



OECD Economics Department Working Papers No. 493

Nothing Ventured, Nothing
Gained: The Long-Run
Fiscal Reward of Structural
Reforms

**Peter Hoeller,
Claude Giorno**

<https://dx.doi.org/10.1787/658801348663>

Unclassified

ECO/WKP(2006)21

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development

30-Jun-2006

English - Or. English

ECONOMICS DEPARTMENT

**NOTHING VENTURED, NOTHING GAINED:
THE LONG-RUN FISCAL REWARD OF STRUCTURAL REFORMS**

ECONOMICS DEPARTMENT WORKING PAPER No. 493

**By
Peter Hoeller and Claude Giorno**

All Economics Department Working Papers are available through OECD's internet web site at
www.oecd.org/eco/

JT03211630

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

ECO/WKP(2006)21
Unclassified

English - Or. English

Abstract

Nothing ventured, nothing gained: the long-run fiscal reward of structural reforms

The recent reform of the Stability and Growth Pact provides more leeway for EU governments to temporarily breach the 3% deficit limit if this facilitates the implementation of initially expensive reforms. But the implementation of this principle is not obvious as budgets would need to specify the initial and multi-annual budgetary cost and benefit profile of reforms. Budgets should also be explicit about the fiscal cost of inaction to allow a balanced judgment of countries' trade-offs between the various options available. This paper first assesses the information requirements to implement this new form of flexibility built into the Stability and Growth Pact. It then provides simulation exercises to highlight the positive budgetary effects of coordinated structural reforms in the euro area as well as the need for an adequate monetary policy response to make sure that demand adjusts to the improved supply conditions swiftly. The budgetary gains would still depend on the type of reform and their impact on employment and productivity. On the other hand, national policy initiatives by a single country may only have a limited impact, especially in the short term and in the case of a large country. Indeed, in monetary union, the strength of endogenous adjustment mechanisms appears to be weaker in larger countries. Finally, the experience of New Zealand and Australia has shown that the longer-term benefits of reforms both in terms of the budget and overall economic performance are significant. Even so, it is not easy to disentangle the various forces at play. Fundamentally, structural reform and the implementation of smart fiscal frameworks tend to go hand in hand – indeed may be two sides of the same coin.

JEL classification: E37, E62, E63, E65, H6, P52.

Key words: Monetary union, fiscal policy, structural reforms.

* * * * *

Résumé

Qui ne risque rien n'a rien : les bénéfices budgétaires à long terme des réformes structurelles

La réforme récente du Pacte de stabilité et de croissance fournit davantage de marges aux gouvernements des pays de l'UE pour dépasser la limite de 3 % du déficit public si cela facilite la mise en œuvre de réformes initialement coûteuses. L'application de ce principe n'est cependant pas évidente car les budgets devraient indiquer le profil des coûts et bénéfices budgétaires attendus de ces réformes, non seulement dans l'immédiat mais aussi dans une perspective pluriannuelle. Les budgets devraient aussi être explicites sur le coût budgétaire de l'inaction pour permettre une évaluation équilibrée des dilemmes auxquels doivent faire face les pays en fonction des diverses options disponibles. Cet article fournit d'abord une évaluation des besoins d'information pour mettre en œuvre les nouveaux éléments de flexibilité inclus dans le Pacte de stabilité et de croissance. Il présente ensuite des exercices de simulation afin d'illustrer les effets budgétaires positifs de réformes structurelles coordonnées dans la zone euro ainsi que la nécessité d'une réponse de politique monétaire adéquate afin d'assurer que la demande s'ajuste rapidement à l'amélioration des conditions d'offre. Les gains budgétaires seraient alors variables selon le type de réformes réalisées et leur impact sur l'emploi et la productivité. D'un autre côté, des réformes menées dans un pays isolé pourraient n'avoir qu'un effet limité, notamment à court terme dans le cas d'un grand pays. En effet, dans l'union monétaire, la force des mécanismes d'ajustement endogènes semble plus faible dans les grands pays. Enfin, l'expérience de la Nouvelle Zélande et de l'Australie montre que les bénéfices à long terme des réformes sont importants à la fois sur le plan budgétaire et pour les performances économiques d'ensemble, même s'il n'est pas aisé de distinguer l'influence des différentes forces en jeu. Fondamentalement, la réforme structurelle et la mise en place d'un cadre budgétaire pertinent tendent à aller de pair – et semblent en effet être les deux faces d'une même pièce.

Classification JEL : E37, E62, E63, E65, H6, P52.

Mots clés : union monétaire, politique budgétaire, réformes structurelles.

To see previous ECO Working Papers, go to www.oecd.org/eco/working_papers.

Copyright OECD, 2006

**Application for permission to reproduce or translate all, or part of, this material should be made to:
Head of Publications Service, OECD, 2 rue André Pascal, 75775 Paris Cedex 16, France.**

TABLE OF CONTENTS

INTRODUCTION	4
Costing the impact of reform on the budget.....	6
The UK budget: a role model?.....	6
Quantifying the cost of inaction	7
Quantifying the impact of regulatory reform.....	11
Structural reform, feedback mechanisms and fiscal performance: what can a macro-model tell?	12
Effects of coordinated reform in monetary union.....	12
Structural reform in a single country in monetary union.....	17
Effects of a decline in structural unemployment with a more active fiscal policy	20
“Big bangs” and gradualism: the experiences of New Zealand and Australia	20
Policy implications.....	24
Bibliography	25

Box

Box 1. Dynamic scoring.....	7
-----------------------------	---

Tables

1. The costing of Budget policy decisions in the UK	5
2. Gross and net debt development.....	9
3. New Zealand over the last three decades.....	19
4. Australia since 1973.....	22

Figures

1. Implicit tax on continued work: early retirement.....	7
2. Income support for disability	8
3. European social systems: employment rates and probability of escaping poverty	9
4. Trend growth and fiscal policy	10
5. Simulated impact of various structural shocks in the euro area.....	13
6. Impact of a lower NAIRU in the euro area under alternative monetary assumptions	15
7. Impact of a lower NAIRU in a small euro area country	17
8. Impact of a lower NAIRU in a large euro area country	18
9. Impact of a lower NAIRU in a large euro area country under alternative fiscal assumptions.....	20

Nothing ventured, nothing gained: the long-run fiscal reward of structural reforms

Peter Hoeller and Claude Giorno¹

Introduction

1. We take it for granted that fiscal discipline is important because: large deficits and rising debt undermine the long-run sustainability of fiscal policy, excessive deficits will be a burden on future generations, fiscal policy volatility can undermine growth and a pro-cyclical policy can destabilise the economy (Fatás, 2005). Fiscal rules are one way to cope with such fiscal policy biases, even though they need to be underpinned by institutional settings so that they can be enforced at the national, and in the case of the euro area, at the Community level.

2. These concerns were not at the root of the EU fiscal framework. It was designed to address another key concern, namely that once exchange rates within the single currency area ceased to exist, financial markets would no longer discipline fiscal policy. Fiscal profligacy in one country could affect area-wide interest rates and crowd out economic activity in other countries. Even though interest rate differentials across the euro area countries have narrowed despite a divergent fiscal performance, there is little evidence of spill-over effects. The main reason probably is that there is little to crowd out due to persistent economic slack in the large euro area countries.

3. This may be one reason why the arguments in favour of rules-based fiscal co-ordination have shifted towards long-term issues, as they should, especially because ageing-related concerns oblige governments to recognise the implications of current budget decisions for public finances in the future. Also, greater attention has progressively shifted to the incentives built into budgetary institutions that produce fiscal biases (higher deficits, expenditure and taxes). Even though these institutions have improved to some extent, they are still lagging best practice in many euro area countries.

4. At the same time, calls to make the Pact more flexible have mushroomed. Some were motivated by new member countries' need to boost infrastructure outlays, against the backdrop of relatively low public debt levels. Some observers have argued in favour of the "golden rule", along the lines of the one introduced in 1997 in the United Kingdom.

1. The authors are members of the Economics Department. The views expressed are those of the authors and not necessarily of the OECD. This is part of a paper, earlier versions of which were presented at the European Commission Workshop on the Budgetary Implications of Structural Reforms held in Brussels on 2 December 2005 and at the Banca d'Italia Workshop on Public Finance in Perugia on 30 March to 1 April 2006. The authors are indebted to Roel Beetsma, Boris Cournède, Marco Buti, Ekkehard Ernst, Vincent Koen, Annabelle Mourougane, Paul van den Noord and Dave Rae for their valuable comments. We are indebted to Sara Crohem and Celia Rutkoski for technical assistance.

5. Another rationale for a rewrite of the rules is that structural reform is expected to yield long-term economic gains but often entail up-front costs that may dissuade governments from implementing structural reforms. The expected gains of structural reforms are usually uncertain, long-term and spread out across the economy whereas any political and budgetary costs, such as compensation schemes to offset redistributive effects, are more tangible, are felt immediately and are more concentrated. Moreover, some reforms will involve J-curve effects; a cut in taxation will reduce budget receipts immediately while effects on incentives to work, save and invest may take some time before they materialise. This asymmetry could discourage reforms, especially in a monetary union, where they cannot be supported via an easing of monetary policy. Similarly, a move towards privately-funded pension schemes typically leads to deficits in the public scheme but initial surpluses in the private schemes as contributors transfer to them.

6. According to the fiscal rules a waiver can be granted under the excessive deficit procedure to countries on the basis of “exceptional circumstances” (EC, 2005a and EC, 2006). While the Treaty had already stipulated that “other relevant factors” should be part of the “exceptional circumstances”, these were not specified. The revamped Pact decided by the European Council in March 2005 specifies them and the conditions under which they are taken into account. These include efforts to pursue the Lisbon agenda, to foster R&D or “a high level of financial contributions” to underpin the “unification of Europe” and “international solidarity” (development aid). Consideration would also be given to pension reforms. Concerning the Lisbon agenda, the new Council Regulation observes: “In order to enhance the growth-oriented nature of the Pact, major structural reforms which have direct long-term cost-saving effects, including through raising potential growth, and therefore a verifiable impact on the long-term sustainability of public finances, should be taken into account when defining the adjustment path to the medium-term budgetary objective for countries that have not yet reached this objective and in allowing a temporary deviation from this objective for countries that have already reached it” (EC, 2005b). All these provisions, however, only apply if “an excess over the reference value is temporary” and if the deficit ratio “remains close to the reference value”, as stipulated in the Treaty. In its assessment of the most recent batch of stability programmes the Commission (EC, 2006) noted that no structural reforms were taken into account in setting adjustment path towards the medium-term fiscal objectives because of the lack of information provided in the programmes on the content of reforms and their budgetary implications. Moreover, there were virtually no cases of structural reforms being discussed.

