharpest increase in unemployment among OECD countries, amounting to more than 10 percentage points between the fourth quarter of 2007 and the second quarter of 2010 (OECD, 2010b). This was despite the fact that the size of the contraction of output was broadly similar to that of other European economies. As the recession developed into a debt crisis, deleveraging in the private sector resulted in a contraction of domestic demand while the negative feedback loops between confidence in government solvency and banking sector health led to high interest rates and tight lending conditions (OECD, 2012c). Against the backdrop of a widening GDP gap (Figure A3.1) the unemployment rate soared up to 26.3% in the first quarter of 2013. Among the unemployed, the hardest hit were the youth whose unemployment rate reached 55.5% in the 2013. The share of long-term unemployed increased to 50.4% in the third quarter of 2013 up from 19.1% end 2007.

Despite the massive increase in unemployment, the wage component of unit labour costs did not decline in the first four years of the crisis, and its level at the end-2011 was above that at the onset of the crisis (OECD, 2014). The collective wage bargaining, which took place predominantly at the sector or regional level prevented the alignment of the labour costs to firm productivity. Furthermore, a high coverage of collective bargaining agreements and the difficulty for firms to opt-out from them, combined with strong wage inertia led firms to absorb shocks through employment adjustments rather than wages or hours worked adjustments (OECD, 2010b, 2014).

Spain's fiscal position deteriorated sharply since 2007 (Figure A3.1). The government engaged in a series of fiscal consolidation measures including the reduction of public sector wages and employment, cutting back public investment and broadening the VAT tax base and raising its rate. Spain also implemented the national budgetary rule requiring structural fiscal balance and limiting public debt to 60% of GDP by 2020 in April 2012 in light of the European Fiscal Compact. Spain further engaged in

restructuring the banking sector in 2012. Despite of these efforts, credit to the private sector remained contracted, even after the ECB's introduction of Outright Monetary Transaction (OMT) in 2012, which improved banks' funding conditions both in Spain and in the Euro Area (IMF, 2013).

The reform

In February 2012 the Spanish government approved a comprehensive reform of the labour market that modified several aspects of the Spanish labour market regulation, including changes to collective bargaining rules and collective and individual redundancy procedures and costs.

Collective wage bargaining

The objective of the reform of collective bargaining was to restore competitiveness by aligning labour costs more closely with productivity and to allow employers to exploit more easily internal flexibility measures as an alternative to dismissals in the presence of adverse shocks (OECD, 2014). The reform gave priority to collective bargaining agreements at the firm-level over those at sector or regional level. It also extended the 2010 legislation introduced during the 2010 labour market reform that allowed employers to opt-out from sector or regional collective bargaining agreements to pursue internal flexibility measures, including unilateral changes in working conditions (e.g. wages, working hours, work schedules) whenever there are objective economic, technical or organisation reasons. Furthermore, collective bargaining agreements can now be prolonged only for a maximum period of one year (as opposed to two years) after their end date in order to promote rapid re-negotiation adapted to adapt to any changes in economic conditions. Together, these changes led to the most significant reform of the collective bargaining system in Spain since it was created in the 1980s (Dolado, 2012).

Employment protection legislation

Before the crisis, Spain was one of the countries with the highest level of employment protection on regular contracts (Venn, 2009). The 2010 Labour market reform already introduced greater flexibility in employment protection legislation, but it was the 2012 reform that significantly modified employment protection legislation. The 2012 reforms included the following changes in employment protection legislation (OECD, 2014):

- ***Clarification of fair dismissal***: The 2010 reform on employment protection legislation expanded the scope of fair dismissal by clarifying the definitions of the justifiable reasons for dismissal. It also broadened the conditions deemed as "economic reasons" under which dismissal is justified. The 2012 reform further broadened such conditions by specifying that a dismissal is always justified if the firm faces a persistent decline (over the three consecutive quarters) in revenues or ordinary income. As a result of the reform, the firm does no longer need to prove that the dismissal is essential for the future profitability of the firm.

- ***Reduction in severance pay***: The severance pay in case of unfair dismissal was reduced to 33 days' wages per year of seniority up to maximum of 24 months (previously 45 days' wages per year of seniority up to maximum of 42 months). The reform removed a worker's right to interim wages between the effective date of dismissal and the final court ruling (except in the case when the worker is reinstated).

