ARE STRUCTURAL REFORMS THE ANSWER TO GLOBAL CURRENT ACCOUNT IMBALANCES?

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INTRODUCTION

The impact of structural reforms on external imbalances has attracted considerable attention in view of the existing constellation of relative growth rates and current account balances among OECD economies. Not least among policy makers, what should and can be done to help solve the problem has been discussed extensively. Generally, it has been argued that there are three solutions to global current account imbalances:[1]

- A substantial change in the exchange rate between deficit and surplus countries.

- Current account deficit countries (such as the United States) grow slower.

- Current account surplus economies (such as the euro area and Japan) grow faster.

There is a consensus that large exchange rate depreciation would solve the problem but this runs the risk that a disorderly adjustment could be set in motion, particularly given the size of external imbalances in the global economy.[2] The second solution, to have the US economy grow more slowly, seems unattractive, given that it has been a principle source of growth in the world economy over the past few years. In part for these reasons, policy makers have taken a closer look at the third suggested solution for the problem of global imbalances. In particular, one way to get Japan and the slower-growing euro area countries to expand more quickly would be to implement ambitious structural reforms. The issue to be explored here is the extent to which this double dividend – countries which undertake growth-enhancing structural reforms will contribute to reducing global external imbalances – exists. In particular, looking at the main channels through which reforms could potentially affect imbalances, three questions arise:

- Will the resulting increases in the potential growth rates of the euro area and Japan automatically lead to more imports than exports?

- Similarly, on the capital account side, will a rise in the potential growth rate automatically lead to an increase in capital inflows relative to outflows?

- Finally, would such reforms also spur investment and possibly lower excessive saving?

In this article, it will be argued that the answer to these questions is a function of which structural reforms are implemented. A number of studies (including those by the OECD) have shown that structural reforms generally raise the potential

growth rate of an economy, and there is no doubt that much needs to be done in the current account surplus countries of the euro area and Japan.[3] That said, it is not necessarily the case that all such initiatives would have the desired effect on the current account. For example, some reforms are closely related to improving competitiveness which, *ceteris paribus*, would lead to a current account improvement. It is for these types of reasons that the relationship is likely to be more nuanced than may have been supposed.

Specifically, the article focuses on current account impacts of structural reforms in labour, product and financial and capital markets. First, with the Obstfeld-Rogoff[4] framework as a starting point, the channels through which structural reforms are expected to affect the current account are discussed at a conceptual level. Second, the relationship between structural policies and labour, product and financial markets, on the one hand, and external imbalances, on the other, is empirically estimated for a panel of 14 OECD countries. The third section shows that the explanatory power of the structural policy indicators is quite limited in its ability to explain observed current account imbalances. The final section sums up the main points of the article and briefly discusses a list of policy prescriptions to address existing current account imbalances.

SOME EMPIRICAL OBSERVATIONS

Table 1 shows projected current account balances for a selection of OECD countries according to the OECD Medium-Term Reference Scenario.[5] In this reference scenario, fiscal policies are held unchanged beyond the short term (except where policy changes have already been legislated) monetary policy is assumed to be set so as to close output gaps by 2010 (while maintaining inflation at levels consistent with central banks' stated or implicit objectives) and exchange rates are assumed to remain constant in real terms. Hence, the current account position that falls out of this hypothetical exercise may be seen as representing, to a first approximation, a country's underlying external imbalance in the absence of policy or exchange rate changes and cyclical influences.

It is evident from Table 1 that even in 2010 current accounts are not expected to be in balance; in fact, for almost all countries, the current account balance at that time is projected to be close to existing levels, indicating a high degree of inertia. The results also suggest that existing current account imbalances are largely "non-cyclical" in nature.[6] Finally, it can be seen that, with the exception of Japan, the majority of the current account surplus countries are located in the euro area, several of which have low potential growth rates, whereas the English-speaking countries dominate the list of those that have current account deficits.

Building on this non-cyclical aspect of current account positions, the next step is to see how they are related to trend or potential growth across countries and

Table 1. **Medium-term reference scenario summary**

Per cent

	Real GDP growth	Potential GDP growth		Current account balance[1]		Government financial balances[1]		Inflation rate	
	2007-2010	1997-2003	2004-2010	2006	2010	2006	2010	2006	2010
Australia	3.1	3.5	3.4	−4.6	−3.5	0.5	0.4	2.7	2.2
Austria	2.4	2.3	2.1	0.1	0.5	−2.1	−1.7	1.4	1.6
Belgium	2.0	2.0	2.1	4.0	3.9	−0.5	−0.6	1.9	1.4
Canada	3.0	3.4	3.0	4.3	5.2	1.0	1.0	1.4	1.8
Denmark	1.7	2.1	1.9	3.4	4.0	1.5	0.7	1.9	1.9
Finland	1.5	2.8	1.9	5.0	3.0	2.3	1.5	1.9	1.5
France	2.4	2.3	2.0	0.6	1.2	−2.9	−2.4	1.8	1.4
Germany	2.1	1.4	1.6	4.5	5.0	−2.7	−1.5	0.6	1.4
Greece	3.6	3.2	3.7	−5.6	−6.3	−3.2	−3.0	3.4	2.1
Iceland	3.3	3.5	3.9	−11.6	−7.9	1.0	−0.1	3.4	2.5
Ireland	4.4	7.4	4.8	0.1	1.4	−0.4	−0.5	3.8	2.1
Italy	1.6	1.4	1.6	−1.9	−1.5	−3.6	−3.0	2.1	1.7
Japan	1.0	1.6	1.3	3.7	3.8	−6.3	−6.1	0.3	1.5
Netherlands	2.6	2.8	1.8	4.4	4.7	−1.9	0.3	1.6	1.4
New Zealand	3.2	3.0	3.4	−5.0	−4.7	1.9	1.7	2.0	2.1
Norway	2.5	2.8	2.9	16.4	16.3	11.4	11.3	2.2	2.4
Spain	2.9	3.0	2.8	−4.8	−5.0	−0.1	0.2	2.7	2.0
Sweden	2.1	2.5	2.4	6.5	5.5	1.2	0.3	2.3	2.0
Switzerland	1.6	1.3	1.5	12.6	13.1	−0.2	−0.2	0.9	0.6
United Kingdom	2.5	2.6	2.6	−2.2	−1.4	−3.3	−2.9	2.2	2.0
United States	3.3	3.2	3.2	−6.4	−6.9	−4.2	−4.2	1.6	1.5
Euro area	2.3	2.0	2.0	0.8	1.1	−2.4	−1.6	1.7	1.6

Note: For further details see OECD E*conomic Outlook Sources and Methods* (*www.oecd.org/eco/sources-and-methods*).
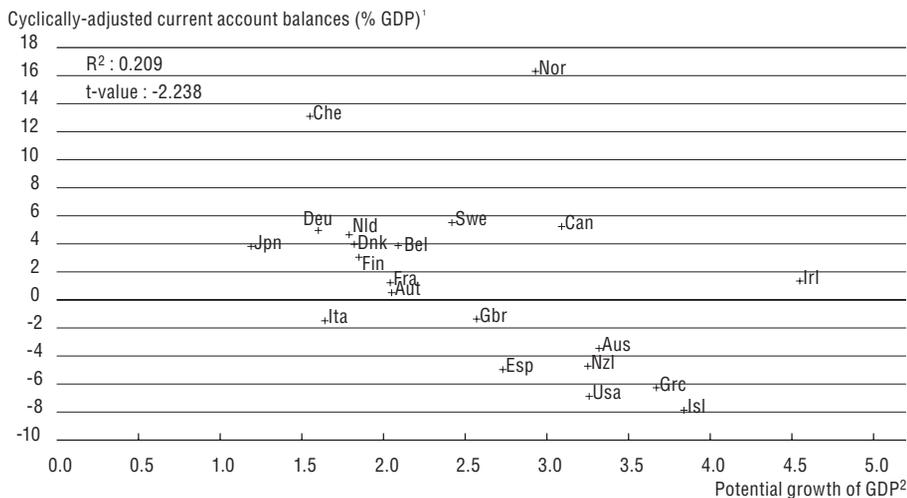
1. Per cent of nominal GDP.