7. Against this backdrop we will address the following three questions:

- Do governments actually know the size of the upfront cost of structural reform or do they at least make any efforts to estimate them? This is an important question, because without such estimates it is hard to see what could eventually underpin a waiver. Unfortunately the answer is a qualified no, as will become clear in the first section of this paper.
- What can the economics profession contribute to estimating the long-run gain of structural reform? The usual instrument is to look at macroeconomic feedback mechanisms and to simulate various scenarios with an economic model to study the fiscal implications of reforms that affect technical progress, the participation rate or the natural rate of unemployment in different settings. This is what we will do in the second section.
- What do historical examples of deep structural reform say about the interplay between structural reform and public finances? The answer from New Zealand and Australia is that their structural reform programmes were followed by a very strong improvement in their fiscal positions.

Costing the impact of reforms on the budget

The UK budget: a role model?

8. Assessing the budgetary implications of structural reforms in the short, medium and long run is shrouded with many difficulties. In many cases, governments do provide a costing of changes in tax and spending plans and often also beyond the current budget.² Obviously, changes in tax and spending plans are pursued for many other purposes than purely fiscal ones. UK Budgets (HMT, 2001, 2002, 2003 and 2004), for instance, provide an assessment of Budget policy decisions over a three-year horizon under the following headings: meeting the fiscal rules and funding public services; meeting the productivity challenge; increasing employment opportunity for all; building a fairer society; a modern and fair tax system; and protecting the environment.

9. Budget 2002, for instance, lists 54 spending and tax measures and estimates their budgetary effect. The budgetary impact of 16 measures implemented since Budget 2001 are estimated as well. The biggest measure was a payroll tax increase and the second biggest an increase in the generosity of the Child Tax Credit and Working Tax Credit for families with children. All other measures were small, ranging from beer duty relief for small brewers to simplifying capital gains tax. While the list of measures is long, only those are included where the impact of the decisions and circumstances can be quantified with reasonable accuracy. Moreover, spending that is fixed by the spending reviews and embedded in Departmental Expenditure Limits is not included in the Budget costing of decisions. In 2002, the net fiscal impact of the identified spending and revenue measures was nearly 1% of GDP, but considerably lower in most other Budgets (Table 1). In comparison, the forecasting error for the deficit was equivalent to 1% of GDP for the year-ahead projection in recent years and nearly 1½ per cent of GDP for the two-year ahead projection. There is no strong hint in the Budget costings that reforms have generated large budgetary costs in the short term. However, this is so mainly, because the spending underpinning the ongoing reforms to health, education and infrastructure are built into (hence respect) the Departmental Spending Limits.

Table 1. The costing of Budget policy decisions in the UK
Budgetary measures as a per cent of GDP¹

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07
Budget 2001	-0.2	+0.2	+0.3			
Measures since Budget 2000	-0.3	-0.4	-0.3			
Budget 2002		-0.1	+0.6	+0.7		
Measures since Budget 2001		-0.0	-0.2	-0.2		
Budget 2003			-0.1	-0.0	+0.0	
Measures since Budget 2002			+0.1	+0.0	+0.1	
Budget 2004				-0.1	+0.0	-0.0
Measures since Budget 2003				-0.1	-0.1	-0.1

1. A plus sign indicates an Exchequer yield.

Source: HM Treasury, Budget 2001, 2002, 2003, 2004.

10. What this spending has achieved is open to debate, as the new metrics to measure government outputs, following the Atkinson Review, are not yet fully in place. Assessments of feedbacks of tax and spending changes on economic activity are even rarer. HMT's effects of budget measures, for instance, do not include effects on overall levels of income and spending. This is not surprising, because there is often no consensus on effects. Depending on the underlying model and empirics, a rise in payroll taxes can have

2. According to the 2003 Survey on Budget Practices and Procedures (available at <http://ocde.dyndns.org/>), 55% of the OECD countries provide multi-year cost estimates for all new spending items, and another 20% do it for some mandatory spending items. The survey does not cover revenue changes.

a negative short, medium or long-term impact on structural unemployment, or none at all. Effects of R&D tax credits or grants on R&D spending and ultimately growth are notoriously difficult to quantify. Or the effect of savings incentives on substitution between different savings vehicles versus aggregate savings is usually impossible to pin down. And sometimes, long lags imply that any discernible effects of reforms would only show up after many years. Still, in the United States, attempts are underway to include feedback effects in assessing tax and spending proposals (Box 1).

Box 1. Dynamic scoring

In the United States, legislative proposals are scrutinised by the Congressional Budget Office (CBO) and the Joint Committee on Taxation (JCT). They provide a baseline and forecasts of the changes in expenditure and revenues that would result from proposed legislation over the following ten years.¹ The forecasts provide a cost estimate or "score", for each piece of legislation that is reported by a Congressional committee (Page, 2005). In the past, the scoring was static, not taking into account macroeconomic feedback effects. Dynamic scoring, which is still in its infancy, takes into account induced changes on output, inflation, interest rates or other macroeconomic feedbacks. The scoring is important as it influences how favourably initiatives are viewed in Congress and the Senate. A tax cut, for instance, could raise output significantly, with a large cut in tax rates having little implication for net government revenues. If this feedback is not included, the tax cut will be viewed less favourably by Congress, which is usually constrained to keep the total revenue cost of a tax package within pre-set targets (Altshuler *et al.*, 2005)

The outcome of dynamic scoring depends on the models used and on assumptions about macroeconomic policy reactions. In assessing the 2004 budget, forward-looking, life-cycle growth models and more traditional macroeconomic forecasting models were used. For the latter, various monetary policy reactions to the fiscal stimulus were simulated, while the growth models differ in various respects. Given different models and assumptions, the outcomes differed widely. Concerning the JCT's analysis, incorporating dynamic effects reduced the net revenue cost of one proposal by 6 to 28% over the first five years and 3 to 23% over the second five years. Auerbach (2005) concludes from these first attempts, that "... it seems clear that dynamic scoring analysis has value, but also that adjustments to estimates are smaller than some might have expected. The process to date offers some support to those on both sides of the debate. On the one hand, the ability of CBO and JCT to produce dynamic analyses of complex, realistic proposals lends credence to the argument that dynamic analysis and, indeed, dynamic scoring may be feasible. On the other hand, the many models used and the many assumptions needed leave many with doubts about the quality of these estimates and how they would fit into the budget scoring process as currently structured."

1. On the expenditure side, the CBO provides the baseline and the scoring, on the revenue side the CBO provides the baseline and the JCT the scoring.

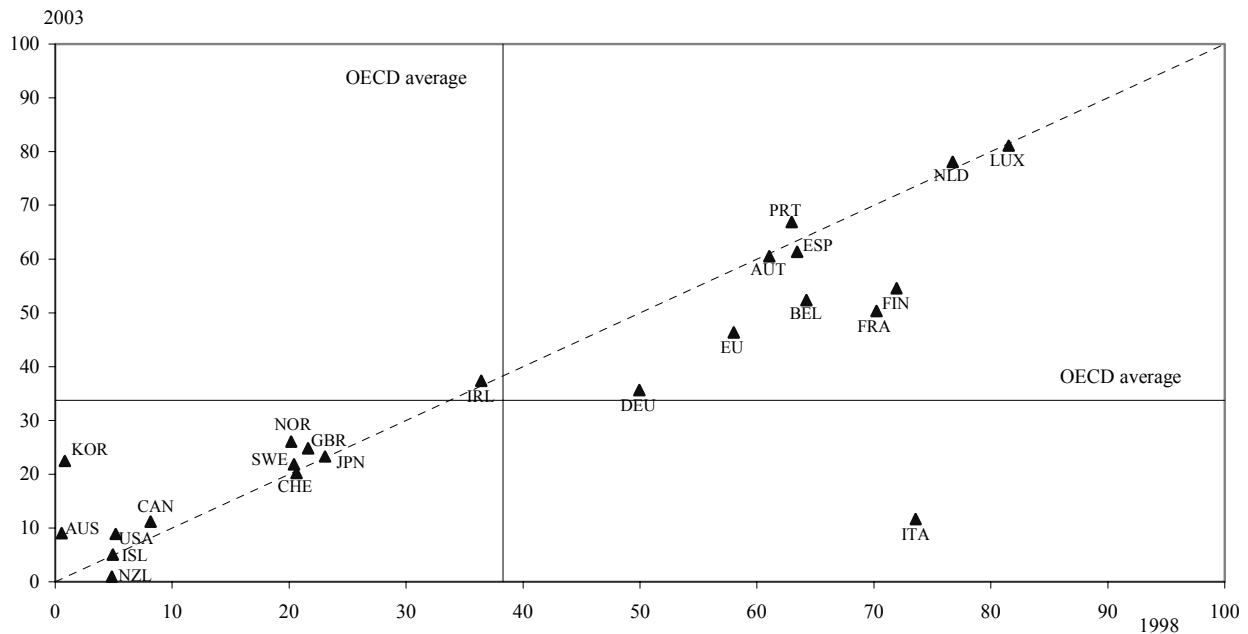
Quantifying the cost of inaction

11. One could argue that, before allowing more leeway under the fiscal rules, unproductive spending should be pruned first, which would probably leave enough room to spend on priority areas, without running up against the deficit limit. Similar issues relate to reforms, or the lack thereof, of budgetary frameworks, which are far from being best practice in many EU countries (Journard *et al.*, 2004). The design of reforms themselves may also be problematic: perhaps the scope for more cost-effective approaches is not being exploited. There are many examples of government spending programmes that tend to undermine growth, come at a high budgetary cost, sometimes grow considerably faster than GDP and are difficult to reform. They crowd out more productive government spending programmes. As such programmes tend to push countries towards the Maastricht deficit limit, the question arises whether policy inaction in such areas should not be taken into account, when granting greater flexibility on spending in priority areas.