- ***Simplification of collective dismissal***: The requirement of administrative authorisation for collective redundancies was eliminated and the objective reasons under which an employer can undertake collective redundancy were specified more precisely. In addition, the firm needs to provide retraining and relocation plans if the collective dismissal affects more than 50 workers. The set of cases in which the employer must pay a tax if the collective dismissal involves

workers aged 50 years or more was expanded. Such costs may be substantial, and in some cases even larger than severance payment for unfair dismissal (OECD, 2014). Additional legislation in 2013 further clarified the procedure of collective dismissal and set an unambiguous limit to the power of courts to overturn the collective dismissal procedure and order the reinstatement of workers.

- ***New full-time permanent contract for small firms***: Firms under 50 employees are allowed to use a new full-time permanent contract (Contrato de Apoyo a Emprendedores) with an extended trial period of one year, if they did not engaged in collective or unfair dismissal within the six months prior to the contract. The contract includes several hiring incentives and fiscal rebates for firms under 50 employees.

- ***Others***: The reform also introduced the re-instatement of the two-year maximum period for extension of standard fixed-term contracts (which was temporarily suspended in August 2011), an increased flexibility to use part-time contracts and the *Contrato de formación y aprendizaje* as well as new regulations for training provision and the authorisation given to private temporary placement agencies to operate in the domain of placement of unemployed workers, alongside the public employment system.

What was the short-term impact of the reform?

The few empirical assessments of the 2012 reform that have been published so far suggest the following main results:

- **Wage moderation**: The reform contributed to significant wage moderation in the first year and a half after the reform. OECD evidence suggests that between the fourth quarter of 2011 and the second quarter of 2013 business sector unit labour costs (excluding non-wage components) declined by 3.2%, with more than a half of this drop attributed to the 2012 reform (OECD, 2014). These results are consistent with econometric evidence by the Bank of Spain (Izquierdo et al. 2013) and qualitative evidence (BBVA, 2013; Ministerio de Empleo y Seguridad Social, 2013). Such wage moderation has contributed to improve Spain's competitiveness (Figure A3.3).

- **Employment growth**: Net employment contraction following the reform was below expectations, suggesting therefore a positive impact of the reform on employment growth (Ministerio de Empleo y Seguridad Social, 2013; Izquierdo et al. 2013).

- **Hiring rates**: OECD evidence (OECD, 2014) finds that the reform increased the hiring rate by approximately 8% within the first 18 months. In particular, the reform is estimated to have increased the hiring rate of full-time open-ended contracts by 18% on average, while no significant effect is found as regards part-time contracts. The estimates suggest the reform led to about 25 000 new permanent contracts each month with the effect concentrated in firms smaller than 100 employees.

- **Separation rates**: The overall effect of the reform on separation rates is less obvious, as the reform eased firing procedures and reduced its costs, but at the same time raised the incentives to adopt internal-flexibility measures within firms. OECD evidence (OECD, 2014) suggests that separations decreased after the reform, especially for temporary contracts, possibly resulting from the greater use of internal flexibility measures as an alternative to contract termination.

- **Transitions from unemployment to employment**: OECD estimates that the 2012 reform increased the probability of leaving unemployment and entering employment for any unemployment duration (OECD, 2014). Furthermore, the reform also contributed to containing the duration of unemployment

spells, in particular due to faster transitions into permanent contracts for those workers entering unemployment after a temporary job.

5. Sweden: The early 1990s reforms

Reforms followed the Swedish crisis in early 1990s

Sweden experienced a deep economic crisis in the early-1990s, with banks collapsing, a sharp drop in real GDP (by 6% from 1991Q1 to 1993Q1), a rapid increase in unemployment (from 2% in the beginning of 1991 to 10% end-1993). Public finances suffered greatly, with deficits at around 10%for several years, and debt growing from around 45% to nearly 80% of GDP (Borg, 2009).

A combination of different factors initiated the crisis. Credit market deregulations in the mid-1980s were followed by a rapid credit expansion, which prompted a surge in asset prices (Calmfors, 2012; DG Trésor, 2012). Especially a liberalisation of loan restrictions contributed to a very rapid increase in lending, largely concentrated to the real estate sector, affecting both residential and commercial property. The process was further fuelled by rising inflation and a tax system that favoured borrowing (Jonung, 2009). The bubble burst in the early 1990s causing a serious banking crisis, which coincided with an international economic slowdown. The boom had led to a real appreciation, which contributed to a fall in exports. As a result a deep recession took place.