Source: OECD E*conomic Outlook* 76, Preliminary version.

this is shown in Figure 1. Taken at face value, the observed negative correlation would suggest that potential growth-enhancing structural reform in those economies that now have surpluses might indeed be an important part of the solution to global imbalances. However, the results to some extent reflect features of the model employed – the OECD Interlink model – and it is therefore important to examine historical evidence of similar linkages.[7]

As another, more straightforward means of correcting for cyclical influences, Figure 2 compares long (decade or decade-and-half) averages of growth and external imbalances across countries. Independently of whether growth in GDP or GDP per capita is used, a negative correlation again emerges. There are two caveats, however. First, the correlation seems predominantly to arise because of the cross-country variation in the data whereas in the time-series dimension there is little

Figure 1. **The relationship between potential growth and cyclically-adjusted current account balances**

Cyclically-adjusted current account balances (% GDP)[1]

Cyclically-adjusted current account balances (% GDP)[1]

18
16 R²: 0.209   +Nor
14 t-value : -2.238
12   +Che
10
8
6   Deu   Nld   +Swe   +Can
4   +Jpn +   +Dnk +Bel
2   +Fin
0   +Fra
                     +Aut   +Irl
-2   +Ita   +Gbr
-4   +Aus
-6   +Esp   +Nzl   +Grc
-8   +Usa   +Isl
-10
   0.0   0.5   1.0   1.5   2.0   2.5   3.0   3.5   4.0   4.5   5.0
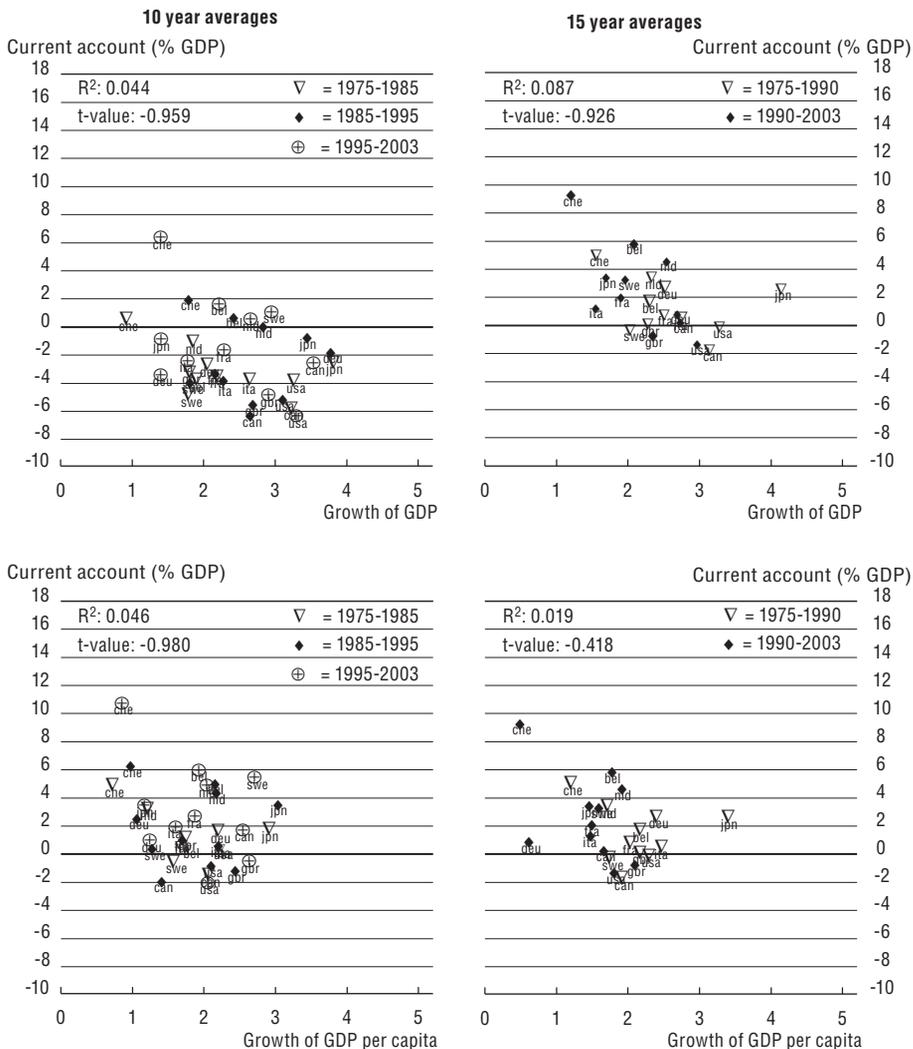   Potential growth of GDP²

1. The cyclically-adjusted current account balance is the level in 2010 calculated in the OECD's Medium-term reference scenario, shown in Table 1.
2. The average of potential growth rates over the period 2004-2010, shown in Table 1.
Source: OECD Medium-term reference scenario.

evidence for individual countries that changes in growth bear any systematic relation to changes in the current account (Figure 3). Second, there is some tendency for the relation in Figure 2 to be slightly weaker over the longer period. This could be either because the shorter averages are affected by cyclical variation or because the relationship between growth and current account positions is weaker in the long term.

A CONCEPTUAL FRAMEWORK

The recent work of Obstfeld and Rogoff[8] provides a framework to analyse changes in current accounts. Specifically, they employ a small country endowment model in which the factors affecting current account balances can be investigated. The model differentiates between home and foreign-produced tradables in addition to a distinction between tradable and non-tradable goods. Of particular interest in the current context is their finding concerning the effect of a rise in productivity outside the United States, *i.e.* in the euro area and Japan, which shows that it will only lead to a reduction of global current account imbalances if the

Figure 2. **Average current balance and average GDP growth**

10 year averages

Current account (% GDP)

R²: 0.044   ∇ = 1975-1985
t-value: -0.959   ♦ = 1985-1995
⊕ = 1995-2003

Growth of GDP

15 year averages

Current account (% GDP)

R²: 0.087   ∇ = 1975-1990
t-value: -0.926   ♦ = 1990-2003

Growth of GDP

Current account (% GDP)

R²: 0.046   ∇ = 1975-1985
t-value: -0.980   ♦ = 1985-1995
⊕ = 1995-2003

Growth of GDP per capita

Current account (% GDP)

R²: 0.019   ∇ = 1975-1990
t-value: -0.418   ♦ = 1990-2003

Growth of GDP per capita

productivity jump is confined to the production of non-tradable goods. This, however, is somewhat in contrast to the empirical finding that productivity pickups are traditionally concentrated in the tradable goods sector, suggesting that higher potential growth in Europe and Japan could result in the US current account deficit becoming larger, at least initially.