12. The potential sources of fiscal stress built into government programmes are multiple. Fiscal pressures may mount because of biased incentives of government programmes, for example in the case of early retirement and disability schemes. The implicit tax on continued work, which gauges incentives to quit work before the retirement age, is very high in many European countries (Figure 1). There have been

reforms, but most were minor, though Italy lowered the implicit tax a lot between 1998 and 2003. Early retirement lowers labour utilisation and has fiscal costs that can amount to several per cent of GDP. Similarly, the number of disability benefit recipients varies considerably across countries and only a few countries were successful in reducing the number of beneficiaries (Figure 2). In fact, in many countries, the number of beneficiaries keeps on rising rapidly.

Figure 1. Implicit tax on continued work: early retirement^{1,2}

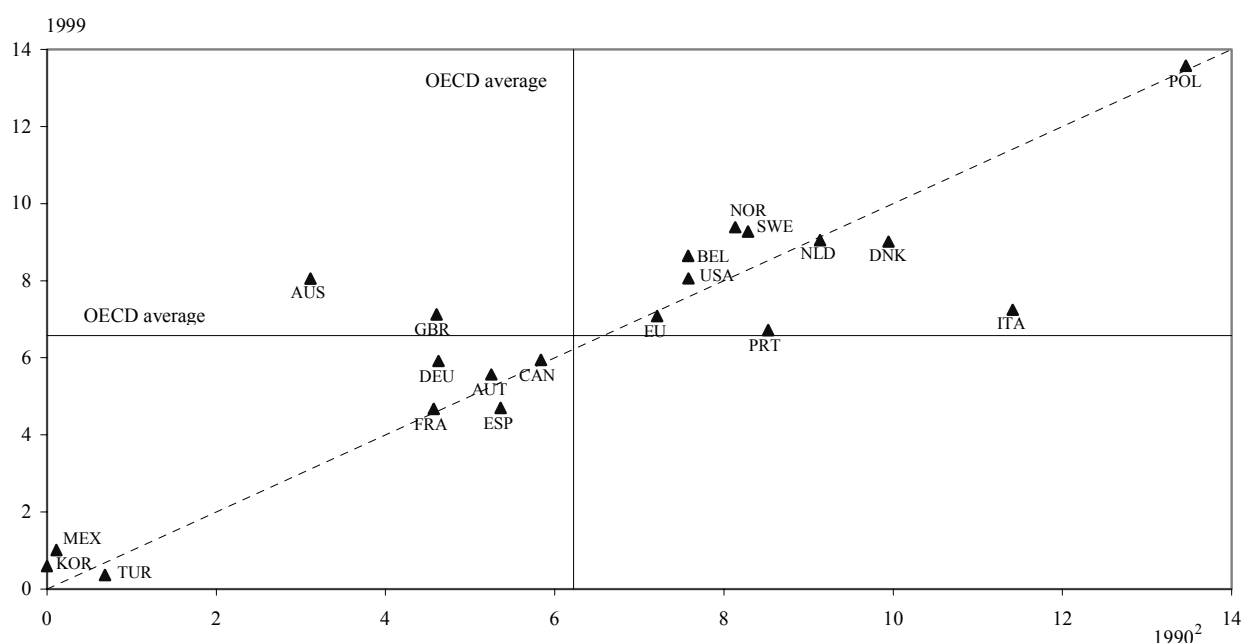


1. Average of implicit tax on continued work in early retirement route, for 55 and 60 year olds.

2. EU: 15 European countries excluding Denmark and Greece.

Source: OECD (2005), *Going for Growth*, OECD, Paris.

Figure 2. Income support for disability
Share of working age population non-employed and receiving disability benefits¹ (per cent)



1. EU15 excluding Finland, Greece, Ireland and Luxembourg.

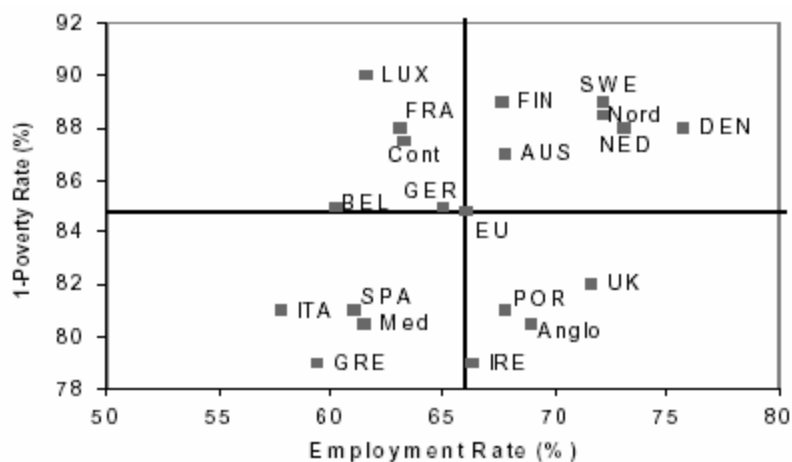
2. 1995 for Austria, Mexico and Poland.

Source: OECD (2005), *Going for Growth*, Paris.

13. There are also cases, where reform efforts have been considerable, but reform outcomes tend to fall short of expectations. Majnoni d'Intignano (2001), for instance, argues that health reforms in France are recurrent, actually close to one every year between 1975 and 2000, but have barely dented spending growth, or have slowed growth in one year, but with a catch-up towards the underlying spending trend the next. The costing of changes in government programmes is not too difficult for programmes that are relatively simple and where at least some changes in policy parameters influence private decision making in a straightforward way: the implications of pension reforms, for instance, have been well researched by the Commission or the OECD. More complex issues, like the effects of health care reforms are much more difficult to quantify. There are many actors and incentive effects are difficult to model.

14. The cost of inaction can be illustrated by resorting to the now fashionable distinction between the Nordic, Anglo-Saxon, continental and Mediterranean social models. Boeri (2002), for instance, compares their performance in terms of meeting three objectives: reductions in income inequality and poverty; protection against uninsurable labour market risk; and the reward to labour market participation. And indeed, geography and economic characteristic tend to coincide, though the match is not perfect. Sapir (2005) uses the same typology, but focuses on efficiency and equity aspects: Efficiency is measured by a high employment rate and equity by a low poverty rate.

15. Figure 3 shows that all Nordic and Anglo-Saxon countries are above average in terms of employment, whereas most continental countries (except Austria and the Netherlands) and Mediterranean countries (except Portugal) rank below average. On the other hand, poverty is relatively high in the Mediterranean and Anglo-Saxon countries and relatively low in the continental and Nordic countries. Sapir (2005) has analysed the reasons for these differences. What is important in the context of this paper is the fiscal sustainability of social models. Net public debt as a per cent of GDP is much lower in the "efficient" countries and much higher in the continental and Mediterranean countries (Table 2). Moreover, debt does not tend to come down much in the high-debt countries (except Belgium), while it has stayed low or even come down further in most better-performing countries.

Figure 3. European social systems: employment rates and probability of escaping poverty

Source: Sapir (2005).

Table 2. Gross and net debt development

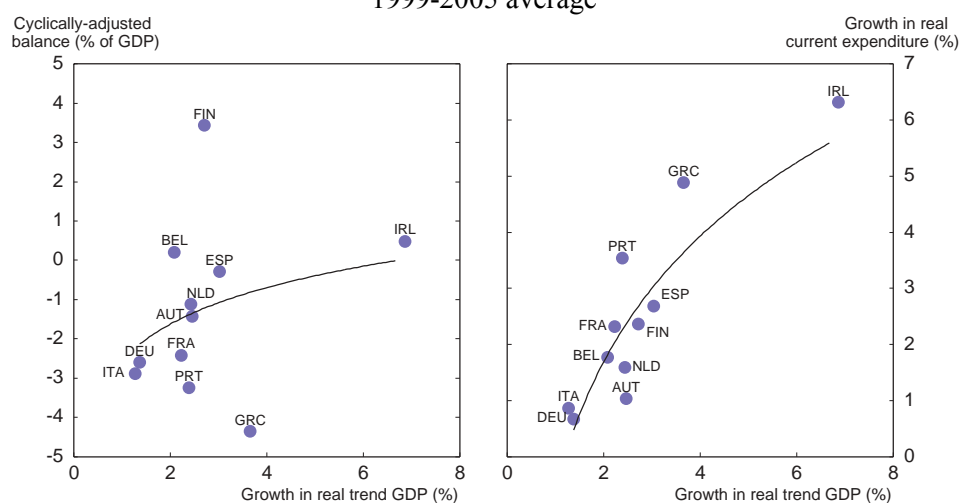
	Gross debt % of GDP	Net debt % of GDP	Change in	
	2005	2005	Gross debt	Net debt
	1993 - 2005			
Nordic model				
Sweden	61	-6	-18	-16
Finland	48	-41	-4	-24
Denmark	48	2	-11	-23
Netherlands	66	-28	-32	-7
Austria	65	39	3	-2
Anglo-Saxon model				
United Kingdom	46	39	-3	6
Ireland	30	..	-65	..
Portugal	78	46	0 ¹	20 ¹
Continental model				
Germany	72	61	24	33
France	74	45	22	17
Belgium	100	90	-45	-38
Mediterranean model				
Italy	121	98	-5 ¹	-3 ¹
Spain	53	31	-14	-10
Greece	108	..	-2	..

1. 1995-2005

Source: *Economic Outlook* No. 77 database, OECD, Paris..

16. A similar pattern emerges when looking at growth performance and fiscal policy (Figure 4). In the period 1999-2005, trend growth was only 1½ per cent per year on average in the three major euro area countries, but 3¼ per cent in the smaller countries. Faster growth coincides with a strong fiscal performance, while the contrary tends to be true for the slower-growing countries. Econometric work provides evidence that fiscal consolidations are more likely to be undertaken and successful if trend economic growth is high (von Hagen *et al.*, 2002). At the same time, the smaller fast growing-economies were able to maintain fairly rapid growth in public spending while keeping their government deficits in check. Greece is of course an important exception with soaring spending and a whopping government deficit despite strong growth.

