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Current Account Benchmarks for Turkey

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ABSTRACT/RÉSUMÉ

Current account benchmarks for Turkey

Turkey's current account deficit widened to almost 10% of GDP in 2011 and has been narrowing only gradually since. An important question is to what extent Turkey's current account deficit is excessive. To explore this issue, one needs to establish benchmarks. In this paper current account benchmarks are derived using the external sustainability as well as the macroeconomic balance approach. However, the standard macroeconomic balance approach ignores the uncertainty inherent in the model selection process given the relatively large number of possible determinants of current account balances. This paper therefore extends the macroeconomic balance approach to account for model uncertainty by using Bayesian Model Averaging techniques. Results from both approaches suggest that current account benchmarks for the current account deficit lie in the range of 3% to 5½ per cent of GDP, which is broadly in line with previous estimates but substantially below recent current account deficit levels.

This Working Paper relates to the 2012 *OECD Economic Survey of Turkey* (www.oecd.org/eco/surveys/turkey).

JEL classification: C11; F32; F41.
Keywords: Turkey; current account; external sustainability; current account benchmarks; model uncertainty; Bayesian Model Averaging.

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Des repères pour la balance courante en Turquie

Le déficit de la balance des opérations courantes de la Turquie s'est creusé pour atteindre près de 10 % du PIB en 2011 et n'a rétréci que très graduellement depuis. Il importe de déterminer dans quelle mesure ce déficit est excessif. Pour explorer la question, des repères doivent être établis. Ce document de travail calcule et propose de tels repères, à partir des méthodes de viabilité de la balance courante, et d'équilibre macroéconomique. La méthode standard d'équilibre macroéconomique ne tient cependant pas compte de l'incertitude inhérente au processus de sélection du modèle, vu le nombre important de déterminants possibles de la balance des opérations courantes. Ce document élargit la méthode d'équilibre macroéconomique afin de tenir compte de cette incertitude, en utilisant les techniques de choix de modèles par estimateur Bayesien. Les résultats obtenus à partir des deux méthodes suggèrent que les repères de balance courante pour la Turquie pourraient se situer entre 3% et 5½ pour cent du PIB, en ligne avec les estimations précédentes mais nettement en-dessous des récents niveaux de déficit du compte courant.

Ce Document de travail se rapporte à *l'Étude économique de l'OCDE de la Turquie*, 2012 (www.oecd.org/eco/surveys/turkey).

Classification JEL: C11 ; F32 ; F41.
Mots clés : Turquie ; balance courante ; viabilité des comptes extérieurs ; repères pour la balance courante ; incertitude relative au modèle ; choix de modèles par estimateur Bayesien.

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CURRENT ACCOUNT BENCHMARKS FOR TURKEY

By Oliver Röhn[1]

Summary and main findings

1. Turkey's current account deficit widened to almost 10% of GDP in 2011 and has been narrowing only gradually since. A sizeable current account deficit is not uncommon for catching-up economies which, given a certain level of political and macroeconomic stability as well as security of property rights, provide ample investment opportunities and high returns for foreign investors. For instance, new EU member countries in Central and Eastern Europe have experienced deficits of similar magnitude. An important question is therefore if and to what extent Turkey's current account deficit is excessive. To explore this issue, one needs to establish current account benchmarks.

2. In this paper current account benchmarks are derived using the external sustainability as well as the macroeconomic balance approach. Both approaches are part of the IMF's Consultative Group on Exchange Rate Issues (CGER) assessment of equilibrium exchange rates (Lee *et al*., 2008). However, the standard macroeconomic balance approach ignores the uncertainty inherent in the model selection process given the relatively large number of possible determinants of current account balances. This paper therefore extends the macroeconomic balance approach to account for model uncertainty by using Bayesian Model Averaging (BMA) techniques. BMA allows examining a large number of models, weighing each one according to a data fitness criterion. Results from both approaches suggest that current account benchmarks for the current account deficit lie in the range of 3% to 5½% of GDP, which is broadly in line with previous estimates but substantially below the recent current account deficit of about 9% of GDP (2012Q1).

External sustainability approach

3. The external sustainability approach rests on simple accounting, using the balance of payments identities (Lane and Milesi-Ferretti, 2006). The derived current account benchmark ensures that the net foreign asset position remains stable at some (arbitrary) level. A standard choice for this level is the currently observed net foreign asset position. Besides this choice, the approach only requires assumptions about real GDP growth and inflation.

