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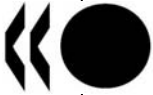
# Structural Policy Reforms and External Imbalances

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Torsten Sløk**

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**STRUCTURAL POLICY REFORMS AND EXTERNAL IMBALANCES**

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## ABSTRACT/RESUME

### **Structural policy reforms and external imbalances**

It has been argued that one solution to global current account imbalances is for countries with current account surpluses to undertake structural reforms. This would raise their potential growth, which is assumed to put downward pressure on the current account position. This paper takes a closer look at how such structural reforms in labour markets, product markets, and financial markets could be expected to affect current accounts. It also tests empirically, using pooled time-series techniques (that control for the influence of relative cyclical positions, government fiscal balances and the real exchange rate), whether or not reforms in these areas would have any significant relationship with current accounts. The overall finding is that indicators of structural reforms do have a significant relationship with the current account but the contribution of these variables to explain current account positions is quite limited.

*JEL classification:* F32, J40

*Keywords:* current accounts, structural reforms.

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### **Politique de réformes structurelles et balances extérieures**

Il a été démontré qu'une solution au déséquilibre de la balance des opérations courantes dans les pays ayant un excédant serait d'entreprendre des réformes structurelles. Cela devrait augmenter leur potentiel de croissance, ce qui est supposé soulager la pression sur la situation de la balance des opérations courantes. Cet article examine de près comment de telles réformes structurelles dans les marchés financiers, du travail et de la production sont susceptibles d'influer les comptes courants. Il vérifie aussi empiriquement, au moyen d'un ensemble de séries temporelles techniques (lesquelles contrôlent l'influence des situations conjoncturelles relatives, l'équilibre budgétaire et le taux de changes réel) si des réformes dans ces secteurs ont une relation significative avec les comptes courants. Il en ressort que ces indicateurs de réformes structurelles ont une relation significative avec les comptes courants, mais que la contribution de ces variables à l'explication de la situation de la balance des opérations courantes est très limitée.

*JEL codes :* F32, J40

*Mots-clés :* balance des opérations courantes, réformes structurelles.

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## STRUCTURAL POLICY REFORMS AND EXTERNAL IMBALANCES

By Mike Kennedy and Torsten Sløk<sup>1</sup>

### I. Introduction and summary

1. This paper attempts to provide some elements of a framework for thinking about the impact of structural reforms on external imbalances. This is an issue that has attracted considerable attention in view of the current global constellation of relative growth rates and current account balances.<sup>2</sup>

2. The current paper proceeds in several steps which lead to a number of separate conclusions:

- First, the transitory effects on external imbalances resulting from cyclical fluctuations are assessed. Abstracting from these, evidence linking underlying imbalances with trend growth is examined. The upshot is that current external positions are predominantly “structural” in nature and seem across countries to be negatively correlated with trend growth, a feature which can also be observed in historical evidence covering the past three decades. However, 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, the paper discusses whether, in the very long term, links should be expected to be found between structural reform and (relative) trend growth on the one hand and current accounts on the other. Such long-term links may seem unlikely as a general proposition and any linkages may be transitional in nature, *i.e.* with structural reform driven changes in trend growth being related, possibly over prolonged periods, to current account positions. However, considerable uncertainty remains about the exact nature of the linkages. From a theoretical perspective there is *a priori* no reason for higher trend growth, which raises simultaneously import and export trend growth, to alter current accounts. It may nonetheless be the case that specific structural reforms boost output in ways that weaken the current account.
- Third, current account positions may be viewed from three different angles: trade flows, saving and investment, as well as capital flows. The paper reviews the existing empirical evidence linking specific growth-enhancing structural reforms to current account positions from one or more of these three angles with the upshot that the evidence provides some

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1. The authors are members of the Money and Finance Division of the Economics Department of the OECD. They would like to thank particularly Jean-Philippe Cotis and Jørgen Elmeskov for their contribution to this paper, as well as Mike Feiner, Vincent Koen and Giuseppe Nicoletti for helpful comments and suggestions. They also wish to acknowledge the statistical assistance received from Laure Meuro and secretariat help from Veronica Humi and Paula Simonin. The views expressed here are those of the authors and do not necessarily represent those of the OECD.