The reforms

The immediate response to the crisis focused on tackling the banking crisis (See Jonung (2009) for a detailed description). In addition, several other reforms were launched (see Freeman et al., (2010) for a more extensive overview). The most important reforms included:

- *Comprehensive tax reform* (1990/91), a major reform took place (labelled the tax reform of the century in the Swedish debate) (Calmfors, 2012). The reform significantly broadened the tax base, which made it possible to reduce rates. The main elements included: i) a reduction of marginal tax rates on income from labour, ii) the VAT was extended to more areas and a uniform VAT rate was introduced, iii) corporate taxation was lowered at the same time that deductions were abolished.

- *Reduced generosity in social insurance systems*, most importantly sickness insurance was lowered (1993-98), and unemployment insurance was made less generous as part of a fiscal consolidation package (DG Trésor, 2012). From 1992 onwards there were clear efforts to consolidate public finances; however, the bulk of the consolidation was implemented in 1995-97, that is after the recovery had taken off.

- *Pro-competition reforms*, including privatisation of publicly-owned companies and of welfare services and deregulation of markets, notably domestic airlines (1992), telecommunications (1993), the financial sector (1993), postal services (1993) and electricity (1996). Stricter competition legislation prohibiting all forms of cartels and price cooperation among firms was introduced in 1992.

Besides these structural reforms, the following important policy measures took place during the same period:

- *Inflation targeting*, during the deep recession in the early 1990s, the central bank was not able to defend the fixed exchange rate system and chose to let the currency float freely in 1992. To anchor inflation, the central bank set an inflation target of 2% per year in 1993. The central bank gradually lowered interest rates.

- *Increased economic integration* through the membership in the European Economic Area, and from 1995 membership in the European Union, which further boosted competition.

What was the short-term impact of the reforms?

The short-run impacts of the reforms and policy measures taken in Sweden in the early 1990's are not directly investigated in the literature and the impacts theoretically not clear. One difficulty in assessing the gains from reforms is the absence of a "counter-factual". It is also difficult to empirically disentangle the separate effects from each of the reforms. However, some observations can still be made.

- *The depreciation of the Swedish currency was crucial for the recovery*: A crucial factor for the swift recovery was the real exchange rate depreciation that took place (See Figure A3.3). While unit labour costs significantly fell between 1991 and 1993, the main contributing factor was the nominal exchange rate depreciation (Figure A3.3). This boosted exports, helped along by strong global trade in the 1990s and boosted a persistent recovery. Estimates suggest that the Swedish abandoning of the peg in November 1992 strengthened Sweden's price-competitiveness by around 21% (measured in real effective exchange rate terms), and contributed 5 percentage points to export growth (DG Trésor, 2012). With exports accounting for around 27% of GDP in 1992, this corresponds to a contribution to annual GDP growth of about 1.4 percentage points in 1993.