Figure 4. Trend growth and fiscal policy
1999-2005 average



Source: *Economic Outlook* No. 77 database, OECD, Paris.

Quantifying the impact of regulatory reform

17. Things become even trickier when assessing the effects of changes in the regulatory stance on growth and government budgets. The OECD has developed a broad range of indicators concerning the stringency of labour and product market regulations.³ The OECD has also produced a lot of empirical work that traces the effects of the regulatory stance on employment and unemployment rates, R&D intensity and ultimately growth. This work has culminated in the OECD's Growth Project (OECD, 2001) and feeds into the ongoing structural surveillance work (OECD, 2005). Substantial methodological progress has been achieved in constructing structural policy indicators with an econometric link to economic performance.

18. Such inventories are potentially very useful, but there are also limitations, when assessing the budgetary implications of structural reforms:

- These inventories leave out a wide variety of regulations, such as health and safety or environmental regulations, which could have a budgetary impact.
- There is in general no direct link between these inventories and budgetary effects and it would seem difficult to establish the link between reforms and side-payments to get reforms underway.

19. Moreover, while the body of empirical work on growth is enormous, there are still considerable disagreements about what reforms can achieve in the short and long term. In particular, the short-term adjustment costs associated with reforms are under-researched. Moreover, results are data-quality, model and estimator dependent. While cross-country growth regressions have been an extremely popular means of testing ideas about the sources of growth, many of the variables claimed to be significant have not passed tests of statistical robustness (Ahn and Hemmings, 2000). Another problem is the lack of accepted formal theoretical models that can accommodate the wide range of variables that are often included as explanatory variables, despite advances in the theory of economic growth. A related issue is that causal links between aggregate economic variables and growth are bi-directional, hence most estimates are likely to suffer from endogeneity problems.

3. The World Bank has also developed inventories of policy measures. Another example is the indicators developed by the Fondazione Rodolfo De Benedetti.

Structural reform, feedback mechanisms and fiscal performance: what can a macro-model tell?

20. Even if reforms have measurable direct beneficial effects on primary spending, their overall effect on the fiscal position depends on economic feedback mechanisms and will vary across countries. To quantify the impact of these mechanisms, several simulations were run with the OECD's Interlink model. They show how the macroeconomic effects of structural reform can vary across different situations, and in particular they illustrate the difference between concerted reform efforts versus reforms in a single country.

Effects of coordinated reform in monetary union

21. Simulations have been run to quantify the benefits from co-ordinating structural reform with monetary policy in the case of the euro area. To set a benchmark, we first construct scenarios in which co-ordination with monetary policy is absent. Three scenarios are run: first, total factor productivity is raised; second, labour force participation increases; and third, structural unemployment is reduced. These changes affect the large euro area countries and thus the overall performance of the euro area, for which the level of potential output increases by 1¼ per cent over eight years. The reforms all imply lower inflation and are accompanied by lower interest rates in a way that keeps real interest rates unchanged. Exchange rates are assumed fixed, except in one simulation. Finally, tax rates are kept constant and also government consumption and investment are held fixed in real terms. The results are represented with respect to a baseline scenario which goes to 2012, which is based on the premise that countries converge gradually to their potential production level.⁴

Effects of a rise in trend productivity

22. The first simulation illustrates the effect of a productivity gain on macroeconomic and budgetary performance. As many studies have shown there is considerable potential to raise productivity in the euro area, be it by product and labour market reforms or stronger innovative activity (OECD, 2003 and 2004). The simulation assumes that the level of trend labour productivity goes up by a cumulated increase of 2% over eight years. In the simulation, stronger productivity growth leads to a gradual rise in real wages, which is compatible with lower inflation (Figure 5). This raises internal demand and boosts net exports, which benefit from improved competitiveness. Total demand rises somewhat faster than potential output and the output gap closes more quickly than in the baseline. The budget balance improves in actual and structural terms by about 1¼ per cent of GDP at the end of the simulation period. This is mainly due to the lower nominal interest rates and to a lesser extent to improved social accounts. The reduction of the deficit allows only a small decline in the debt/GDP ratio, because lower inflation lowers nominal GDP growth.⁵

4. Medium-term scenarios that prolong the short-term projections are regularly up-dated by the OECD. They are based on the premise that the output gap will close over the scenario's horizon (by 2012), while unemployment converges to the structural unemployment rate. Commodity prices and exchange rates are held fixed in real terms, while the oil price declines from \$54 at the end of 2007 to \$44 per barrel by 2012. Monetary policy aims at price stability, while fiscal policy remains unchanged, with the primary budget balance virtually stable between 2007 and 2012 in most countries. Details can be found in the OECD Economic Outlook 78 (2005).

5. The debt profile is determined by the following equations:

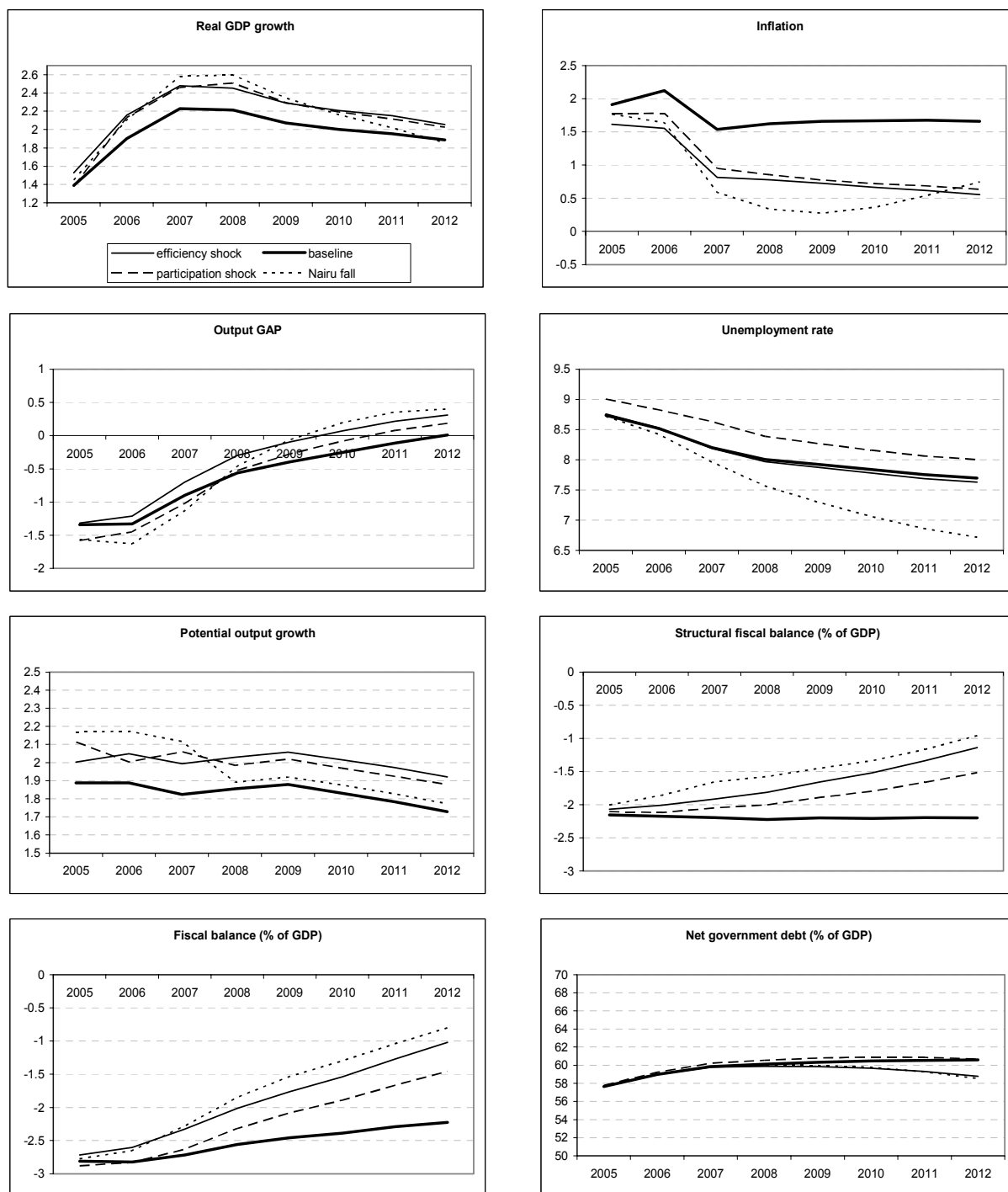
$Debt(t) = \text{primary balance}(t) + \text{debt}(t-1) \cdot (1 + r(t)) / (1 + g(t))$ with $r(t)$ being the nominal interest rate at t and $g(t)$ nominal growth of GDP. With no improvement in the primary budget, lower inflation tends to lower the growth of nominal GDP, which offsets the effect of lower interest rates. In this case public debt will change little with respect to the baseline. If, however, nominal growth declines more than interest rates, a snow-ball effect will raise indebtedness, even if there is no deterioration in the primary budget balance.

Effects of a rise in participation

23. Figure 5 allows a comparison of these first results with a simulation of an increase in labour force participation. Considerable room for increases also exist in this domain, especially by sharpening incentives for young and older workers to work and by removing obstacles to participation by females (Burniaux *et al.*, 2003). In this simulation it is assumed that changes in incentives push up trend participation by 1 percentage point gradually over eight years. As in the earlier case, domestic demand and net exports rise. The rise in participation leads, however, to some rise in unemployment, which leads to lower real wages and inflation, which stimulates competitiveness and employment and finally disposable income. Demand is, however, initially not rising as fast as supply, so that the output gap is higher for some years. The budgetary situation also improves in this simulation, while the debt/GDP ratio remains close to the baseline. The improvement of the budgetary situation is likely however to be somewhat underestimated. Especially a rise in the participation of older workers would reduce spending on early retirement, while unemployment should return to the baseline level over the longer term.