2. See J. Taylor, “The US current account: recent trends and policies”, speech to the *American Enterprise Institute Conference on Policy Challenges of Global Payment Imbalances*, Washington, D.C., 4 November 2004.

limited guidance as to the effects of different types of structural reforms on external imbalances.

- Fourth, to further explore empirical evidence of links between structural reforms and current accounts, the paper uses reduced form regression analysis covering both the time series and the cross-country dimension to identify linkages between current accounts (taking account of relative cyclical positions, government balances, real effective exchange rates) and relative trend growth as well as indicators aimed to capture structural reforms. The analysis yields firm results on the impact of relative cyclical positions, government balances and real exchange rates and gives some weak evidence in support of a link between higher trend growth and weaker current account balances. Finding a robust link between specific structural reforms and current accounts is very difficult, though some evidence is found that reforms to product and financial markets affect current account positions.

## II. Underlying imbalances and economic growth

3. It is well known that fluctuations in output gaps, relative to similar fluctuations in trading partners, are associated with changes in current account imbalances.<sup>3</sup> However, the issue at hand is concerned with the relationship between trend growth and current accounts. Any evidence of this relationship must therefore aim to abstract from cyclical influences on the current account.

4. In the OECD Medium-Term Reference Scenario,<sup>4</sup> produced using the Interlink model, 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 the output gap by 2010 and exchange rates are assumed constant. Hence, the current account position that falls out of this hypothetical exercise may be seen as representing a country's underlying external imbalance in the absence of policy or exchange rate changes. The results suggest that existing current account imbalances are largely "structural" in nature (Table 1). The end-period current account positions also seem to be negatively correlated with trend growth across countries (Figure 1). Taken at face value, this would suggest that growth-enhancing structural reform might indeed negatively affect a country's current account, with such reforms undertaken in surplus countries thus contributing to reduce existing external imbalances across the OECD and beyond. However, the result to some extent reflects features of the Interlink model and it is therefore important to examine historical evidence of similar linkages.<sup>5</sup>

5. As a simple 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 GDP or GDP *per capita* is used to represent growth, a negative correlation again emerges. There are two caveats, however. First, the correlation seems predominantly to arise because of the cross-country variation

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3. Strictly speaking, a given output gap can be driven by trend deviations of either domestic demand or net trade. Hence, the relation between a country's relative output gap and its current account position is not necessarily negative. In practice, however, and in particular for larger economies, movements in domestic demand tend to be the dominant driver of output gaps.

4. For further details, see the Appendix to the General Assessment of the Macroeconomic Situation in OECD Countries, published in June editions of the *OECD Economic Outlook*.

5. 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. 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 also Dalsgaard, T., C. André and P. Richardson, "Standard shocks in the Interlink model", *OECD Economics Department Working Papers* No. 306, 2001.

in the data whereas in the time-series dimension there is little evidence that for individual countries changes in growth bear any systematic relation to changes in the current account (Figure 3). Second, there looks to be some tendency for the association 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. The next section addresses the latter issue.

### III. Long-term links between structural policies, growth and external imbalances

6. 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 ICT breakthrough – 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 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 the respective economies were to experience a similar ICT induced growth revival.

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

- Research in the context of the OECD Growth Study, suggested that it was empirically very difficult to discriminate between endogenous growth models or models based on conditional convergence as the most appropriate descriptions of growth across OECD countries.<sup>6</sup> Nonetheless, the implications for the effects of structural policies and reforms on growth are very different. In the former types of models, structural reforms can permanently raise the growth rate of an economy whereas in the latter it would be the level of output but not the growth rate that would be affected in the long term. The implications of endogenous growth models are, however, such that the Secretariat has preferred to interpret its results within a conditional convergence framework; *i.e.* structural reforms generally affecting the level of output but not having permanent effects on growth. Nonetheless, in particular where structural reforms may strengthen an economy's innovation process the effects on growth could, at a minimum, be very long-lasting.
- 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 IC technologies across countries provide an illustration. Across countries, the take-up of ICT, with associated implications for growth, appears to be negatively correlated with the heavy-handedness of job protection and of product-market regulation.