Figure 3. **Change in period averages of current balances and GDP growth**
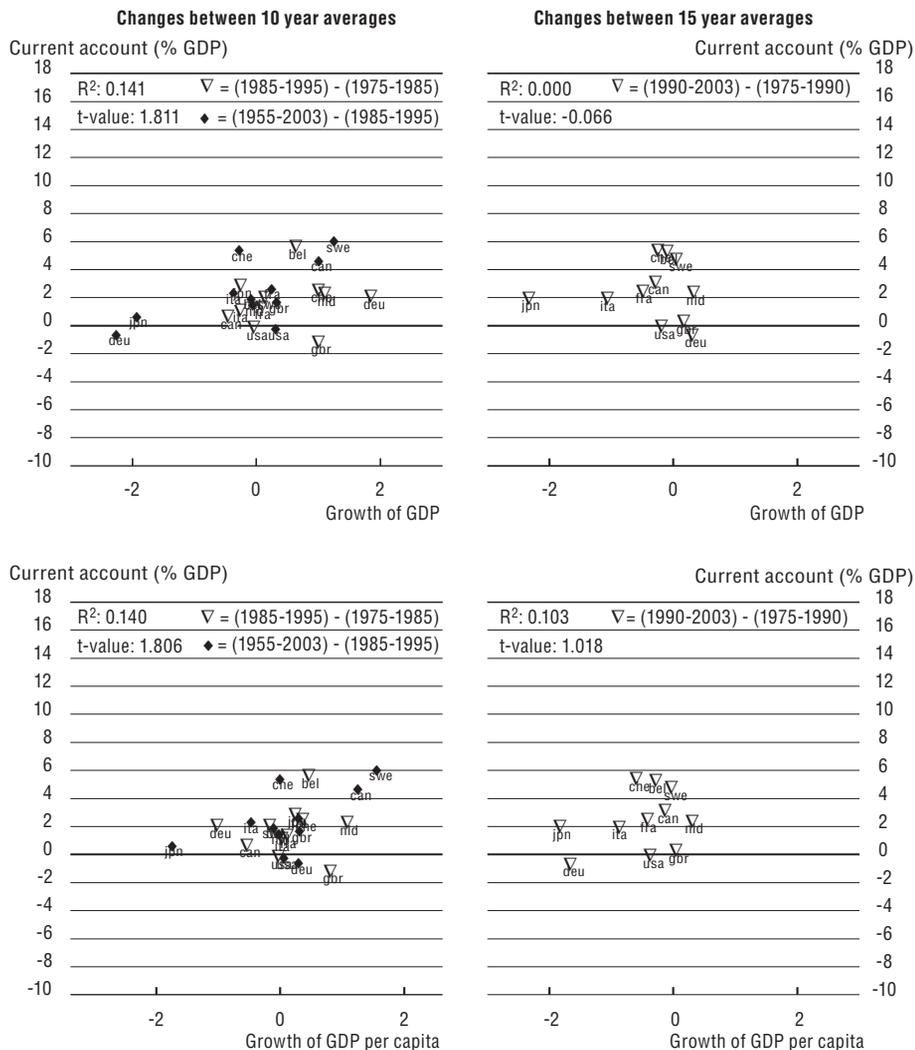
One shortcoming with the Obstfeld and Rogoff approach when analysing the role of structural policies is that specific structural reforms are hidden in the measure of productivity. Or put differently, a key aspect of structural reforms is that they increase productivity, but the process of how productivity is increased is not

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modelled in their framework. As a result their theoretical model only gives limited guidance concerning the impact of individual structural reforms.

In what follows, the channels through which individual structural reforms could be expected to affect current accounts will be discussed. Most of this discussion relies on empirical findings and is not necessarily anchored in first principles like the Obstfeld and Rogoff model. Furthermore, the focus will solely be on channels which have been shown in the empirical literature to exist between structural policies and economic performance.

To begin with, it is not obvious that in the very long term a negative relationship should exist between growth and current account positions. The implication would be that large and/or rich countries should tend to have a more negative net asset position than small and/or poor countries. This implication is not supported by the evidence. As concerns the short to medium term, the US growth revival over the past decade has illustrated that higher growth driven by a specific event – the breakthrough in the information and communications technology (ICT) sector – may have effects on the current account that are highly country specific. US institutions and structural policy settings allowed consumers to spend substantial capital gains, driven by prospects of increased future productivity gains and earnings. However, it is not completely clear that consumers in continental Europe or Japan would be able to spend out of future expected incomes in the same way as their US counterparts, even if their respective economies were to experience a similar ICT-induced growth revival.

The long-term relationship between structural policies and growth is possibly even more complicated.

- Research in the context of the OECD Growth Study[9] suggested that it was empirically very difficult to discriminate between endogenous growth models and/or those based on conditional convergence as the most appropriate descriptions of the growth process across OECD countries.[10] The implications of endogenous growth models are, however, such that it is prudent to interpret results from structural reform initiatives within a conditional convergence framework; *i.e.* structural reforms generally affecting the level of output but not having permanent effects on growth. That said, it has to be recognised that where structural reforms may strengthen an economy's capacity to innovate, the effects on growth could, at a minimum, be very long-lasting. In any event, for the timeframe implicitly under discussion here (5 to 10 years), the distinction between each is perhaps not that important.

- Even abstracting from an endogenous growth model and from linkages via innovation, structural policies may affect growth even when they are not changed. The varying speeds of adopting information and communication technologies (ICT) across countries, where its take-up, with associated impli-

cations for growth, appears to be negatively correlated with the degree of job protection and of product-market regulation, provides an illustration.

The bottom line of this discussion is that the relationship between structural policy, growth and current accounts is complicated and possibly varies across different structural policies, as well as across countries and over time. Nonetheless, even in the absence of any *a priori* relationships it may still be possible to empirically identify regularities between, on the one hand, structural reform and, on the other, current account outcomes. The following two sections, respectively, review and contribute to the empirical evidence.

CHANNELS AND EVIDENCE LINKING STRUCTURAL REFORM AND CURRENT ACCOUNTS

One way to analyse the expected impact of structural reforms on the current account is to look at three channels which would be expected to be affected by structural reforms, namely those relating to trade, capital flows and the balance between saving and investment. Current account imbalances are by definition equal to these three different channels: the net result of current payments in and out of a country, usually primarily concerned with trade; the balance of domestic saving and investment; as well as the net outcome of capital outflows and inflows. In the following, empirical evidence previously produced by the OECD on the role and effect of each of the three channels on growth will be reviewed. In all cases, the evidence is based on the estimation of reduced-form equations on pooled cross-country/time-series data. It is summarised in Table 2 and, as can be seen, it is not comprehensive.

Seven specific structural measures are considered under three headings reflecting the markets where the reforms have their most direct impact. Anticipating the discussion, the apparent effects of growth-enhancing reforms in the labour market differ depending on the framework considered: empirical evidence concerning the trade impact suggests an improvement of the current account balance but this is inconsistent with partial and limited evidence based on the two other frameworks. By contrast, evidence on trade impacts suggests that reforms in product markets and in financial and capital markets may be more likely to lead to deterioration in the current account. For this set of reforms, the effects are ambiguous when seen through the saving-investment framework. It should be underlined, however, that these conclusions are based on very partial information on some very specific reform measures and therefore should be considered as being rather uncertain.