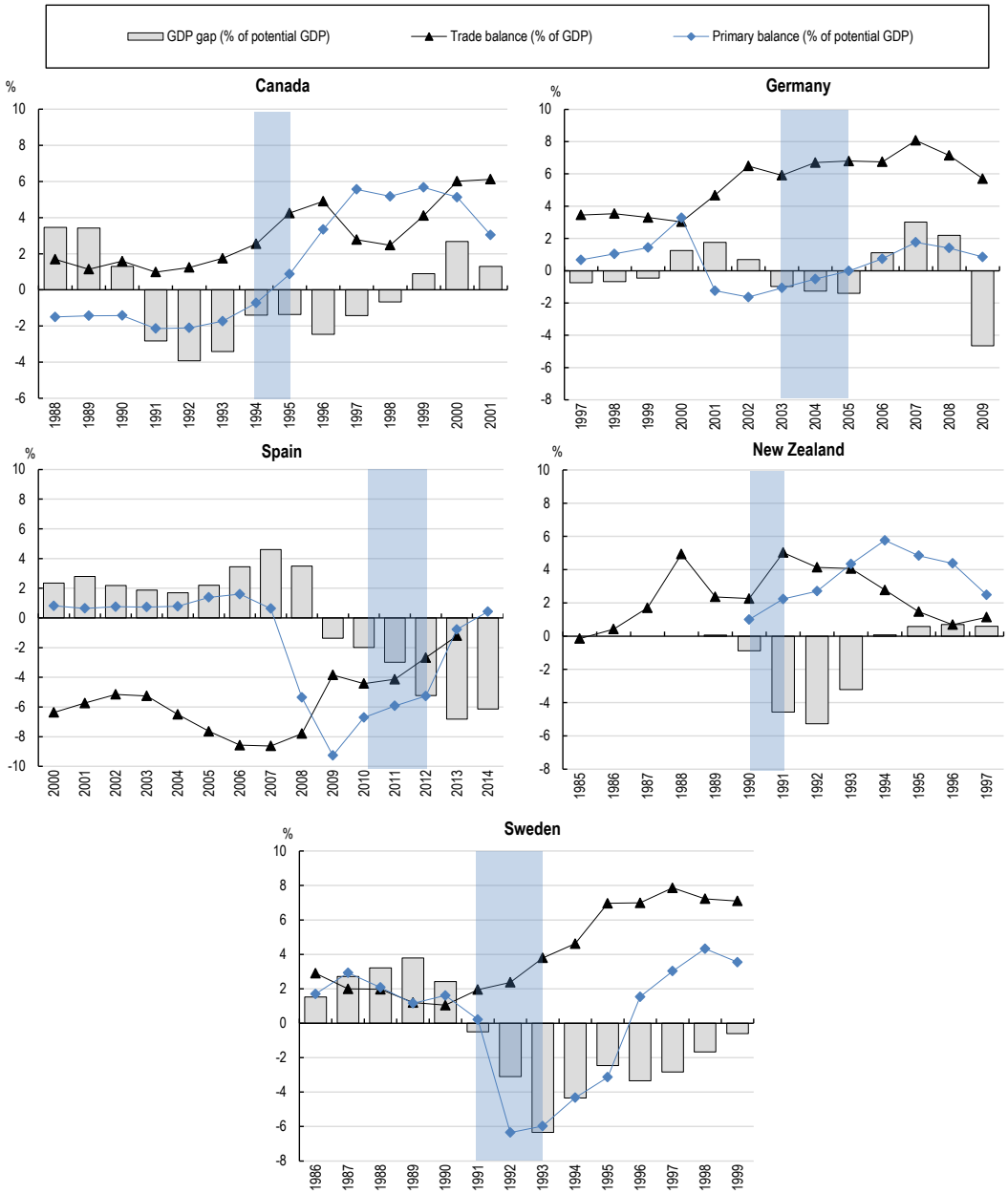
- *Productivity growth helped to boost competitiveness in the short-term:* Productivity growth was high following the crisis. The rapid growth in productivity just after the crisis probably was caused by the layoff of redundant workers during the recession (Flodén, 2013). The reforms in the product market had not been fully implemented at that time and the impacts hereof would also take some time to materialise. Together with the depreciation of the krona the rapid productivity growth made relative unit labour costs in the manufacturing sector fall by more than 30% in 1993, and both exports and the industry sector started growing, although total GDP was still falling.

- *Fiscal policy implemented swiftly, then amplified once the recovery had set in*: The fast increase in debt following the crisis made fiscal consolidation necessary, involving both tax increases and spending cuts (Borg, 2009). The first consolidation measures were adopted in 1992-1993, however, the bulk of the fiscal consolidation took place between 1994 and 1996 (DG Trésor, 2012), when the recovery had already started (Jonung, 2010).

Regarding the long-term impact of reforms, the improvement in Sweden's GDP per capita and productivity growth relative to other OECD countries has persisted (Figure A3.2). However, how much of this improvement can be ascribed to the reforms is an open question, although some evidence suggests that product deregulation led to productivity gains (Erlandsen and Lundsgaard, 2007). Several other factors may have contributed, including better macroeconomic policies and technological improvements, especially in the telecommunications industry, which is relatively important in Sweden (Folster and Peltzman, 2010; and Barkbu et al., 2012).