8. 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 general relationships it may still be possible to empirically identify regularities between, on the one hand, structural reform and, on the other

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6. 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). See *The Sources of Economic Growth in OECD Countries*, 2003, OECD, Paris.



hand, current account outcomes. The following two sections, respectively, review and contribute to the empirical evidence.

#### IV. Frameworks and evidence linking structural reform and current accounts

9. Current account imbalances by definition correspond to three different concepts: the net of current payments in and out of a country, usually primarily concerned with trade; the net of domestic saving and investment; as well as the net of capital outflows and inflows. This section reviews empirical evidence previously produced by the OECD within each of the three dimensions for considering the current account. In all cases, the evidence is based on the estimation of reduced-form equations on pooled cross-country/time-series data. The evidence is synthesised in Table 2 and, as can be seen from that Table, it is not comprehensive. Furthermore, it has in some cases been necessary to interpret regression results in a fairly liberal manner to produce this information set.

10. 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 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 a 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 rather uncertain.

11. Two specific types of reform are considered as regards labour markets, with more information being available as regards a lower tax wedge than easier job protection. Within the trade framework, a lower tax wedge on labour 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 (however, based on a macro tax pressure variable) saving would have to rise more than investment. 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.

12. 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 point to a positive effect on exports of lowering tariff barriers, the overall evidence on trade effects 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 NTBs.<sup>7</sup> 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.

13. 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 a current account deterioration.<sup>8</sup>

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7. 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.

8. 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

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, 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 a frequent experience with liberalisation in financial markets since around 1980 that it has entailed an at least temporary decline in saving.

14. Trying to bring theoretical coherence into these various results, the following tentative typology could be established:

- Deregulating labour markets in one country boils down to increasing its effective labour supply relative to the rest of the world. With a 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 re-establish 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 domestic 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 increased capital accumulation may lead to better productivity, improving competitiveness and strengthening the current account.

## V. Reduced-form evidence on links between growth, structural reform and current accounts

15. As a modest attempt to provide some 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. More specifically, panel regressions are run across 14 countries for the period 1982-2003. As a first step, and using an error-correction approach, a "benchmark" relation is estimated linking the current account balance to a set of macroeconomic variables (output gap, real effective exchange rate, government balances) and potential growth (Box 1). In a second stage, and using OLS estimation, the "benchmark" relation is progressively enriched with a set of structural reform indicators that substitute for potential growth.<sup>9</sup>

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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.

9. As the number of countries is small relative to the number of observations over the time series dimension, OLS was used to estimate the dynamic model instead of GMM. However, estimating the models in Table 3a and 3b using GMM (first differences with white diagonal instrument weighting matrix and white period standard errors and covariance) one gets results which are very similar (in terms of coefficient signs, size and significance), except for the coefficient on the lagged dependent variable which becomes smaller.

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

The benchmark regressions were run in simple OLS assuming that the variables involved are all integrated of order 0 and simple 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.

Table 1. **Panel unit root tests<sup>a</sup>**

	Tests assume common unit root process across countries			Tests assume individual unit root process 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:					
Current account	I(0)	I(1)	I(1)	I(0)	I(0)	I(0)
Output gap <sup>b</sup>	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  $\rho_i$  to vary freely across countries.

a) Countries included in sample: United States, Japan, Germany, France, Italy, United Kingdom, Canada, Australia, Austria, Belgium, Denmark, Norway and Sweden.

b) Output gap relative to the output gap of the entire OECD area.

*Sources:* OECD calculations.

J. Breitung, "The local power of some unit root tests for panel data," in B. Baltagi (ed.), *Advances in Econometrics*, Vol. 15: Nonstationary Panels, Panel Cointegration, and Dynamic Panels, 2000, Amsterdam: JAI Press.

K. Hadri, "Testing for stationarity in heterogeneous panel data," *Econometric Journal*, No. 3, 2000.

K. Im, M. Pesaran and Y. Shin, "Testing for unit roots in heterogeneous panels," *Journal of Econometrics*, No. 115, 2003.