Two specific types of reforms are considered in labour markets, with more information being available as regards the impact of a lower tax wedge than weaker statutory job protection. Within the trade framework, a lower tax wedge on labour

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Table 2. **Evidence on the effects of structural reform on current account balances**

Approaches to analysing current accounts	Trade		Saving-Investment		Capital flows	
	Exports	Imports	Saving	Investment	Net FDI outflow	Other
Labour markets						
Lower tax wedge	+[1]	−[1,5]		+[3, 9, 11]	−[1, 7]	
Lower job protection	+[1, 4]				−[1, 7, 8]	
Product markets and external barriers						
Less domestic regulation	+[1]	+[1, 5]		+[2]	−[1, 7]	
Reducing tariff barriers		+[1, 5]		−[3, 10]	−[1, 7]	
Reducing NTBs		+[1, 5]		−[3, 10]	+[1, 7]	
Financial and capital markets						
Reducing barriers to FDI		+[1, 5, 6]			−[1, 7]	
Increased depth				+[3]		

1. Based on. Nicoletti *et al.* (2003).
2. Based on Alesina *et al.* (2003).
3. Based on OECD (2003).
4. In countries with intermediate wage bargaining for goods trade and low level bargaining for services trade.
5. Interpretation of results concerning effects of partner country policies on exports of home country.
6. Effect significant only for services.
7. Based on FDI stock equation.
8. Net of effects on FDI in-stocks and out-stocks.
9. Aggregate tax pressure.
10. Based on result concerning trade exposure.
11. Based on Alesina *et al.* (2002).

unambiguously improves the current account. This is, however, inconsistent with an increased capital inflow through foreign direct investment, reflecting improved attractiveness of the host country. For the trade effects to be consistent with the positive impact on investment (based on a macro tax pressure variable) saving would have to rise more than investment. The mechanism by which this would take place, however, is *a priori*, unknown. The more scant information concerning a reform of employment protection legislation (EPL) points in the same direction as the effect of a lower tax wedge: improved exports but also increased net FDI inflows.

As concerns reforms that have direct impacts on product markets, it is not surprising that lower border barriers will tend to boost imports. Hence, even if results also point to a positive effect on exports of lowering tariff barriers, the overall evidence on trade points in the direction of a negative effect on the current account. In general, the results for the capital account would seem to be consistent with a decline in the balance on trade, apart from a marginal effect arising from a reduction in non-tariff barriers (NTBs).[11] The overall negative effect on the trade balance will only be consistent with the results that suggest a fall in investment if there is

an even larger fall in saving. As to domestically-oriented product market regulations (PMR), the effect is likely to be ambiguous. On the one hand, improved competition should raise productivity, and through its effect on overall competitiveness, move the current account toward a surplus. On the other hand, to the extent that incomes are raised, imports would also increase.

On reforms in financial and capital markets, the information available is even more scant than for reforms affecting labour and product markets. Nonetheless, the evidence that lower restrictions on FDI inflows lead to more such inflows and higher imports is consistent with current account deterioration.[12] While not strictly speaking a structural reform, though probably to some extent dependent on reforms, increased depth in financial markets is found to raise investment, which is also consistent with a deteriorating current account. Furthermore, and even if no cross-country/time-series estimates are presented in Table 2, it has been frequently the experience with liberalisation in financial markets since around 1980 that it has entailed at least a temporary decline in saving.

Trying to bring some coherence into these various results, the effects of structural reforms on current accounts could work in the following manner:

- Deregulating *labour markets* in one country boils down to increasing effective labour supply relative to the rest of the world. With less than fully elastic domestic demand for labour, this positive supply shift entails a fall in the country's relative wages and prices as well as an increase in the profitability of domestic capital. This relative fall in wages and prices is likely to affect trade flows rather quickly, while the improvement in relative profitability may take longer to impact capital flows. In this context, the current account of the deregulating country may first improve before the additional labour supply attracts enough complementary capital from the rest of the world to turn around the current and capital account balance.

- Deregulating *product markets* in one country leads to increasing entry into domestic markets, including foreign competitors. This should weaken the current account before equilibrating mechanisms gradually set in.

- Deregulating *financial and capital markets* in one country stimulates the entry of foreign capital, with associated upward pressures on the exchange rate, downward pressures on the interest rate and a weakening current account. Later on increased capital accumulation may lead to better productivity, improving competitiveness and strengthening the current account.

REDUCED-FORM EVIDENCE ON THE LINKS BETWEEN GROWTH, STRUCTURAL REFORM AND CURRENT ACCOUNTS

As an attempt to provide more direct evidence, this section presents some reduced form, pooled time-series/cross-country regressions directly linking the

current account to indicators of structural reform as well as various controls for cyclical and other factors. Before turning to the econometrics, a review will be provided of six structural policy indicators to be used.

The key structural indicators

The indicators that are to be used are the following:

- *Product and labour market regulation indicators.* The OECD has constructed indicators to assess the stance of employment protection legislation and competition restraining PMR in individual countries.[13] For the labour and product market indicators, the higher is the value, the more restrictive are regulations. The evidence provided in Figures 4 and 5 shows that there is a lot of variation across countries. In particular, there seems to be a higher degree of protection of employment in the continental European countries than in English-speaking countries. For product market regulation, there is less variation across countries.

- FDI *restrictiveness indicator* The FDI restrictiveness indicator was constructed by converting both qualitative and quantitative indicators of specific FDI regulations into an overall indicator,[14] in which the higher the value of the FDI restrictiveness the more restrictive FDI regulations are deemed to be. The data (Figure 6) show that there again is some variation across OECD countries.

Figure 4. **Employment protection of labour, 2003**
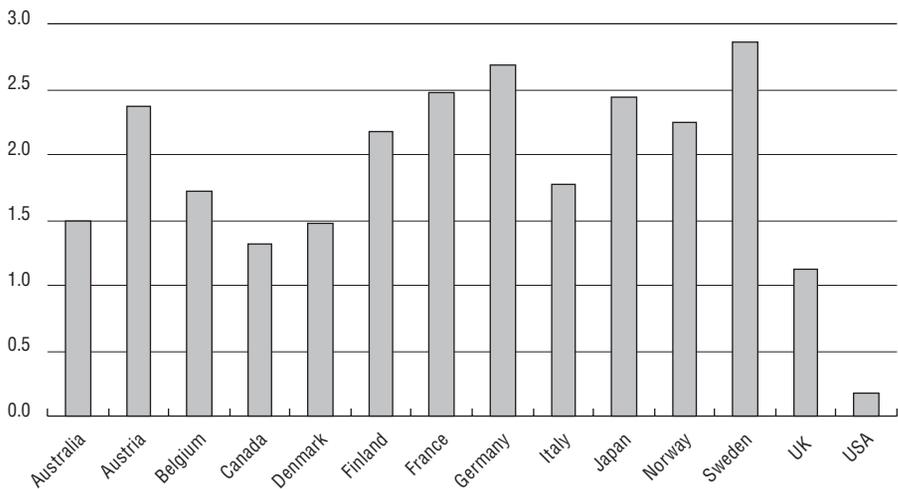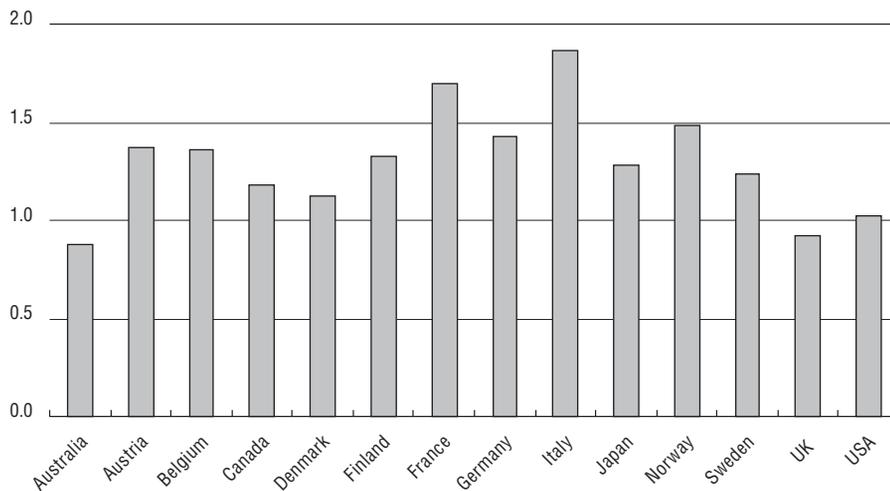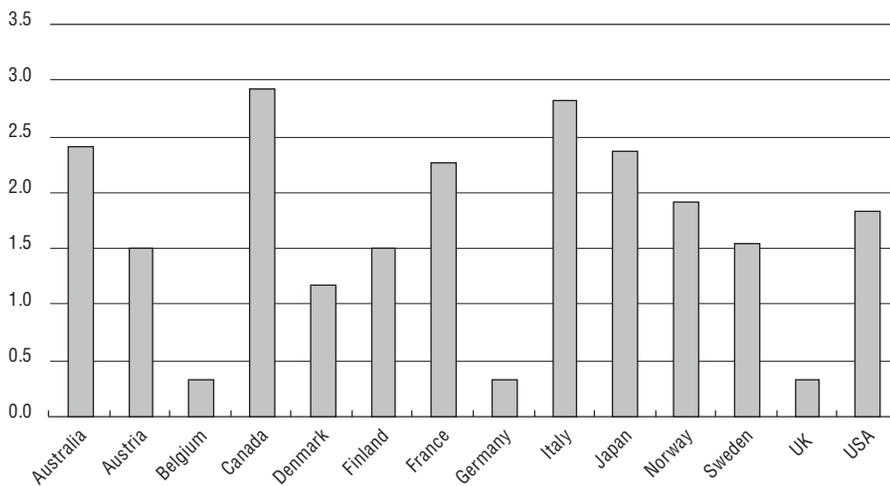
Index scale of 0-6 from least to more restrictive