Effects of a decline in structural unemployment

24. Also a decline in structural unemployment would raise the employment rate and potential output. This is illustrated by a third simulation which reduces structural unemployment gradually by 1 percentage point over the first three years. The increase in potential output is thus concentrated in these years and initially the output gap widens by more than in the other simulations. This leads to a larger real wage and inflation deceleration than in the other two simulations (Figure 5). This stimulates employment, profitability and competitiveness and leads to stronger internal and external demand. The budgetary improvement is somewhat stronger than in the preceding cases. This is because of lower unemployment. In conjunction with the effect of lower interest rates on the budget, also the debt/GDP ratio declines somewhat.

Figure 5. Simulated impact of various structural shocks in the euro area

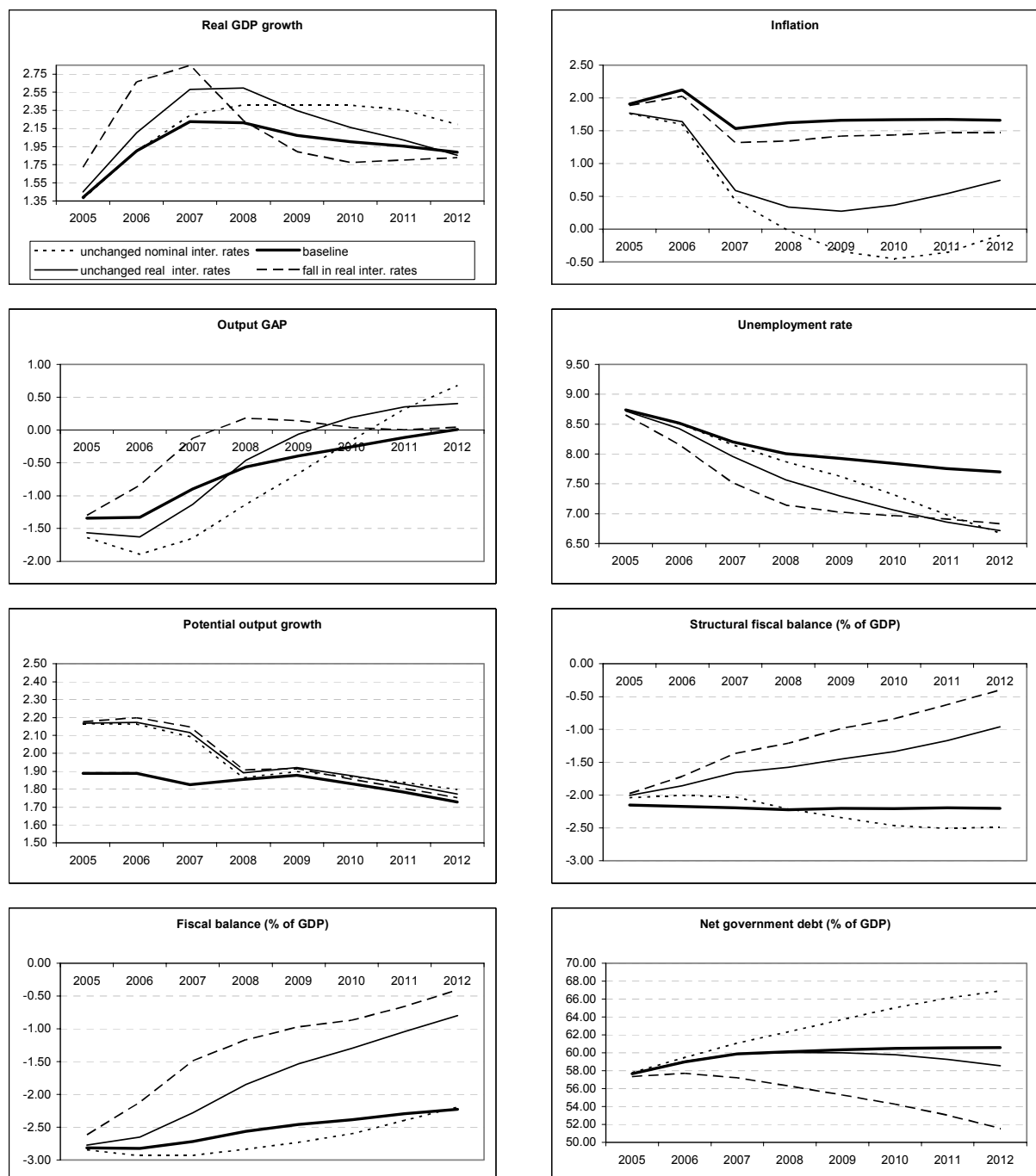
Note: The nature of the shocks is specified in the main text. The nominal exchange rate and real interest rates are kept unchanged relative to baseline. Real government expenditure is also kept at the baseline level.

25. The simulations show the positive medium-term effects of the reforms on the government budget, with the gains being larger in the simulations that show a stronger improvement in the primary budget balance. However, the effects on indebtedness are minor, because of the deceleration in inflation induced by the reforms. A more accommodating monetary policy would contribute to improve the budgetary results further. The central role of monetary policy in accompanying the reforms is shown by simulations that again reduce the structural unemployment rate, but now under alternative monetary policy assumptions. The first assumes that real interest rates decline as well as the exchange rate, while the other assumes that nominal interest rates and exchange rates stay at the baseline level.

26. The simulation shown in Figure 6 suggests that an easier monetary policy would stimulate demand considerably. It is assumed that real interest rates are about 100 basis points below the baseline level on average over the simulation period, while the euro is assumed to decline by 5% in real effective terms.⁶ The effects on external and internal demand would push the output gap above the baseline level, which would limit the deceleration of inflation. The budgetary improvement would be considerably stronger, in terms of deficits and of debt developments. Concerning the latter, the impact of the improvement in the primary deficit of lower interest rates is not offset by the disinflationary effect and the debt/GDP ratio would decline by 10 percentage points with respect to the baseline at the end of the simulation period.

27. If, on the other hand, nominal interest rates and exchange rates are kept at their baseline values, the higher real interest rates dampen demand considerably and the output gap remains larger than in the baseline scenario throughout the simulation period (Figure 6). With activity weaker and unemployment higher, the improvement in the primary deficit is much slower to come, while nominal GDP rises by less because of lower inflation. The debt/GDP ratio deteriorates considerably as the snow-ball effect is reinforced by lower inflation.

6. In this simulation the exchange rate is assumed to respond to both inflation and interest rates developments. On the one hand, an exchange rate purchasing power parity rule applies in the long term, implying stable real effective exchange rates. On the other hand, the lower real interest rates in the euro area induce a real depreciation of the euro exchange rate at least for some time.

Figure 6. Impact of a lower NAIUR in the euro area under alternative monetary assumptions

Note: The Nairu is assumed to fall progressively by 1 percentage point in the first three years of the stimulation. The nominal exchange rate is kept unchanged relative to baseline in the case of the simulations with fixed nominal or fixed real interest rates relative to baseline. A flexible exchange rate assumption is retained for the simulation with a fall in the real interest rate. Real government expenditure is kept unchanged at the baseline level.

Structural reform in a single country in monetary union

28. In the previous set of simulations it was assumed that all countries embark on structural reforms simultaneously. However, this may not occur in reality, which raises the issue whether the incentives for (or reward of) structural reform is sufficiently strong for individual countries. There may also be a divide between small and big countries in this regard, due to the difference in openness of their respective economies.

Effects of a decline in structural unemployment

29. The importance of monetary policy in facilitating the adjustment of demand to a rise in supply and for improving budget balances leads to questions about the reforms pursued by a single country in the euro area. This divide appears clearly when simulating the impact of a gradual decline in the structural unemployment rate by 1½ percentage points over three years in a small (Belgium) and a large (France) country. They are based on the same assumption as above: the nominal interest rate and the exchange rate are fixed at the baseline level. The results show a marked contrast between the two countries.

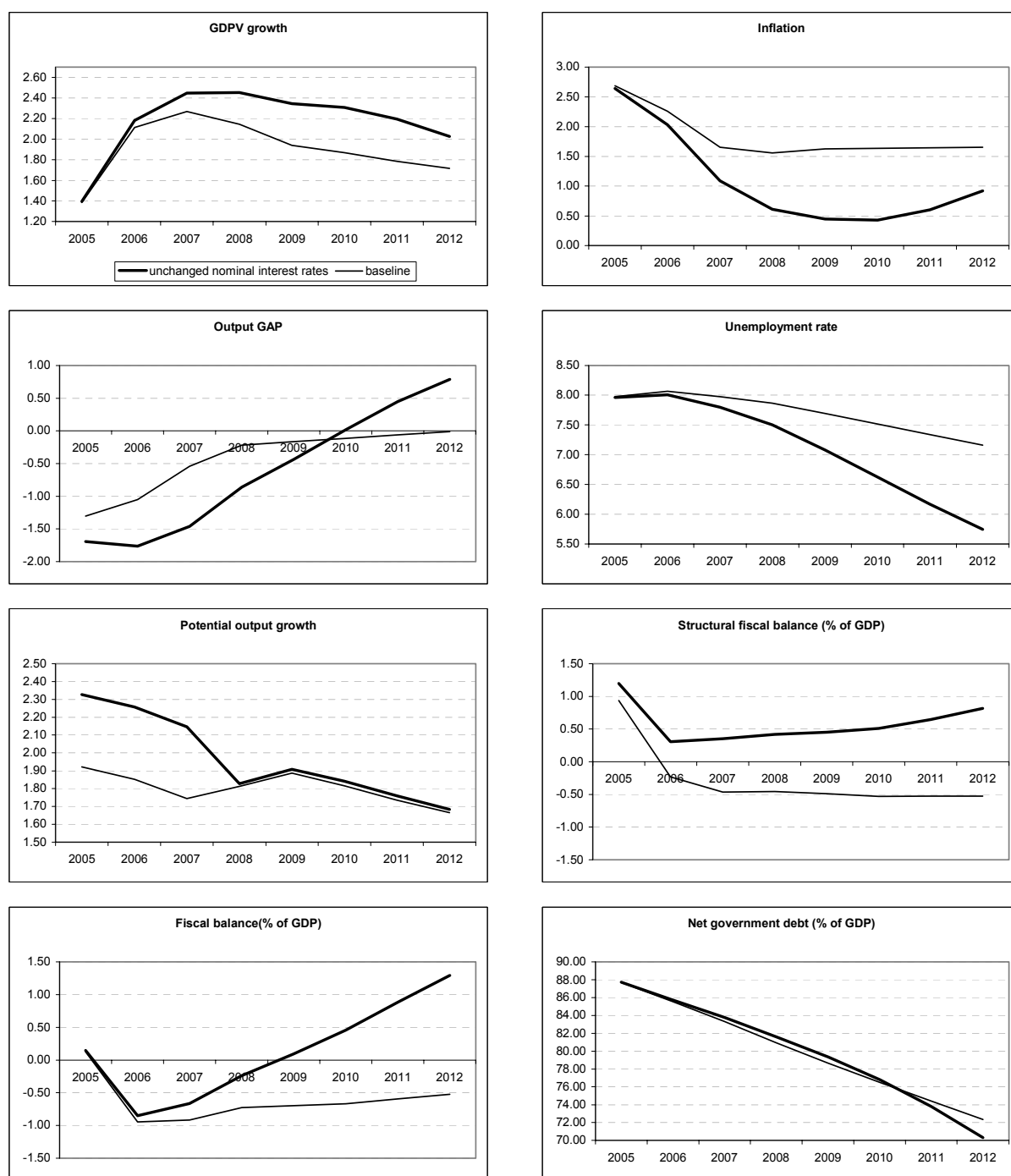
30. The small country, because of its much greater openness to trade, benefits much more from the competitiveness gains, which allows a more rapid adjustment of demand and limits the deceleration in inflation (Figure 7). The effect of the reform is positive for the budget balance, though the effect on indebtedness is minor.