A. Levin, C. Lin, and C. Chu, "Unit root tests in panel data: asymptotic and finite-sample properties," *Journal of Econometrics*, No. 108, 2002.

G. Maddala and S. Wu, "A comparative study of unit root tests with panel data and a new simple test" *Oxford Bulletin of Economics and Statistics*, No. 61, 1999.

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

However, as some of the tests suggest that some of the series may be integrated of order 1 a model was specified assuming the presence of co-integration among the variables. Two ways to specify a co-integrating relationship between the variables is by using a dynamic fixed effects specification and the Pooled Mean Group estimator (PMG).

Table 2. **Sensitivity tests: assuming co-integration present**

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

*Note:* Significant coefficients in bold. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1 per cent level.

- a) For the PMG estimation, not only are there country-specific fixed effects, but the short-run dynamics are also allowed to vary across countries.
- b) Tests the null 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.

*Source:* OECD calculations.

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.

16. Before moving to the discussion of estimation results it may be worth elaborating a bit further on their underlying theoretical 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. 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.

17. For the sake of brevity, the focus will be on the enriched relation (Table 3a). As would be expected, the controls for relative cyclical position come in significantly, with high activity being associated with a worsening 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 control for 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.<sup>10</sup>

18. 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 link between different measures of trend growth<sup>11</sup> 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.

19. 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 variables are further described in Box 2). 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 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.

20. 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 idea that more open product and financial markets may contribute to weaken 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.<sup>12</sup> Labour market variables do not yield satisfactory results: employment protection and the trend participation rates are not statistically significant; the NAIRU is significant but with an unintuitive 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.

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10. 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 resulting from the Medium-Term Baseline itself.

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

12. 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.

### Box 2. Measures of structural policies in OECD countries

The OECD has created a number of structural indicators which attempt to quantify changes in structural policies over time. Six indicators were used in the regression analysis reported here, covering the areas of both the labour and the product market and the openness of an economy to foreign direct investment.

#### ***Employment protection legislation and product market regulation.***

These two indicators were constructed based on the replies to a questionnaire sent to OECD member countries. The methodology for constructing the 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 maximizing the proportion of the total variance in the data explained by the resulting indicators. For both the labour market indicator and the product market indicator, it is the case that the higher the values the more restrictive are the regulations.

#### ***FDI restrictiveness***

The FDI restrictiveness indicator was constructed by converting both qualitative and quantitative indicators of FDI restrictiveness into an overall indicator. Specifically, the FDI restrictiveness indicator was based on regulations in three areas: equity, screening, and other restrictions. For equity the indicator was based on how large a share of foreign equity is allowed and for screening an important variable was the extent to which 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 per cent.<sup>1</sup> As with the indicators above, the higher the value of the FDI restrictiveness the more restrictive are FDI regulations.

#### ***Stock market capitalisation as a per cent of GDP***

Stock market capitalisation as a per cent of GDP was taken from the World Bank Financial Structure Database. Documentation for this variable can be found at: <http://www.worldbank.org/research/projects/finstructure/database.htm>. The years 2002 and 2003 were updated using data for market capitalisation and GDP taken from Datastream.

#### ***Trend labour force participation rate***

Trend labour force participation rate was defined as the trend in total labour force divided by total population aged 15-64 years. This corresponds to the trend version of the variable shown in Annex Table 21 of the *Economic Outlook*. For more information about sources and definitions, see *OECD Economic Outlook, Sources and Methods* ([www.oecd.org/eco/sources-and-methods](http://www.oecd.org/eco/sources-and-methods)).

#### ***Structural unemployment rate (NAIRU)***

The variable for NAIRU is a standard OECD variable created and maintained by the OECD and this variable is also available through the *OECD Economic Outlook* database. For further documentation of how NAIRU is created see P. Richardson, L. Boone, C. Giorno, M. Meacci, D. Rae and D. Turner, "The concept, policy use and measurement of structural unemployment: estimating a time-varying NAIRU across 21 OECD countries", *OECD Economics Department Working Papers* No. 250, 2000.