Source: OECD Employment Outlook, 2004.

Figure 5. **Product market regulation**

Index scale of 0-6 from least to more restrictive

Figure 6. **FDI restrictiveness**

Index scale of 0-6 from least to more restrictive

- *Financial development indicator* Stock market capitalisation as a per cent of GDP was taken from the World Bank Financial Structure Database. In general financial development and hence stock market capitalisation is higher in the English-speaking countries than in the continental European countries (Figure 7).

Figure 7. **Stock market capitalisation over GDP, 2004**
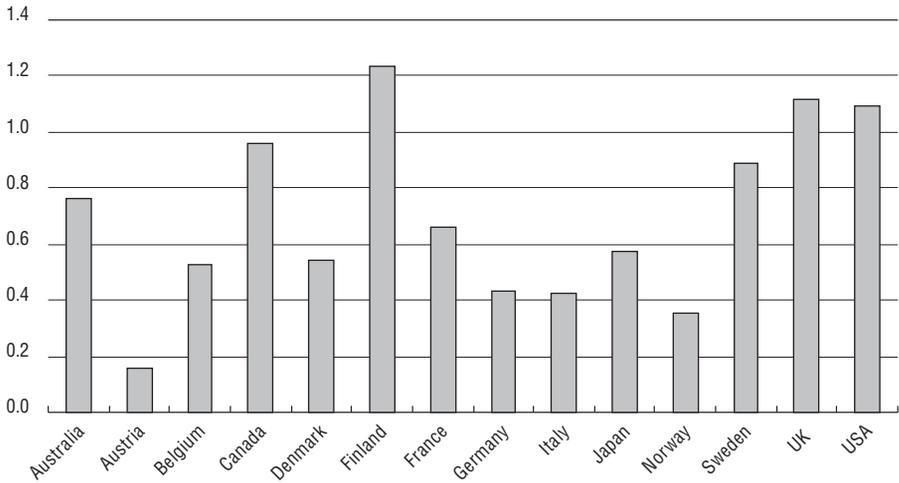
*Source:* World Bank Financial Structure Database.

- *Labour market performance indicators*. The trend labour force participation rate is defined as the trend in the total labour force divided by the total population aged 15-64 years.[15] The data generally show that participation rates are high in most OECD countries, with a tendency to be comparatively higher in the Nordic countries (Figure 8). The variable for NAIRU is a standard OECD variable created and maintained by the OECD (Figure 9).[16] It shows the common feature that the NAIRU tends to be relatively low in the English-speaking countries and relatively high in the continental European countries, in particular Germany and France.[17]

Testing for the role of structural reforms

Panel regressions were run across 13 countries for the period 1982-2003. As a first step, and using an error-correction approach, a "benchmark" relation was estimated, linking the current account balance to a set of macroeconomic variables (output gap, real effective exchange rate, government balances) and potential

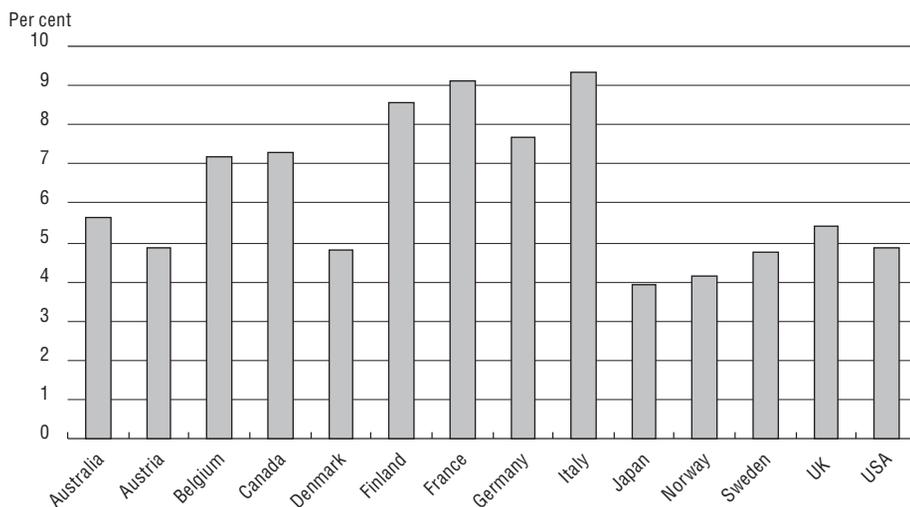Figure 8. **Trend participation rate, 2004**

Per cent
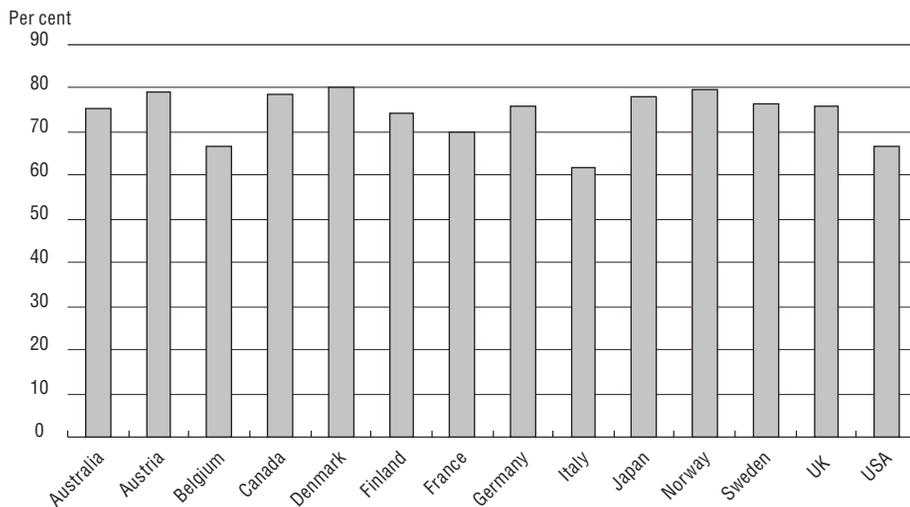
Per cent

Source: OECD Economic Outlook Database.

Figure 9. **NAIRU, 2004**

Per cent

Per cent

Source: OECD Economic Outlook Database.