31. In contrast, the adjustment path for the large country is much more drawn-out (Figure 8). The impact of higher real interest rates tends to neutralise the competitiveness gains due to lower inflation. Overall, the output gap remains below the baseline level over the whole simulation period. The budget balance hardly improves, while indebtedness is rising. However, significantly lower inflation in a large country will affect area-wide inflation, which could lead to some monetary easing. If the interest rate were to decline in line with overall inflation, the budget balance would improve by more.

32. These simulation results are, of course, model dependent. The weak endogenous adjustment forces in the case of reforms of a single large euro area economy could be exaggerated. It can not be excluded that a better macroeconomic performance, and especially lower unemployment, would lead to substantial confidence effects, which are not included in the model. These could lead to greater dynamism of consumption and investment. The reaction of the US economy to the productivity shock during the 1990s suggests that demand can outstrip supply, following a supply shock.⁷ On the other hand, one should not underestimate either the role played by the US monetary authorities, which recognized and accompanied the structural changes. Also the depth and flexibility of the American financial markets were crucial in allowing a rapid transmission of the associated wealth gains onto demand.

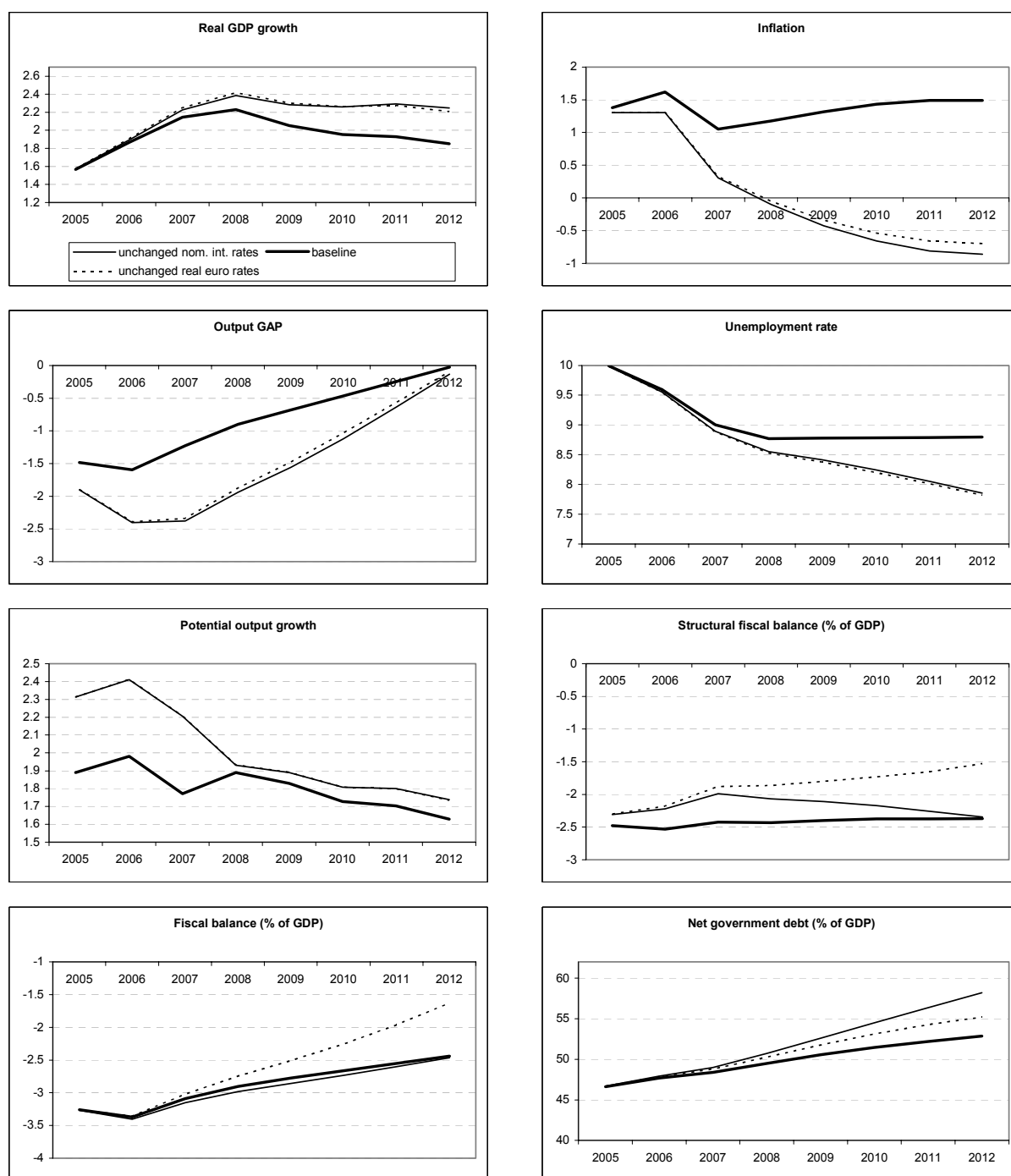
7. This would follow Say's law, which suggests that supply will create its demand. But the American situation even suggests what Val Koromzay dubbed Super-Say's law, whereby a more optimistic outlook on future income can lead to excess demand, when supply conditions improve.

Figure 7. Impact of a lower NAIRU in a small euro area country



Note: The Nairu is assumed to fall progressively by 1.5 percentage points in the first three years of the simulation. Nominal exchange rate and interest rates are kept unchanged relative to baseline. Real government expenditure is also kept unchanged at baseline level.

Figure 8. Impact of a lower NAIRU in a large euro area country



Note: The Nairu is assumed to fall progressively by 1.5 percentage points in the first three years of the simulation. Nominal exchange rate kept unchanged relative to baseline. Real government expenditure is also kept unchanged at baseline level.

Effects of a decline in structural unemployment with a more active fiscal policy

33. A final set of simulations is designed to examine the role of upfront cost, and more generally to look at the possibility that countries use a more activist fiscal policy to accompany their structural reform programme. A rise in potential output due to a decline in structural unemployment improves the structural budget balance. In the absence of monetary policy, euro area member countries may be tempted to use the room for fiscal manoeuvre to accompany reforms to speed up the adjustment of demand to the improved supply conditions. Moreover, the reforms could have a budgetary cost, for instance because they include a cut in social security contributions.

34. To illustrate the joint effect of a decline in structural unemployment and of a more active fiscal policy two scenarios were run for France. The first assumes that the structural budget balance is kept at the baseline level. The second assumes that the decline in unemployment is accompanied by a permanent reduction in employers' social security contributions by ½ per cent of GDP. The results are presented in Figure 9. They clearly show the limits of loosening fiscal policy to accompany structural reforms: the macroeconomic gains are very limited, but the budget deteriorates significantly.

“Big bangs” and gradualism: the experiences of New Zealand and Australia

35. Some OECD economies have undergone radical transformations with major fiscal implications and their recent economic histories are consistent with the findings from the above model-based analysis. New Zealand is a prime example. It initiated radical and wide-ranging reforms in the mid-1980s. These reforms encompassed both macroeconomic stabilisation and structural change (Evans *et al.*, 1996). The reforms followed a decade of anaemic growth, with even lower rates than those currently observed in the euro area, while inflation was rampant and the current account in deep deficit (Table 3).

Table 3. New Zealand over the last three decades

	1975 - 1984	1985 - 1991	1992 - 2005
Output growth ¹	1.0	0.7	3.5
Growth of output per capita ¹	0.3	0.0	2.4
Consumer price inflation ¹	13.3	9.2	2.0
Long-term interest rate ²	11.0	14.0	6.9
Exports ³	28.4	27.4	30.7
Current account balance ³	-5.8	-4.1	-5.1
		1987 - 1991	1992 - 2005
Government receipts ³		48.9	42.8
Government spending ³		52.6	40.7
General government financial balance ³		-3.7	2.1
		1993	2005
Gross government debt ³		64.8	26.0
Net government debt ³		51.4	-1.1