4. The approach starts from the simple balance of payments accounting identity:

$$CA_t + K_t + FA_t + EO_t = 0\ , \qquad (1)$$

1. OECD Economics Department. This paper provides background analysis conducted for the *OECD Economic Survey of Turkey* published in July 2012. The author would like to thank Vincent Koen, Rauf Gönenç, Cyrille Schwellnus, Andrew Dean and Robert Ford for valuable comments and Chloé Martin-Laval for excellent research assistance. Special thanks go to Nadine Dufour and Pascal Halim for technical preparation.

where CA_t, K_t, FA_t, EO_t are the current account, capital account, financial account and errors and omissions , respectively. In addition, the net foreign asset position at any point in time, NFA_t, is given by:

$$NFA_t = NFA_{t-1} - FA_t + KG_t \,, \tag{2}$$

where KG_t represents capital gains. Combining equations (1) and (2), assuming for simplicity that the capital account K_t and capital gains KG_t are zero, and denoting ratios to GDP in lower case letters yields:

$$nfa_t - nfa_{t-1} = ca_t + eo_t - \frac{g_t+\pi_t+g_t*\pi_t}{1+g_t+\pi_t+g_t*\pi_t} nfa_{t-1} \,, \tag{3}$$

where g_t and π_t are the real GDP growth and the rate of change in the GDP deflator, respectively. The current account level that stabilises the net foreign asset position at a given level can then be expressed as:

$$ca_t^s = \frac{g_t+\pi_t+g_t*\pi_t}{1+g_t+\pi_t+g_t*\pi_t} nfa^s - eo_t \tag{4}$$

5. Calculations of this sort show that, assuming 5% real GDP growth and GDP inflation, similar to the assumptions in Turkey's 2012-14 Medium Term Programme, and net errors and omissions amounting to 1% of GDP in line with historical averages, a stable net foreign asset position at the current level (2012Q1) of -48% of GDP is consistent with a current account deficit of 5.4% of GDP. Even if real GDP growth of 7% is assumed, the stabilising current account deficit increases only to 6.3% of GDP. Both are well below the current deficit of about 9% of GDP observed in 2012Q1.

6. Alternatively, it might be more relevant to consider stabilising the gross external debt position, as FDI and other equity liabilities are generally not considered to compromise sustainability. In this case it is necessary to adjust the current account for non-debt creating flows. To this end, the financial account FA_t can be decomposed into different types of flows, namely equity (FDI and portfolio equity) versus debt (portfolio debt and other investment) flows.

$$\mathrm{FA_t} = (\mathrm{H_{t,equity,L}} - \mathrm{H_{t,equity,A}}) + (\mathrm{H_{t,debt,L}} - \mathrm{H_{t,debt,A}}), \tag{5}$$

where $H_{t,j,A}$, $H_{t,j,L}$ are asset and liability flows, respectively. Assuming again no valuation gains or losses, gross foreign debt at any point in time, GFD_t, is given by:

$$GFD_t = GFD_{t-1} + H_{t,debt,L} \tag{6}$$

Assuming further a balanced capital account, the change in gross foreign debt in per cent of GDP can be expressed as:

$$gfd_t - gfd_{t-1} = -(ca_t + h_{t,equity,L} - h_{t,equity,A} - h_{t,debt,A}) - eo_t - \frac{g_t+\pi_t+g_t*\pi_t}{1+g_t+\pi_t+g_t*\pi_t} gfd_{t-1} \tag{7}$$

It follows that the adjusted current account balance to stabilise gross foreign debt is given by:

$$(ca_t + h_{t,equity,L} - h_{t,equity,A} - h_{t,debt,A})^s = -eo_t - \frac{g_t+\pi_t+g_t*\pi_t}{1+g_t+\pi_t+g_t*\pi_t} gfd^s \tag{8}$$

7. Under the baseline of 5% real GDP growth and inflation, stability of the gross external debt ratio at its latest observed level of 40% (2012Q1) of GDP obtains with an adjusted current account deficit of 4.7% of GDP. Under the alternative assumption of 7% real GDP growth, the adjusted current account deficit could increase to 5.4%. Neither is far from the actual adjusted deficit of 6.3% in 2012(Q1).

Macroeconomic balance approach

8. The macroeconomic balance approach proceeds in two steps. In the first step, an equilibrium relationship between the current account and a set of fundamental investment and saving determinants is estimated in a panel regression setup. In the second step, a current account norm is derived based on the estimated relationship and projected values of the fundamental determinants in the medium term (five years), by which countries are assumed to have restored internal equilibrium and operate at potential output.

9. The notion of a current account norm is, however, somewhat misleading as some determinants entering the estimations are "undesirable" fundamentals such as the oil import bill and the fiscal deficit (see below). Thus, all else equal, a more energy inefficient economy or spendthrift government would imply a lower norm for the current account balance. Norm estimates therefore rather summarise average current account tendencies given reasonable assumptions about medium-term developments of the fundamentals.