Box 1. **Sensitivity testing of the empirical specification**

The benchmark regressions, in which the current account as a per of GDP was the dependent variable, were estimated with OLS assuming that the variables involved are all integrated of order 0 and unit root tests confirm that this is generally the case for most variables. The structural variables do show a tendency to be I(1) but most of them only enter the benchmark regressions in changes.

Panel unit root tests[1]

	Tests assuming a common unit root process across countries			Tests assuming individual unit root processes across countries		
	Levin, Lin and Chu (2002)	Breitung (2000)	Hadri (1999)	Im, Pesaran and Shin (2003)	Panel ADF (1999)	Panel PP (1999)
	Test indicates that series is:			Test indicates that series is:		
Current account (as % of GDP)	I(0)	I(1)	I(1)	I(0)	I(0)	I(0)
Output gap[2]	I(0)	I(0)	I(0)	I(0)	I(0)	I(0)
Government budget balance	I(0)	I(1)	I(1)	I(0)	I(0)	I(1)
Real effective exchange rate	I(0)	I(1)	I(1)	I(1)	I(1)	I(1)
Potential output growth	I(0)	I(0)	I(0)	I(0)	I(0)	I(0)
Trend growth in GDP per employed	I(0)	I(0)	I(1)	I(0)	I(0)	I(0)
Employment protection legislation	I(1)	I(1)	I(1)	I(1)	I(1)	I(1)
Product market regulation	I(1)	I(1)	I(1)	I(1)	I(1)	I(1)
FDI restrictiveness	I(0)	I(1)	I(1)	I(0)	I(0)	I(0)
Stock market capitalisation	I(1)	I(1)	I(1)	I(1)	I(1)	I(1)
Structural unemployment (NAIRU)	I(0)	I(1)	I(1)	I(1)	I(1)	I(0)
Trend participation rate	I(0)	I(1)	I(1)	I(0)	I(1)	I(1)

Note: The Levin *et al.* (2002), Breitung (2000) and Hadri (1999) tests all assume that the persistence parameters are common across countries so that $\rho_i = \rho$ for all i in the general regression $Y_{it} = \rho_i Y_{it-1} + \varepsilon_{it}$. The Im *et al.* (2003), the Augmented Dickey-Fuller and the Philips-Perron (Maddala and Wu, 1999) panel unit root tests all allow ρ_i to vary freely across countries.

1. Countries included in sample: United States, Japan, Germany, France, Italy, United Kingdom, Canada, Australia, Austria, Belgium, Denmark, Norway and Sweden.
2. Output gap relative to the output gap of the entire OECD area.

Source: Authors' calculations.

Box 1. **Sensitivity testing of the empirical specification** (*cont.*)

However, as some of the tests suggest that some of the series may be integrated of order 1, a model, in which the current account as a per cent of GDP was again the dependent variable, was specified assuming the presence of co-integration among the variables. A dynamic fixed effects specification and the Pooled Mean Group estimator (PMG) are two ways to specify a co-integrating relationship between the variables.

In the dynamic fixed effects model, it is assumed that the long-run and the short-run dynamics are similar across countries. In the PMG framework the long-run coefficients are identical across all countries, but the short-run dynamics in the adjustment back to the long run are allowed to differ. In that sense the PMG methodology presents a more flexible specification than the dynamic fixed effects equation.

Overall, the results found when assuming co-integration yield the same qualitative results as the benchmark regressions.

Sensitivity tests

	Dynamic fixed effects	PMG	PMG	PMG
Output gap	**−0.80***	**−0.82***	**−0.51***	**−0.65***
Government balance	**0.34**	**0.14**	**0.11**	**0.14**
Real effective exchange rate	−0.03	**−0.13***	**−0.12***	**−0.14***
Potential output growth			−0.40	
In relation to rest of OECD				−0.21
Fixed effects[1]	Yes	(Yes)	(Yes)	(Yes)
Error correction coefficient	**−0.21***	**−0.23***	**−0.24***	**−0.25***
Joint Hausman test[2]		6.23	1.99	8.19
P-value		(0.10)	(0.74)	(0.08)

N*ote*: Significant coefficents in bold. *, ** and *** denote sinificance at the 10, 5 and 1% level, respectively.
1. For the PMG estimation, not only are there country-specific fixed effects, but the short-run dynamics are also allowed to vary across countries.
2. Tests the null hypothesis of equality of the mean group and pooled mean group estimates. Here the null is accepted, implying that pooled estimates are not biased by the imposition of homogeneity across countries and that standard errors are reduced.
S*ource*: Authors' calculations.

growth (Box 1). In a second stage, the "benchmark" relation was progressively enriched with a set of structural reform indicators that substitute for potential growth.

Before moving to the discussion of estimation results, it may be worth elaborating a bit further on the underlying estimation framework. Taking account of the stationarity of the current account balances, it is first assumed that structural

reforms do not influence them in the very long run, although such influences may persist over a prolonged interim period, as discussed above. Structural reforms are also assumed to operate through a variety of channels that encompass both gradual changes in real effective exchange rates, inasmuch as they can be accurately measured, as well as "direct" impacts on income and trade. Such direct impacts can be expected when exchange-rate reactions are sluggish, changes in non-price competitiveness are present and reforms are aimed at removing such non-price barriers as product market regulation, non-tariff barriers to trade, employment protection, etc.

For the sake of brevity, the focus will be on the enriched relation (Table 3a). As would be expected, the controls for the relative cyclical position come in significantly, with a comparatively high activity being associated with a worsening in the current account position. In line with previous empirical literature, government deficits tend to have a robust effect on the current account, independently from their impact on the cyclical position of the economy, suggesting a capacity of fiscal policy to influence the structure of aggregate demand and the savings/investment balance. The real effective exchange rate also comes in with the right sign, an appreciation leading to current account deterioration, but at somewhat variable significance levels across equations.[18]

Table 3*a*. **The current account and measures of potential output and productivity growth**[1]

	Benchmark regressions: assuming no co-integration present					
	I	II	III	IV	V	GMM
D*ependent variable*: C*urrent account* (% of GDP)						
Output gap	–0.23**	–0.23***	–0.21***	–0.22***	–0.24***	–0.34***
Government balance (% of GDP)	0.26***	0.07**	0.08**	0.08**	0.06**	0.29***
Real effective exchange rate	–0.02**	–0.01*	–0.01***	–0.01**	–0.01*	–0.05***
Lagged current account (% of GDP)		0.82***	0.83***	0.83***	0.82***	0.16***
Potential output growth			–0.14*			
In relation to rest of OECD				–0.09		
Trend labour productivity growth					0.22	
Fixed effects	No	Yes	Yes	Yes	Yes	
Sargan (p-value)						0.44
R^2 (adjusted)	0.10	0.83	0.83	0.83	0.83	

N*ote*: Significant coefficients in bold. *, ** and *** denote significance at the 10, 5 and 1% level.