APPENDIX 3: FIGURES AND TABLES

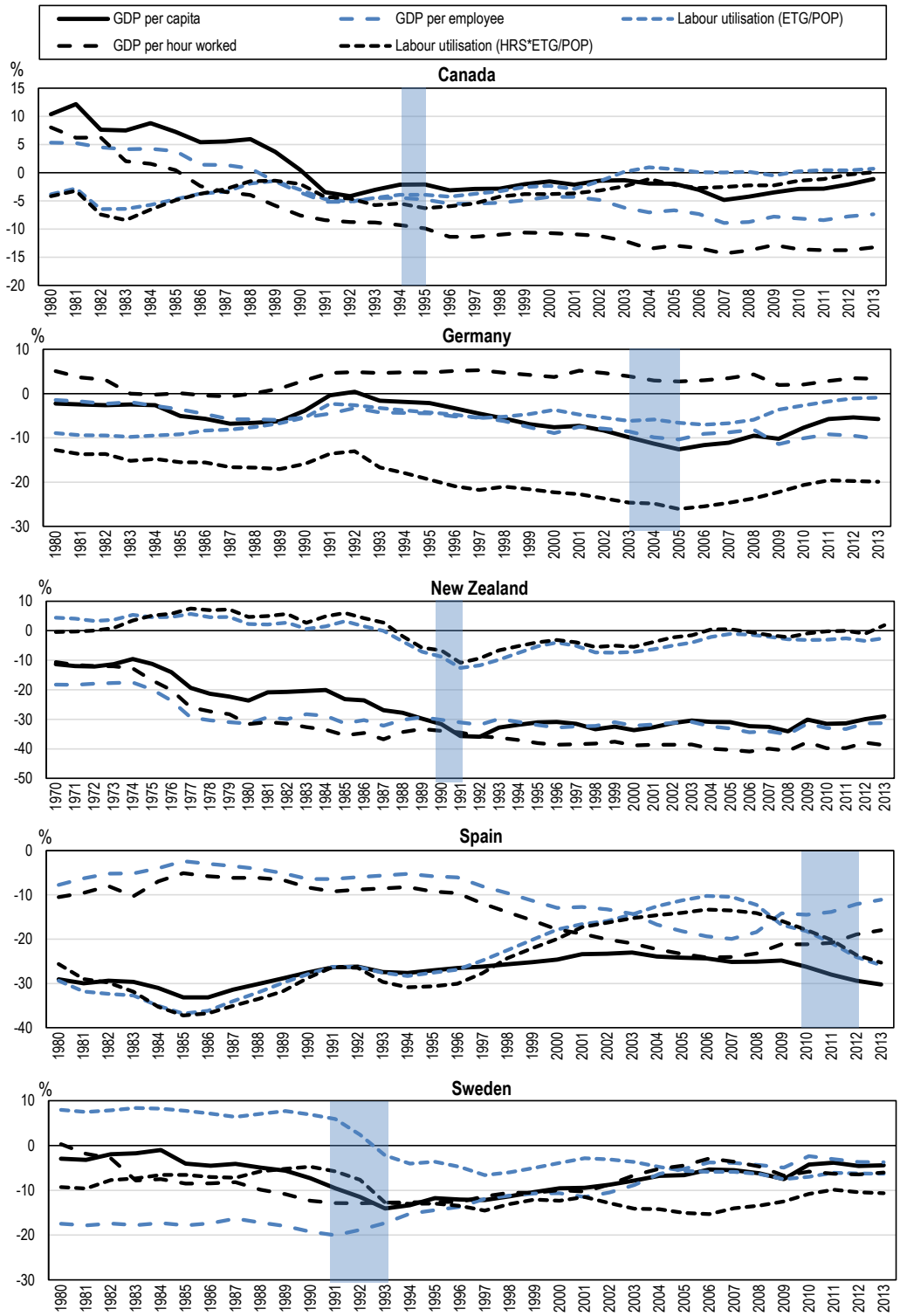
Figure A3.1. Output (GDP) gap, trade balance and primary budget balance



Source: OECD, *Economic Outlook Database*.