Determinants of current account balances

10. A range of determinants have been suggested in the literature explaining equilibrium movements of the current account mainly through their impact on saving and investment. In the following, some theoretical considerations underlying these factors are briefly reviewed.[2] Annex A provides an overview of recent empirical findings and Table B1 in Annex B the specific variables included in the subsequent empirical analysis.

- **Initial net foreign asset position**. A higher initial net asset position is associated with positive investment income flows which improve the current account. On the other hand a highly indebted country may have to eventually improve its current account position to preserve solvency. Hence the theoretically expected sign is ambiguous. However, the vast majority of empirical studies find a positive link.

- **Demographic factors** influence mainly the saving behaviour of an economy. The life-cycle hypothesis for instance suggests that savings are accumulated during the working age while younger and older age cohorts generally dissave. Thus a country with a high old and/or young age dependency ratio should generally be expected to save relatively less.

- **Oil dependency.** Higher oil prices improve the current account balance of oil exporters while they reduce the balance of oil importers. The oil trade balance is generally included in regressions to allow the effect of oil prices to differ across countries and the sign is expected to be positive.

- **Fiscal policy.** In the absence of full Ricardian equivalence, *i.e.* when changes in private and public saving do not fully offset each other, higher budget deficits reduce overall domestic saving and thus the current account balance.

- **Stage of economic development.** Countries with low income are expected to run current account deficits due to their low saving and high investment growth during the convergence process to higher income per capita levels. Thus the relationship between relative income and the current account should be positive. To allow for non-linearities in this relationship, a squared term is frequently included in the regressions with a theoretically ambiguous sign. In addition, GDP

2. A more comprehensive discussion of the theories can be found for example in Cheung *et al*. (2010) and Kerdrain *et al*. (2010).

growth is included. The effect of GDP growth on saving is ambiguous and depends *inter alia* on whether the associated increase in income is perceived as temporary or permanent and the degree of consumption smoothing of economic agents. Higher growth rates resulting from productivity gains may raise expected asset returns leading to higher investment. Most empirical studies find a negative link between GDP growth and the current account.

- **Uncertainty** may increase the current account balance due to higher precautionary savings and/or reduced investment. Here the inflation rate is used as an imperfect proxy for uncertainty (as in Loayza *et al*., 2000) and the expected sign is positive.
- **Trade integration** is commonly used in the literature as a proxy for barriers to trade and may be correlated with other attributes that make a country attractive to foreign capital. However, the majority of empirical studies find a positive link.
- **Changes in terms of trade** may affect saving if the shock is perceived to be transitory. In this case consumption-smoothing households would adjust their saving in response to the transitory change in real income.
- **Financial development and integration.** According to the "saving glut" hypothesis (Bernanke, 2005), developing countries (in particular in Asia) have bypassed their inefficient domestic financial markets and exported savings to countries with more sophisticated financial markets. Hence, greater financial market development in developing countries may reduce their saving and current account balance. This effect may be reinforced if expanding financial intermediation reduces borrowing constraints and the need for precautionary savings. On the other hand, financial market development may reduce transaction costs and facilitate risk management, thereby encouraging saving. The overall effect of financial development on the current account is therefore ambiguous and may depend on the country under consideration as well as on the specific indicator employed. In this paper a wide range of proxies for financial development is used.
- **Institutional and regulatory quality.** Improving the quality of the legal and regulatory system should in general attract investment and thus lead to a reduction in the current account balance. However, labour market reforms may raise the overall employment rate with positive effects on household income and saving.

11. In addition, a range of dummy variables have been suggested in the literature. For instance Asian countries may have permanently increased their saving rate to insure themselves against future external shocks since the financial crisis in 1997/98. Furthermore, economies that serve as hubs for international financial flows have tended to run substantial current account surpluses and net creditor positions. Furthermore, euro area membership may have boosted credit growth and investment in the less developed euro area periphery countries beyond what can be explained by fundamentals (Barnes *et al*., 2010). Similarly, the completion of EU accession negotiations in eastern European countries may have led to "EU-phoria" (Rahman, 2008) induced temporary surges in capital inflows and credit growth or more permanently raised expectations of future improvements of the legal and regulatory system.

Data and empirical strategy

12. An unbalanced dataset is used including at most 52 countries (29 emerging, 23 industrial) over the time period 1985-2010. In line with previous approaches (see Annex A), i) most variables are expressed as deviations from a GDP-weighted world mean since the current account balance of one country is not only affected by domestic determinants but also by developments in the rest of the world; and ii) five-year non-overlapping averages of the annual observations are used to filter out cyclical movements and focus on medium-term developments (for more details see Annex B, Tables B1 and B2).