1. Countries included in sample: United States, Japan, Germany, France, Italy, United Kingdom, Canada, Australia, Austria, Belgium, Denmark, Norway and Sweden. Sample period is 1982-2003.
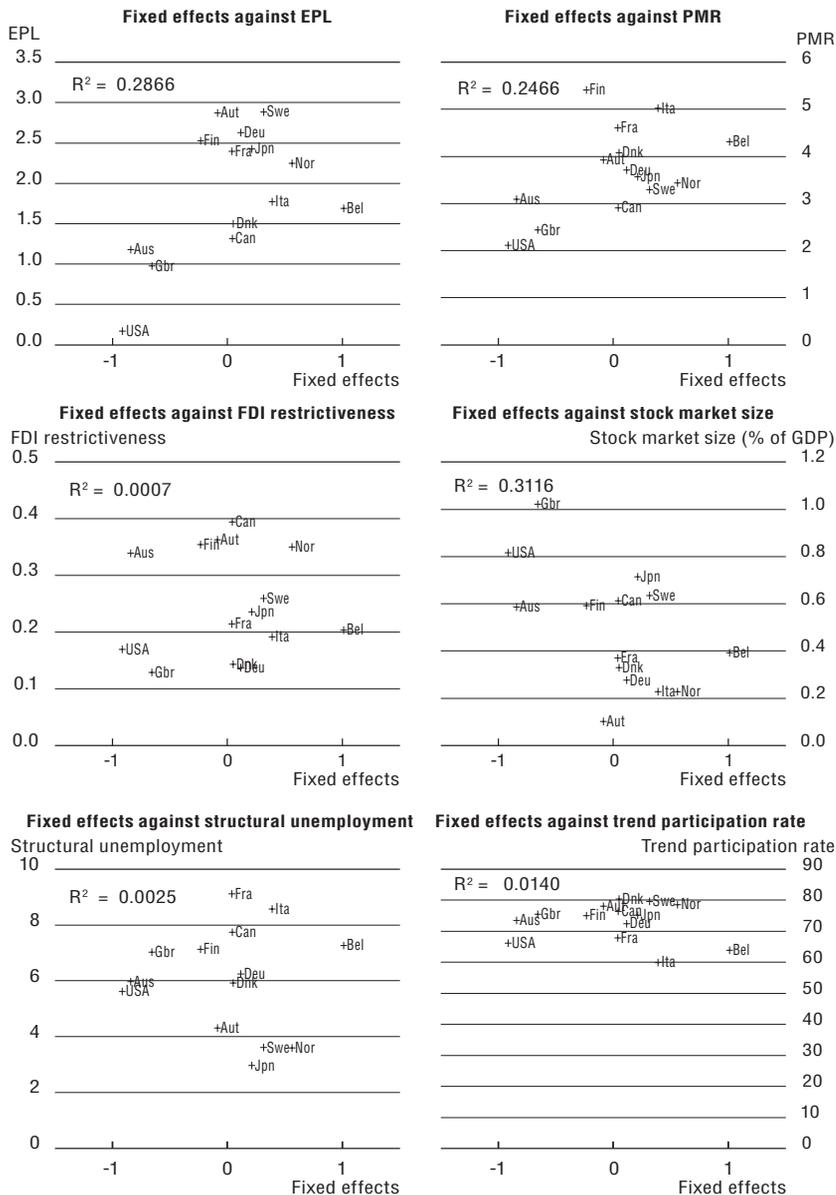
S*ource*: Authors' calculations.

Although the previous section concluded that the relationship between trend growth and the current account would likely depend on the exact driver of trend growth and country-specific economic framework conditions, equations III-V nonetheless test for the existence of a uniform and direct link between different measures of trend growth[19] and the current account. On the whole, the results do not find support for a simple link between trend growth and current accounts, although one of the trend growth variables is weakly significant.

Before introducing the structural variables, there is a question as to what extent the fixed effects in these regressions are simply a reflection of structural policies. Bearing in mind the initial evidence in Figures 2 and 3, that the link between growth and current accounts seems weaker in the time-series than in the cross-country dimension, the estimation procedure based on country fixed effects might be thought to hide some of the linkages between structural policies and the current account. To investigate this further, the fixed effects of equation II are plotted against the levels of the structural variables in Figure 10. There appears to be some correlation, with more restrictive job protection and more anti-competitive product-market regulation being associated with larger fixed effects. Also, a deeper stock market seems to be associated with smaller fixed effects. As a first pass, this indirect approach suggests that structural policies play a role as drivers of current accounts. More direct testing of the role of these structural variables follows.

Equations VI and VII (Table 3b) test for the influence of specific structural reforms or variables aimed at capturing the effects of structural reforms on current accounts. The difference between the two equations is the exclusion of controls for the real effective exchange rate in equation VII. The reason for leaving out this control variable is that some structural reforms might affect the current account through the real exchange rate or might affect the real exchange rate at the same time as the current account, with the risk that coefficients on the structural reform variables become insignificant. In the event, the significance of the coefficients on the structural reform variables is not strongly affected by the exclusion of the exchange rate.

Among the structural reform variables, a number of them have the expected sign, although with various levels of significance. Indicators of product market regulation and of financial openness (*i.e.* the share of stock market capitalisation over GDP) are strongly significant, lending some support to the hypothesis that more open product and financial markets may contribute to weakening the current account. In contradiction to what may have been tentatively inferred from previous OECD empirical work, stronger FDI restrictions are seen as weakening the current account, suggesting possibly an important degree of substitution between FDI and imports.[20] Labour market variables do not yield satisfactory results: employment protection and the trend participation rates are not statistically significant at

Figure 10. **Fixed effects could be a reflection of different structural policies**

Note: The values for the structural indicators are sample (1982-2003) averages. EPL is employment protection legislation and PMR is product market regulation. See text and Box 2 for details.
Source: Authors' calculations.

Table 3*b*. **The current account and measures of structural reform**[1, 2]

Dependent variable: *Current account* (% *of* GDP)	VI	VII
Output gap, lagged[3]	**−0.17*****	**0.17*****
Change in output gap	**0.29*****	**−0.29*****
Change in government balance (% of GDP)	**0.32*****	**0.33*****
Real effective exchange rate, lagged	**−0.01****	
Lagged current account (% of GDP)	**0.77*****	**0.78*****
Indicators of structural policy:		
Change in product market regulations	**1.21****	**1.14****
Change in stock market capitalisation over GDP	**−1.98*****	**−2.00*****
FDI restrictiveness, lagged[5]	**−6.44*****	**−5.93*****
Employment protection legislation, lagged[6]	−1.09[4]	−0.09[4]
Change in structural unemployment (NAIRU)	**0.71****	**0.80****
Change in trend participation rate	−0.37	−0.34
Fixed effects	Yes	Yes
R[2] (adjusted)	0.87	0.86

N*ote*: Significant coefficients in bold. *, ** and *** denote significance at the 10, 5 and 1% level.

1. Countries included in sample: United States, Japan, Germany, France, Italy, United Kingdom, Canada, Australia, Austria, Belgium, Denmark, Norway and Sweden. Sample period is 1982-2003.
2. To "let the data speak" as much as possible the Hendry procedure was applied to a model with the benchmark variables and the structural variables. Thereby all variables are allowed to enter in levels and differences depending on what the data say. Equations VI and VII are the end result of this exercise.
3. Output gap relative to the output gap of the entire OECD area.
4. Coefficients significant only at the 30% level.
5. The value for the FDI restrictiveness indicator ends in 2000 and the observation for 2000 was pushed through to 2003; however, running the regression ending in 2000 yields very similar results to those shown here.
6. On regular workers.
Source: Authors' calculations.

conventional levels; the NAIRU is significant but with a counter-intuitive sign. Here the difficulty is that available labour market variables, such as EPL, have shown little variation over time, so that their influence may be quite difficult to disentangle from fixed effects. Removing those labour market variables from the regression did not alter the sign and significance of their other structural counterparts.

Next, the extent to which the results were driven by the estimation methodology was tested. As the number of countries is small relative to the number of observations over time, OLS was used to estimate the dynamic model. However, estimating the models in Tables 3a and 3b using GMM,[21] the results obtained are very similar (in terms of coefficient signs, size and significance), except for the coefficient on the lagged dependent variable which becomes smaller (Table 4).