1. For more documentation on how the FDI restrictiveness indicators are derived see S. Golub, "Measures of restrictions on inward foreign direct investment for OECD countries", *OECD Economics Department Working Papers* No. 357, 2003.

21. Reaching back to 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 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 4. There appears to be some correlation, with more restrictive job protection and more anti-competitive product market regulation being associated with a more positive current account position. Also, a deeper stock market seems to be associated with a more negative current account.

22. Overall, the empirical evidence presented in this and the preceding section, 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.

Table 1. Medium-term reference scenario summary

Per cent

	Real GDP growth	Potetial GDP growth		Current account balance <sup>a</sup>		Government financial balances <sup>a</sup>		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 Economic Outlook Sources and Methods* (<http://www.oecd.org/eco/sources-and-methods>).

a) Per cent of nominal GDP.

Source: *OECD Economic Outlook 76*, Preliminary version.



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
<b>Labour markets</b>						
Lower tax wedge	<sup>a</sup>	- <sup>ae</sup>		<sup>ck</sup>	- <sup>ag</sup>	
Lower job protection	<sup>ad</sup>				- <sup>agh</sup>	
<b>Product markets and external barriers</b>						
Less domestic regulation	<sup>a</sup>	<sup>ae</sup>		<sup>b</sup>	- <sup>ag</sup>	
Reducing tariff barriers		<sup>ae</sup>		- <sup>cj</sup>	- <sup>ag</sup>	
Reducing NTBs		<sup>ae</sup>		- <sup>cj</sup>	<sup>ag</sup>	
<b>Financial and capital markets</b>						
Reducing barriers to FDI		<sup>ae</sup>		<sup>c</sup>	- <sup>ag</sup>	
Increased depth						

a) Based on G. Nicoletti, S. Golub, D. Hajkova, D. Mirza and K.-Y. Yoo, "Policies and international integration: influences on trade and foreign direct investment", *OECD Economics Department Working Papers* No. 359, 2003.

b) Based on A. Alesina, S. Ardagna, G. Nicoletti and F. Schiantarelli, "Regulation and investment", *NBER Working Paper Series*, No. 9560, 2003.

c) Based on *The Sources of Economic Growth in OECD Countries*, 2003. OECD, Paris.

d) In countries with intermediate wage bargaining for goods trade and low level bargaining for services trade.

e) Interpretation of results concerning effects of partner country policies on exports of home country.

f) Effect significant only for services.

g) Based on FDI stock equation.

h) Net of effects on FDI in stocks and outstocks.

i) Aggregate tax pressure.

j) Based on result concerning trade exposure.

k) Based on A. Alesina, D. Ardagna, R. Perotti and F. Schiantarelli (2002), "Fiscal Policy, Profits and Investment", *American Economic Review*, Vol. 92, No. 3, June.

Table 3a. The current account and measures of potential output and productivity growth<sup>a</sup>

	Benchmark regressions: assuming no co-integration present				
	I	II	III	IV	V
Output gap	<b>-0.23**</b>	<b>-0.23***</b>	<b>-0.21***</b>	<b>-0.22***</b>	<b>-0.24***</b>
Government balance	<b>0.26***</b>	<b>0.07**</b>	<b>0.08**</b>	<b>0.08**</b>	<b>0.06**</b>
Real effective exchange rate	<b>-0.02**</b>	<b>-0.01*</b>	<b>-0.01***</b>	<b>-0.01**</b>	<b>-0.01*</b>
Lagged current account		<b>0.82***</b>	<b>0.83***</b>	<b>0.83***</b>	<b>0.82***</b>
Potential output growth			<b>-0.14*</b>		
In relation to rest of OECD				-0.09	
Trend labour productivity growth					0.22
Fixed effects	No	Yes	Yes	Yes	Yes
R <sup>2</sup> (adjusted)	0.10	0.83	0.83	0.83	0.83

Note: Significant coefficients in bold. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1 per cent level.

a) 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.

Source: OECD calculations.