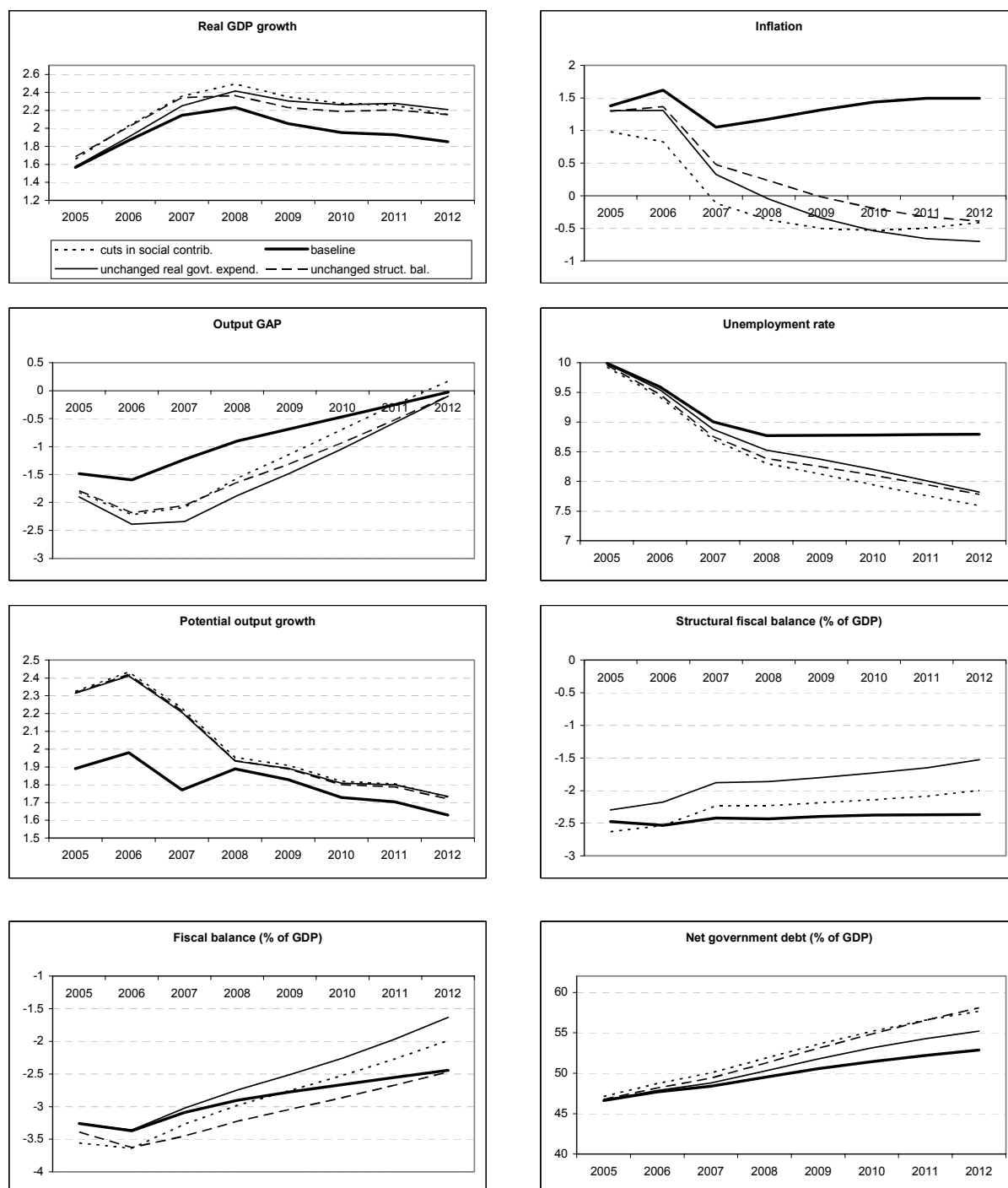
1. Average annual rate, per cent.

2. Period average, per cent

3. Ratio to GDP, per cent

Source: OECD *Economic Outlook* No. 78 database.

Figure 9. Impact of a lower NAIRU in a large euro area country under alternative fiscal assumptions



Note: The Nairu is assumed to fall progressively by 1.5 percentage points in the first three years of the simulation. Nominal exchange rate kept unchanged relative to baseline. Real interest rates at the euro level are maintained unchanged relative to baseline.

36. Key reforms included financial market deregulation and the granting of operational independence to the Reserve Bank; deep labour market reforms, though they were only enacted from the early 1990s onwards; and telecommunication and electricity reforms. These reforms did not include any side-payments, but there were many reforms affecting the budget directly. Support to manufacturing industries and agriculture was withdrawn, which lowered spending, but also lowered revenues due to hefty tariff cuts on industrial products. Direct government assistance to industry and agriculture declined from 16% of primary government spending to just 4% in 1993/94. At the same time, tax policy put a sharp focus on the neutrality of the tax system: a comprehensive value added tax replaced a myriad of sales taxes, while the corporate and income tax base was broadened and tax rates reduced. Tax incentives concerning exports or retirement savings were abolished. On the spending side, focus was put on organisational and managerial devolution and improved accountability, for instance in health and education. Chief executives became responsible for managing departments, being directly accountable to their Ministers for hitting specific output targets. Moreover, the large number of trading departments was turned into state-owned enterprises, many of which were subsequently sold.

37. Stronger growth did not help fiscal consolidation early in the reform era. Partly reflecting heavy industrial and agricultural restructuring and job losses from rapid efficiency gains, GDP barely increased between 1984 and 1991 (Table 3). Also the exchange rate and real interest rate were high. Early in the reforms, consolidation was largely achieved by revenue increases and while some spending items were pruned severely, spending on health, education and social services increased as a share of GDP. But stronger growth followed and a fiscal surplus was achieved in the 1993/94 financial year. Fiscal performance has been strong since then, the government recording a deficit in only one year since 1994 and a net debt position of more than 50% of GDP has swung into a net asset position. This successful fiscal consolidation partly reflects a decent, though not outstanding, growth performance and partly the principled approach to fiscal management that was put in place in 1994, based on responsibility and transparency. This approach has been taken up in the UK's code of fiscal conduct and the OECD Best Practices for Budget Transparency. Macroeconomic policy was set to provide a stable and sound framework for fiscal policy rather than stabilise macroeconomic outcomes with short-term adjustments to the fiscal stance.

38. Reforms in New Zealand since the mid-1980s were broad ranging and quick, in the wake of large macroeconomic imbalances. By tackling many areas quickly there was no stable coalition formed to oppose reforms: for instance, farmers who had their subsidies withdrawn,⁸ strongly supported tariff cuts; and farmers and other businesses then put pressure on the government to reduce spending to bring down the interest and exchange rate. But moving quickly also led to some backlashes, as the reform process stalled between 1988 and 1991, from when onward it resumed again. The experience highlights that fiscal consolidation and radical change can go hand in hand, even when the results of reforms on economic performance do not come quickly.

39. In contrast with New Zealand, the Australian reform process was gradual, but it was also principled and coherent (Banks, 2005). As in New Zealand, policy prior to the reforms was characterised by being highly regulated, anti-competitive and redistributive, even though the macroeconomic background, while not brilliant, was more benign (Table 4). Productivity growth of just over 1% between 1973 and 1990 was relatively poor and, also affected by terms of trade losses, the international income-per-capita ranking slipped badly. Though reforms started in 1973 with a 25% across-the-board

8. The largest farmer association, the Federated Farmers of New Zealand argue that the sudden and unexpected removal of subsidies have made the farming sector stronger and that farmers are determined never again to be dependent upon government handouts (Federated Farmers of New Zealand, 2002). Productivity gains, for instance, moved from 1% pre-reform to nearly 6% post-reform, while the initial impact of the reform, while sizeable, was much milder than officially projected.

tariff cut, this precipitated a heavy backlash against reforms. It was not before 1988 that tariff reductions were phased in with virtually all tariffs falling to below 5% by 1996. The early 1980s also saw financial market reforms. Increased competition led to pressure to reform labour markets and sheltered sectors. The reforms ultimately embraced all product markets, factor markets and the public sector, including as in New Zealand the commercialisation, corporatisation and privatisation of many government enterprises.

Table 4. Australia since 1973

	1973 – 1990	1991 - 2005
Output growth ¹	3.1	3.3
Growth of output per capita ¹	1.7	2.2
Consumer price inflation ¹	9.6	2.5
Long-term interest rate ²	11.8	7.1
Exports ³	15.5	19.5
Current account balance ³	-3.7	-4.5
Government receipts ³	32.3	35.9
Government spending ³	35.5	37.4
Government financial balance ³	-3.2	-1.5
	1991	2005
Gross government debt ³	23.8	15.3
Net government debt ³	11.6	0.0

1. Average annual rate, per cent.

2. Period average, per cent

3. Ratio to GDP, per cent

Source: OECD Economic Outlook database, December No 78 – Volume 2005, issue 2..

40. Contrary to New Zealand, Australia adopted a gradual approach to reforms, thus avoiding heavy initial adjustment costs. The programme evolved in a cumulative way to encompass reforms across much of the economy. Moreover, and again contrary to New Zealand, reforms were accompanied by retraining schemes and displaced workers could rely on the relatively generous welfare safety net. Adjustment costs were also eased by sector-specific restructuring and assistance schemes, which amounted to AUD 600 million annually under the Automotive Competitiveness and Investment Scheme. Similarly, when price support for the milk industry was abolished in 2000, farmers were provided with a substantial stream of payments, financed by a levy on milk consumers. Also regional policy schemes eased the adjustment blow in some cases. Policy has thus dealt with the front-loaded timing of the potential losses of reforms as well as the fact that costs of reform are often concentrated on particular groups. The reform process had a fiscal cost, but it was limited and easily outweighed by the overall gains: concomitant with the reforms, there was a sharp rise in the trade to GDP ratio and business R&D surged, boosting productivity growth to among the highest in the OECD and the income-per-capita ranking improved from the 15th place in the mid-1980s to the 8th currently. Not surprisingly, fiscal performance improved a lot as well: the general government balance swung from a deficit peak in the early 1990s of more than 6% of GDP into a surplus by 1998. The fiscal balance has stayed in surplus since then, except in one year, leading to the elimination of government net debt in the course of 2006.

41. Clearly, for both countries the evidence is that major structural reforms brought a major improvement in fiscal performance. Yet, how to apportion the success between a strengthening in budgetary institutions and better growth performance is unclear.