Figure A3.2. GDP per capita, labour utilisation and labour productivity

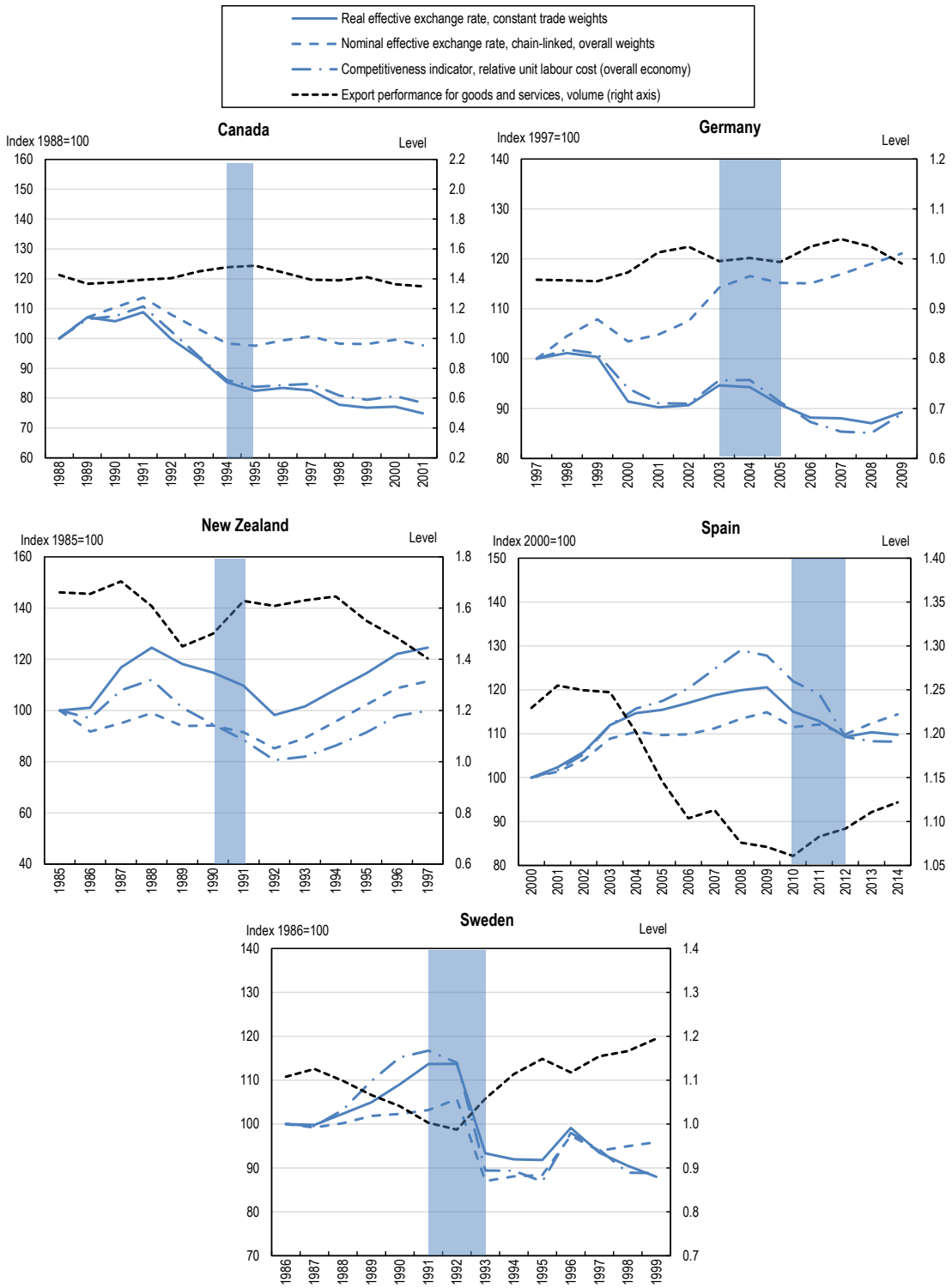
Gap to the upper half of OECD countries, %



Note: HRS refers to average hours worked per person employed, ETG refers to the number of persons engaged and POP to total population.

Source: OECD, *National Accounts and Productivity Databases*.

Figure A3.3. Exchange rates and export performance



Source: OECD, Economic Outlook Database.