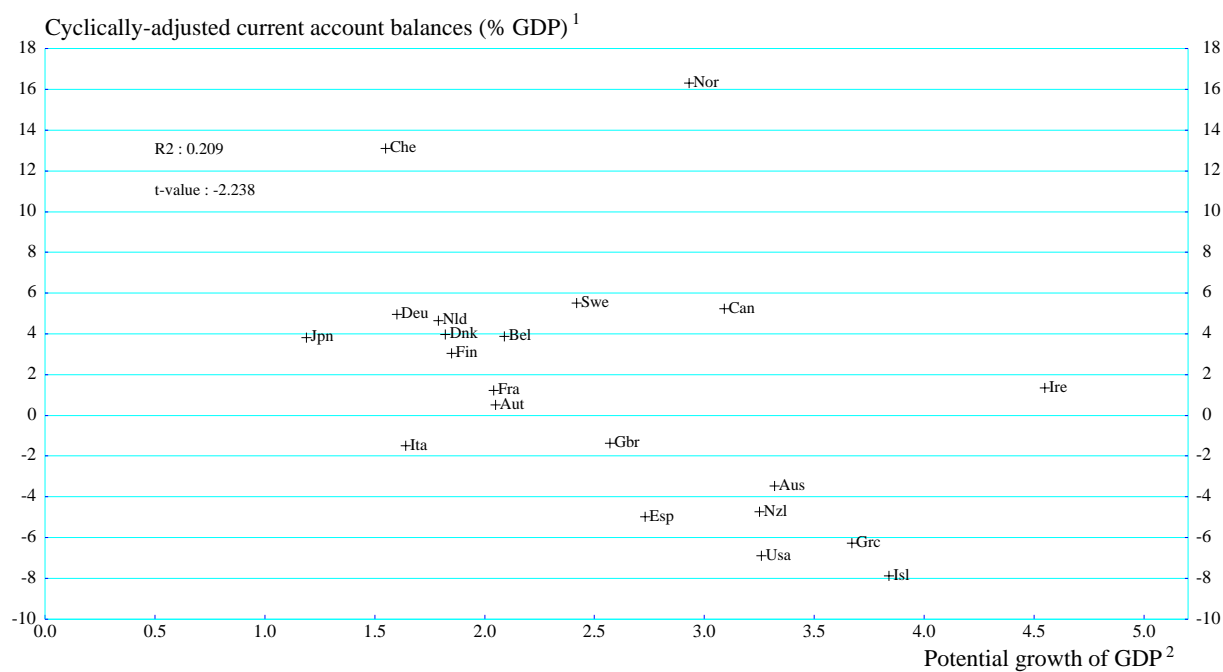
Table 3b. The current account and measures of structural reform<sup>a,b</sup>

	VI	VII
Output gap, lagged <sup>c</sup>	<b>-0.17***</b>	<b>-0.17***</b>
Change in output gap	<b>-0.29***</b>	<b>-0.29***</b>
Change in government balance	<b>0.32***</b>	<b>0.33***</b>
Real effective exchange rate, lagged	<b>-0.01**</b>	
Lagged current account	<b>0.77***</b>	<b>0.78***</b>
Indicators of structural policy:		
Change in product market regulations	<b>1.21**</b>	<b>1.14**</b>
Change in stock market capitalisation over GDP	<b>-1.98***</b>	<b>-2.00***</b>
FDI restrictiveness, lagged <sup>e</sup>	<b>-6.44***</b>	<b>-5.93***</b>
Employment protection legislation, lagged <sup>f</sup>	-1.09 <sup>d</sup>	-0.09 <sup>d</sup>
Change in structural unemployment (NAIRU)	<b>0.71**</b>	<b>0.80**</b>
Change in trend participation rate	-0.37	-0.34
Fixed effects	Yes	Yes
R <sup>2</sup> (adjusted)	0.87	0.86

Note: Significant coefficients in bold. \*, \*\* and \*\*\* denote significance at the 10, 5 and 1 per cent level.

- a) 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.
- b) 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.
- c) Output gap relative to the output gap of the entire OECD area.
- d) Coefficients significant only at the 30 per cent level.
- e) 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.
- f) On regular workers.