Policy implications

42. The recent reform of the Stability and Growth Pact provides more leeway for EU governments to temporarily breach the 3% deficit limit if this can be shown to facilitate the implementation of effective, but initially expensive, structural reform. While this principle is underpinned by a clear economic rationale, its implementation is not obvious. Indeed, for it to be properly implemented a number of conditions will have to be met:

- Budgets would need to clearly identify the structural policy measures that are being taken and specify their immediate and multi-annual budgetary cost and benefit profile. So far, this is not happening in a systematic way, with probably the United Kingdom being at the frontier (and even there the picture is not always clear). Indeed, the Commission in its assessment of the most recent batch of stability programmes suggested that the clause related to structural reforms would benefit from a clear specification of the quantitative information necessary for assessing the impact of structural reforms (EC, 2006).
- Budgets would also need to be explicit about the fiscal cost of inaction, *i.e.*, report the budgetary developments in the absence of structural reform. This is a form of transparency that is necessary for the European authorities to call a balanced judgment on countries' trade-offs between the various options available, like reforming health care but not pensions, or any other combination of reform programmes. However, it is rare to find such information in budgets.
- Budgets would, finally, need to give some indication of the broader economic effects of action or inaction, in order to be able to call a judgment on the *ex ante* effectiveness and efficiency of the proposed measures. However *ex ante* cost-benefit analysis is rare – not to mention *ex post* cost-benefit analysis. The experience in countries like New Zealand and Australia has shown that the longer-term benefits both in terms of the budget and overall economic performance may be significant. Even so, it is not easy to disentangle the various forces at play. Fundamentally, structural reform and the implementation of smart fiscal frameworks tend to go hand in hand – indeed may be two sides of the same coin.

43. The simulation exercises highlight the positive budgetary effects of coordinated structural reforms in the euro area. But they have to be accompanied by an adequate monetary policy response to make sure that demand adjusts to the improved supply conditions swiftly. The budgetary gains would still depend on the type of reform and their impact on employment and productivity. Efforts to improve supply conditions are surely easier to co-ordinate or coordinated in any case, when it comes to single market initiatives, such as the current drive to liberalise services across the European Union. Co-ordination is more difficult to achieve for labour market reforms. In this domain, national policy initiatives by a single country may only have a limited impact, especially in the short term and in the case of a large country. Indeed, in monetary union, the strength of endogenous adjustment mechanism appears to be weaker in larger countries. Moreover, if reforms were to be accompanied by an easing of fiscal policy, additional macroeconomic gains would also appear very limited.

Bibliography

- Ahn, S. and P. Hemmings (2000), "Policy Influences on Economic Growth in OECD Countries: An Evaluation of the Evidence", *OECD Economics Department Working Papers*, No. 246, OECD, Paris.
- Altshuler, R. *et al.* (2005), "The Role of Dynamic Scoring in the Federal Budget Process: Closing the Gap between Theory and Practice", *American Economic Review Papers and Proceedings*, Vol. 95, No. 2.
- Auerbach, A.J. (2005), "Dynamic Scoring: An Introduction to the Issues", *American Economic Review Papers and Proceedings*, Vol. 95, No. 2.
- Banks, G. (2005), "Structural Reform Australian-Style: Lessons for Others?" paper presented at the OECD on 31 May 2005, available at:
<http://www.pc.gov.au/commission/work/productivity/publications.html>
- Blanchard, O. (2005), "European Unemployment: the Evolution of Facts and Ideas", *MIT Department of Economics Working Paper Series*, Working Paper 05-2004.
- Boeri, T. (2002), "Let Social Policy Models Compete and Europe Will Win", paper presented at a Conference hosted by the Kennedy School of Government, Harvard University, 11-12 April.
- Burniaux J.M., R. Duval and F. Jaumotte (2003), "Coping with Ageing: A Dynamic Approach to Quantify the Impact of Alternative Policy Options on Future Labour Supply in OECD Countries", *OECD Economics Department Working Papers*, No. 371, OECD, Paris.
- EC (2005a), *Public Finances in EMU 2005*, European Economy, No.3/2005.
- EC (2005b), Council Regulation (EC) No. 1055/2005, 27 June 2005.
- EC (2006), *Public Finances in EMU 2006*, European Economy, No.3/2006.
- Evans, L., A.Grimes, B. Wilkinson and D. Teece (1996), "Economic Reform in New Zealand 1984-95: the Pursuit of Efficiency", *Journal of Economic Literature*, Vol. 34, No. 4.
- Fatás, A. (2005), "Is there a Case for Sophisticated Balanced-Budget Rules?", *OECD Economics Department Working Papers*, No. 466, OECD, Paris.
- Federated Farmers of New Zealand (2002), "Life after Subsidies", August, Wellington.
- von Hagen, J., A. Hughes Hallett and R. Strauch (2002), "Quality and Success of Budgetary Consolidations", in Buti, M., J. von Hagen and C. Martinez-Mongay (eds.), *The Behaviour of Fiscal Authorities: Stabilisation, Growth and Institutions*, Basingstoke, Palgrave.
- HM Treasury, *Budget 2001, 2002, 2003, 2004*.
- Majnoni d'Intignano, B. (2001), *Économie de la Santé*, Presses Universitaires de France, Paris.
- van den Noord, P. and B. Cournède (2006), "Measuring Fiscal Short-term Pain and Long-term Gain of Structural Reform", *OECD Economics Department Working Papers*, forthcoming.
- OECD (2001), *The New Economy: Beyond the Hype. The OECD Growth Project*, OECD, Paris.

OECD (2003), *Economic Surveys: Euro Area*, OECD, Paris.

OECD (2004), *Economic Surveys: Euro Area*, OECD, Paris.

OECD (2005), *Going for Growth*, OECD, Paris.

Page, B.R. (2005), “CBO’s Analysis of the Macroeconomic Effects of the President’s Budget”, *American Economic Review Papers and Proceedings*, Vol. 95, No. 2.

Sapir, A. (2005), “Globalisation and the Reform of European Social Models”, background document for the presentation at ECOFIN Informal Meeting in Manchester, 9 September.

WORKING PAPERS

The full series of Economics Department Working Papers can be consulted at www.oecd.org/eco/Working_Papers/

- 492. *Ireland's Housing Boom: What has Driven It and Have Prices Overshot?*
(June 2006) Dave Rae and Paul van den Noord
- 491. *Boosting Competition in Ireland*
(June 2006) Dave Rae, Line Vogt and Michael Wise
- 490. *Factors Behind Low Long-Term Interest Rates*
(??? 2006) Rudiger Ahrend, Pietro Catte and Robert Price
- 489. *The Fiscal Challenge in Portugal*
(June 2006) Stéphanie Guichard and Willi Leibfritz
- 488. *Are House Prices Nearing a Peak? A Probit Analysis for 17 OECD Countries*
(June 2006) Paul van den Noord
- 487. *Maintaining Switzerland's Top Innovation Capacity*
(June 2006) Florence Jaumotte
- 486. *Employment Patterns in OECD Countries: Reassessing the Role of Policies and Institutions*
(June 2006) Andrea Bassanini and Romain Duval
- 485. *Brazil's Fiscal Stance During 1995-2005: The Effect of Indebtedness on Fiscal Policy Over the Business Cycle*
(May 2006) Luiz de Mello and Diego Moccero
- 484. *Realising the Oil Supply Potential of the CIS: The Impact of Institutions and Policies*
(May 2006) Rudiger Ahrend and William Tompson
- 483. *Summary of a workshop on global convergence scenarios: structural and policy issues*
(May 2006) Nick Vanston
- 482. *Revised OECD methods for supply-side and medium-term assessment: a capital services approach*
(Forthcoming in June) Pierre-Olivier Beffy, Patrice Ollivaud, Pete Richardson and Frank Sédillot
- 481. *Balancing health care quality and cost containment: the case of Norway*
(February 2006) Alexandra Bibbee and Flavio Padrini
- 480. *The ageing challenge in Norway: ensuring a sustainable pension and welfare system*
(February 2006) Benoît Bellone and Alexandra Bibbee
- 479. *Strengthening innovation in the Netherlands: Making better use of knowledge creation in innovation activities*
(February 2006) David Carey, Ekkehard Ernst, Rebecca Oyomopito and Jelte Theisens
- 478. *How to sustain growth in a resource based economy? The main concepts and their application to the Russian case*
(February 2006) Rudiger Ahrend
- 477. *Projecting OECD health and long-term care expenditures: What are the main drivers?*
(February 2006)
- 476. *Alternative measures of well-being*
(January 2006) Romina Boarini, Åsa Johansson and Marco Mira D'Ercole

475. *Recent house price developments: the role of fundamentals*
(January 2006) Nathalie Girouard, Mike Kennedy, Paul van den Noord and Christophe André
474. *Reforming federal fiscal relations in Austria*
(January 2006) Andrés Fuentes, Eckhard Wurzel and Andreas Wörgötter
473. *Product market competition and economic performance in France*
Concurrence sur les marchés de produits et performance économique en France
(January 2006) Jens Høj and Michael Wise
472. *Product market reforms and employment in OECD countries*
(December 2005) Giuseppe Nicoletti and Stefano Scarpetta
471. *Fast-falling barriers and growing concentration: the emergence of a private economy in China*
(December 2005) Sean Dougherty and Richard Herd
470. *Sustaining high growth through innovation: reforming the R&D and education systems in Korea*
(December 2005) Yongchun Baek and Randall Jones
469. *The labour market in Korea: enhancing flexibility and raising participation*
(December 2005) Randall Jones
468. *Getting the most out of public-sector decentralization in Korea*
(December 2005) Randall Jones and Tadashi Yokoyama
467. *Coping with the inevitable adjustment in the US current account*
(December 2005) Peter Jarrett
466. *Is there a case for sophisticated balanced-budget rules?*
(December 2005) Antonio Fatás
465. *Fiscal rules for sub-central governments design and impact*
(December 2005) Douglas Sutherland, Robert Price and Isabelle Joumard
464. *Assessing the robustness of demographic projections in OECD countries*
(December 2005) Frédéric Gonand
463. *The Benefits of Liberalising Product Markets and Reducing Barriers to International Trade and Investment in the OECD*
(December 2005)
462. *Fiscal relations across levels of government in the United States*
(November 2005) Thomas Laubach
461. *Assessing the value of indicators of underlying inflation for monetary policy*
(November 2005) Pietro Catte and Torsten Sløk.
460. *Regulation and economic performance: product market reforms and productivity in the OECD*
(November 2005) Giuseppe Nicoletti and Stefano Scarpetta.
459. *Innovation in the Business Sector*
(November 2005) Florence Jaumotte and Nigel Pain
458. *From Innovation Development to Implementation: Evidence from the Community Innovation Survey*
(November 2005) Florence Jaumotte and Nigel Pain