Finally, it could be argued that reforms only have effects over time. Hence, five-year averages were used for all variables in order to capture long-term effects of structural reforms on current accounts.[22] Doing this and leaving out of the

Table 4. **Sensitivity testing the role of structural reforms**

	GMM[1]
Dependent variable:	
Current account (% *of* GDP)	
Output gap	**−0.28***
Government balance (% of GDP)	**0.33***
Real effective exchange rate	**−0.05****
Lagged current account (% of GDP)	**0.13***
Indicators of structural policy:	
Product market regulations	**0.32***
Stock market capitalisation over GDP	**−1.50***
FDI restrictiveness	**−7.02***
Employment protection legislation	**−1.98***
Structural unemployment (NAIRU)	**1.05***
Trend participation rate	**−0.16***
Sargen (p-value)	0.49

N*ote*: Significant coefficients in bold. *, ** and *** denote significance at the 10, 5 and 1% level. See also notes to Table 3b for definitions of various variables.

1. GMM (generalise method of moments) is estimated in first differences assuming White diagonal instrument weighting matrix and White period standard errors and covariance (corrected for degrees of freedom).

Source: Authors' calculations.

regression the business cycle variables yields results which are slightly different from the results shown above (Table 5). In particular, the conclusion about product market reforms still stand but EPL becomes significant with the expected intuitive sign. In sum, this could suggest that it takes time before labour market reforms start to work and before effects shows up in the current account.

Table 5. **Sensitivity: Taking five year averages**

	Fixed effects
Dependent variable:	
Current account (% *of* GDP)	
Product market regulations	**1.00****
Stock market capitalisation over GDP	0.81
FDI restrictiveness[1]	**−8.64****
Employment protection legislation[2]	**1.10***
Structural unemployment (NAIRU)	**−0.39***
Trend participation rate	−0.04
R^2	0.35

N*ote*: Significant coefficients in bold. *, ** and *** denote significance at the 10, 5 and 1% level. See also notes to Table 3b for definitions of various variables.

1. The value for the FDI restrictiveness indicator ends in 2000 and the observation for 2000 was pushed through to 2003; however, running the regression ending in 2000 yields very similar results to those shown here.

2. On regular workers.

Source: Authors' calculations.

CONCLUSIONS

A number of tentative conclusions can be drawn from the above analysis.

- First, controlling for transitory effects on external imbalances (essentially movements in relative cyclical positions and fiscal balances across countries) in a rough and ready manner, it appears that current external positions are predominantly "structural" in nature. While they seem to be negatively correlated with trend growth across countries, this correlation appears to be driven entirely by the cross-country variation in the data, with variations in growth within countries not systematically linked to current account developments.

- Second, making a link between the structural nature of these imbalances and structural reforms that enhance growth is more difficult. On the one hand, there is a theoretical perspective that there is no *a priori* reason for higher trend growth, which potentially raises both import and export trend growth, to alter current accounts. That said, there could be transitory effects, *i.e.* with structural-reform driven changes in trend growth being related, possibly over prolonged periods, to current account positions.

- Third, the existing empirical evidence linking specific growth-enhancing structural reforms to the channels that typically effect current accounts (trade flows, saving and investment, as well as capital flows) provides only limited guidance as to the effects of different types of structural reforms on external imbalances, in part because the study of the effects of structural reforms on growth has never really concentrated on the implications for current account positions.

- Fourth, for the reason cited above, reduced-form regression analysis covering both the time-series and the cross-country dimension suggests that it is difficult to find a robust link between specific structural reforms and current account positions, though some evidence is found that reforms to product and financial markets affect current account positions.

Overall, the empirical evidence presented in this article supports the notion that growth-enhancing structural reform may have impacts on current accounts. However, the evidence also suggests that the links may be tenuous and specific to individual types of structural reform and to framework conditions existing in individual countries. Nevertheless, the policy implications are clear: structural reforms should be undertaken because, by enabling economies to grow faster, they improve general welfare. To the extent that they help reduce external imbalances, they should be thought of as a welcome by-product, not as an objective of policy.

Notes

1. For a recent variant of the three recommendations, see Taylor (2004).

2. See, for example, the Appendix in OECD (2005b).

3. For a list of country-specific policy priorities in this area, see OECD (2005b).

4. See Obstfeld and Rogoff (1996).

5. For further details, see the Appendix in OECD (2005a).

6. This has by some observers been called a "structural" current account deficit. To avoid confusion with structural policies, it is here called non-cyclical, meaning unexplained by business cycle variables.

7. Interlink is a traditional macro-econometric model where a higher level of trend growth will be reflected in higher imports but where possible supply-side effects of higher trend growth on exports and trade, *e.g.* via non-price competitiveness, are ignored, although price competitiveness will be affected in the short run in the model. As well, linkages between domestic demand and the income flows arising from accumulating net foreign asset positions are weakly developed and the role of changing capital flows in response to structural reform is not captured. See Dalsgaard *et al.* (2001).

8. See Obstfeld and Rogoff (2000 and 2004).

9. See OECD (2003).

10. Part of the problem is that when studying OECD economies, the cross-country variation in both growth and policy indicators is smaller compared with a situation that included a broader set of economies. As well, both approaches assign an important role to similar variables (like human capital).

11. A reduction in NTB lowers the incentive for foreign firms to "jump the tariff barrier" in order to establish a presence in the local market.

12. From a theoretical perspective, the link between FDI restrictions and the current account is less straightforward. Lower restrictions should lead to stronger net FDI inflows and an appreciating exchange rate that would weaken, *ceteris paribus*, the current account. Besides this financial channel, FDI also has an influence on product markets, inasmuch as it could influence trade flows. Some foreign companies could use FDI within a strategy of vertical integration, later increasing imports from their home base. In this case, FDI and imports would be complementary and the overall lower FDI restrictions would unambiguously weaken the current account. But it could equally be argued that some multinational businesses see FDI as a substitute for imports, if for instance tariff barriers are high. In this latter case, the net impact of lower FDI restrictions on the current account could be positive.

13. The methodology for constructing the PMR indicators followed several steps. First, qualitative information was turned into numerical format using a system of codes. Second, the resulting data on individual regulatory provisions, as well as any other relevant information already available in quantitative terms, were ranked on an identical scale according to the implied degree of restrictiveness of the provisions. Finally, summary indicators and overall indicators of regulation were obtained by maximising the proportion of the total variance in the data explained by the resulting indicators. For more information on the PMR indicator, see Conway *et al.* (2005). Information on the estimation of EPL indicators can be found in OECD (2004).

14. Specifically, it was based on regulations in three areas: ownership, screening, and other restrictions. For ownership, the indicator was based on the share of equity that could be owned by non-residents; for screening, the indicator reflected the extent to which foreign investors must show economic benefits and whether approval was dependent on whether or not the FDI was contrary to national interest. The other restrictions category included factors such as to what extent the managers on the board of a company must be nationals or residents and whether the domestic input must be more than 50%. For more details, see Golub (2003).

15. This corresponds to the trend version of the variable shown in Annex Table 21 of OECD (2005a). For more information about sources and definitions, see (*www.oecd.org/eco/sources-and-methods*).

16. For further documentation of how NAIRU is created see Richardson, *et al.* (2000).

17. For an overview of which policies are driving labour market outcomes, see OECD (2005b) and Elmeskov, *et al.* (1998).

18. As a check on the ability of the parsimonious model in equation II to control for these basic influences, the equation was used to simulate the effects of zero output gaps and real effective exchange rates and government budget balances as in the end-year of the OECD Medium-Term Baseline Scenario. The resulting current account balances correspond fairly well to those in the Medium-Term Baseline itself.

19. These are potential growth, potential growth relative to the rest of OECD, and trend labour productivity growth.

20. The sign of this relationship is not altered when the real exchange rate is omitted from the regression, thus permitting the capture of the full effect of FDI restrictions whether they stem from product markets or from financial markets via the exchange rate channel.

21. First differences with White diagonal instrument weighting matrix and White period standard errors and covariance.

22. Three-year averages gave broadly similar results.

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