Source: OECD calculations.

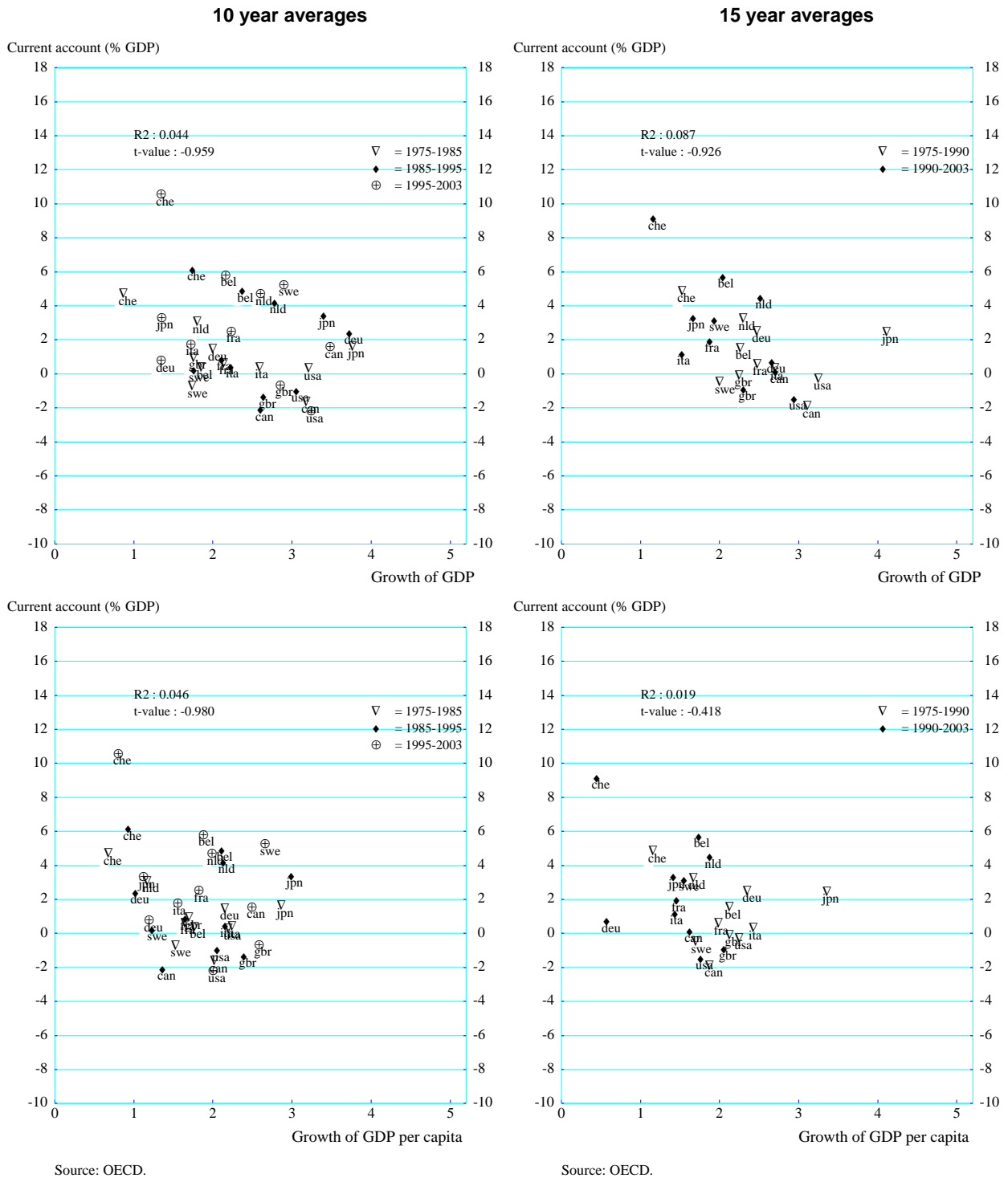
**Figure 1. The relationship between potential growth and cyclically-adjusted current account balances**

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.