Table A3.1. Comparison of case studies

		Canada			Germany			New Zealand			Spain			Sweden		
		Pre-reform (1989-1993)	Reform (1994-1995)	Post-reform (1996-2000)	Pre-reform (1998-2002)	Reform (2003-2005)	Post-reform (2006-2008)	Pre-reform (1985-1989)	Reform (1990-1991)	Post-reform (1992-1996)	Pre-reform (2008-2009)	Reform (2010-2012)	Post-reform (2013-2014)	Pre-reform (1986-1990)	Reform (1991-1993)	Post-reform (1994-1998)
Economic Background																
Output gap (as % of potential GDP)	Average level	-1.1	-1.4	-0.2	0.5	-1.2	2.1	0.1	-2.7	-1.4	1.1	-3.4	-6.5	2.7	-3.3	-2.9
	Annual change (percentage point)	-1.7	0.0	1.3	0.3	-0.2	0.5	na	-3.7	1.5	-4.9	-1.6	0.7	0.2	-2.9	0.7
Unemployment rate	average level	9.7	9.9	8.3	8.5	10.3	8.7	5.0	9.3	8.3	14.6	22.0	25.3	2.5	7.1	11.0
	Annual change (percentage point)	1.0	-0.9	-0.7	-0.2	0.7	-1.3	0.9	2.6	-1.1	6.6	2.5	-1.7	-0.3	3.5	-0.4
Employment (as % of working age population)	Average level	69.5	68.3	70.1	64.3	64.2	68.0	62.4	57.9	58.9	63.6	58.8	56.6	71.3	67.1	62.9
Real private final consumption	Annual growth (percentage)	0.9	2.3	3.9	1.4	0.5	0.2	2.8	-2.3	4.7	-3.6	-2.5	2.4	2.0	-2.2	2.3
Gross housing investments	Annual growth (percentage)	-5.4	-14.5	3.0	-3.4	-4.1	-2.8	2.9	-15.6	10.0	-20.6	-10.9	-1.8	7.3	-23.3	-5.2
Gross business investments	Annual growth (percentage)	-3.2	5.1	8.5	1.1	2.2	4.6	na	-18.5	14.5	na	na	na	7.2	-14.6	10.7
External Condition																
Trade balance (as % of GDP)	Average level	1.3	3.4	4.1	3.5	6.5	7.3	1.9	3.6	2.6	-5.8	-3.7	-1.2	1.8	2.7	6.7
Export market size	Annual growth (percentage)	4.5	8.1	11.0	5.6	8.8	5.4	5.5	2.0	8.2	-10.6	2.7	3.1	4.7	2.4	8.4
Export performance (Ratio of actual exports growth vs gorwht of country's export market size)	Average level	1.40	1.48	1.40	0.98	1.00	1.03	1.62	1.56	1.58	1.07	1.08	1.12	1.09	1.02	1.14
Real effective exchange rate	Annual growth (percentage)	-3.4	-3.3	-1.9	-2.7	-2.1	-0.6	4.3	-4.5	5.6	0.6	-2.5	-0.6	2.2	-9.4	-0.4
Relative unit labour costs	Annual growth (percentage)	-3.1	-2.6	-1.1	-2.8	-2.3	-1.3	0.3	-6.5	5.0	-0.9	-5.3	-0.1	3.6	-12.5	-0.1
Net foreign assets (as % to GDP)	Average level	-38.5	-40.3	-28.5	4.3	12.6	26.3	-57.8	-85.1	-74.6	-83.7	-87.5	-99.4	-18.3	-28.3	-24.7
Fiscal Policy																
Primary balance (as % of potential GDP, cyclically adjusted)	Average level	-1.8	0.1	5.0	0.6	-0.5	1.3	na	1.6	4.4	-7.3	-6.0	-0.2	1.9	-4.0	0.3
Government disbursement excluding interest payment (as % of poential GDP, cyclically adjusted)	Average level	39.4	38.4	34.9	42.8	41.8	40.6	na	40.2	37.1	38.3	38.7	37.2	54.9	57.0	54.3
Current reciept (as % of potential GDP, cyclically adjusted)	Average level	42.8	42.9	43.5	44.5	37.9	43.0	na	45.6	43.8	35.3	36.2	37.1	61.4	59.4	58.5
General government gross financial liabilities (as % of GDP)	Average level	86.1	102.6	98.1	58.9	64.8	64.9	na	na	49.6	46.1	76.0	92.1	52.6	64.3	77.3
Monetary Policy																
Nominal effective exchange rate	Annual growth (percentage)	-1.0	-0.8	0.1	0.7	0.4	1.7	-1.6	-2.7	6.3	1.4	-0.7	0.1	0.6	-8.2	1.9

Sources: OECD, *National Accounts Databases* and *Economic Outlook Database.*