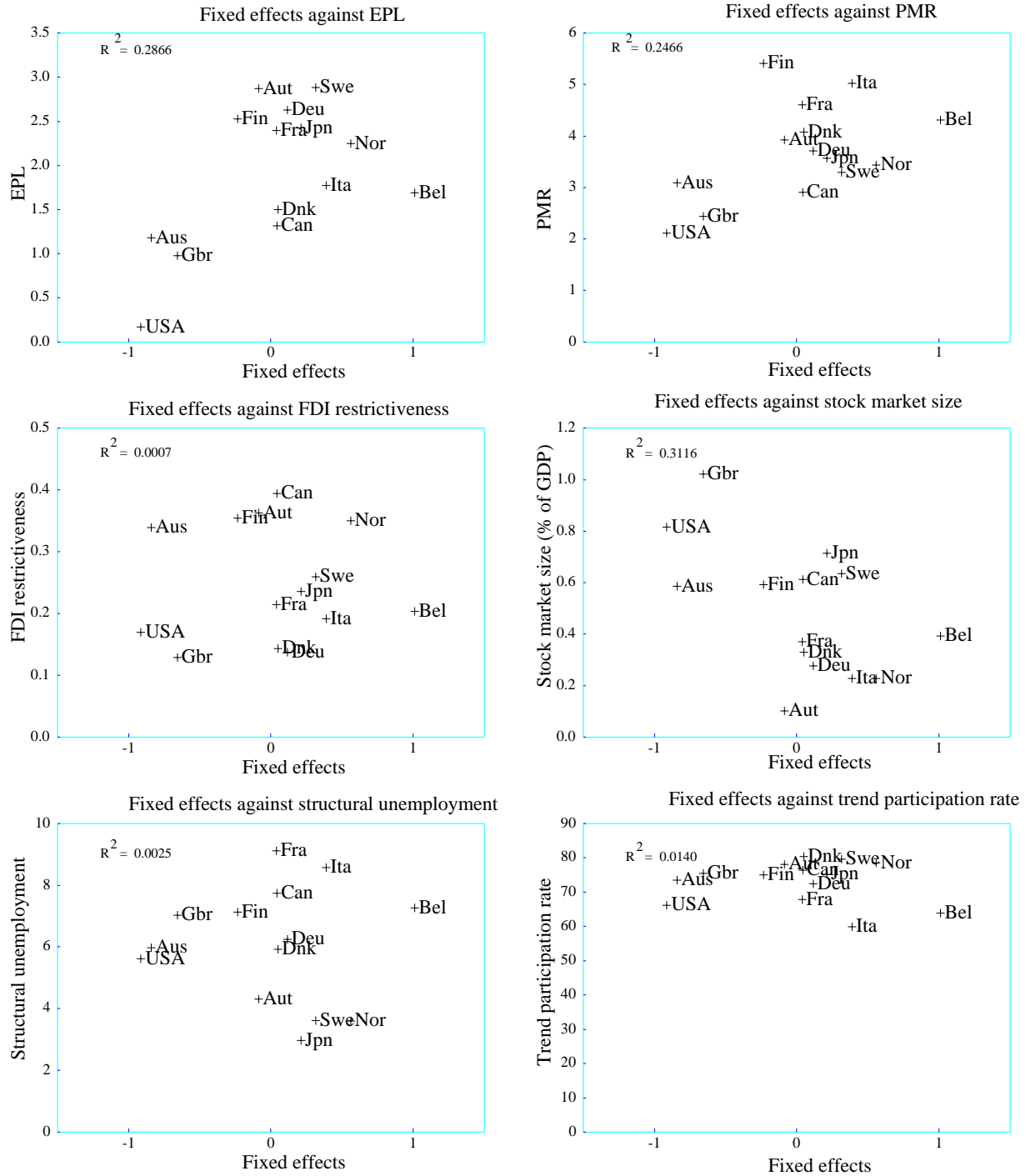
Source: OECD Medium-term reference scenario.

Figure 2. Average current balance and average GDP growth





**Figure 4. 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.

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