13. Following standard practice in the literature (*e.g.* Chinn and Prasad, 2003), pooled ordinary least squares (OLS) is used to estimate the following reduced-form current account model:

$$CA_{i,t} = \alpha + \beta X_{i,t} + \gamma Z_{i,t} + \epsilon_{i,t} \quad (9)$$

where $CA_{i,t}$ is the current account balance in per cent of GDP, $X_{i,t}$ is a vector of standard macroeconomic variables and $Z_{i,t}$ a vector of financial and institutional variables. Standard caveats regarding endogeneity of the right-hand side variables apply in this simple framework, although net foreign assets are measured at the beginning of each five-year period to mitigate this problem. Results should therefore be interpreted with caution and be viewed as a summary of past historical relationships rather than to draw strong causal conclusions.

14. More recently this standard approach of estimating current account balances has been criticised for ignoring the issue of model uncertainty given the large number of potential current account determinants (Ca'Zorzi *et al*., 2009, 2012; Bussière *et al*., 2010). Ca'Zorzi *et al*. (2009) analyse this issue in detail and show that even adopting a transparent approach, different economic and statistical criteria would yield different models. They conclude that there appears to be no "true" model which can easily be labelled as superior to all others. Ignoring such model uncertainty can result in biased parameter estimates, overconfident (too narrow) standard errors and misleading inference and predictions (Draper, 1995).

15. Against this background, Bayesian Model Averaging (BMA) techniques are applied below so as to account for the uncertainty inherent in the model selection process. BMA has been applied extensively in the economic growth literature to deal with model uncertainty (*e.g*. Fernandez *et al*., 2001; Sala-i-Martin *et al*., 2004) and was recently advocated by Bussière *et al*. (2010) in the context of reduced-form current account estimations. Below, a larger set of financial and institutional variables is tried out. Given the 35 explanatory variables considered here, there are more than 34 billion potential models to explain current account balances. BMA allows examining a large number of models, weighing each one according to a fitness criterion, and providing a probability distribution for each coefficient estimate. More details on BMA in general and the specific approach used here, including the always contentious choice in Bayesian analysis of the prior distribution specifications, can be found in Wölfl *et al*. (2010). In the following, only the most important summary statistics are described.

16. The posterior inclusion probability of a variable provides a probability measure of how important a variable is in explaining the dependent variable and is given by:

$$\Pr(\beta \neq 0|D) = \sum_A P(M_j|D), \qquad \text{with } A \in \{M_k: j = 1, \dots J;\ \beta \neq 0\} \quad (10)$$

The posterior inclusion probability is thus the sum of the posterior model probabilities given the data of the models that contain the particular variable of interest. The posterior model probability can be viewed as a measure of relative data fit. Under specific assumptions about prior parameter distribution, the posterior model probability can be approximated with the Bayesian Information Criterion (BIC) (Raftery, 1995; Hoeting *et al*., 1999). If the posterior inclusion probability is higher than the prior inclusion probability (50% by default), one can conclude that the variable of interest is effective in explaining the dependent variable (see below).

17. The posterior mean and the posterior standard deviation of a particular coefficient are additional important statistics and are given by:

$$E(\beta|D) = \sum_{j=1}^{2^k} E(\beta_j|D, M_j) P(M_j|D) \quad (11)$$

$$\mathrm{Var}(\beta|\mathrm{D}) = \sum_{j=1}^{2^k}(\mathrm{Var}(\beta_j|\mathrm{D},\mathrm{M}_j) + \mathrm{E}(\beta_j|\mathrm{D},\mathrm{M}_j)^2)\mathrm{P}(\mathrm{M}_j|\mathrm{D}) - \mathrm{E}(\beta|\mathrm{D})^2 \quad (12)$$

The model-specific means $\mathrm{E}(\beta_j|\mathrm{D},\mathrm{M}_j)$ and variances $\mathrm{Var}(\beta_i|\mathrm{D},\mathrm{M}_j)$ can be conveniently approximated with the maximum likelihood (ML) point and variance estimates (Raftery, 1995), which are equivalent to the OLS estimates in linear regression models. Using this ML or OLS approximation together with the BIC approximation for the posterior model probability, the BMA approach used here is conceptually similar to the Bayesian Averaging of Classical Estimates (BACE) approach of Sala-i-Martin *et al*. (2004).

Results

Baseline

18. In the baseline estimations only the most-frequently-employed macroeconomic determinants of current account balances are included. Table 1 displays the posterior inclusion probability, the conditional (on the variable being included in a model) means, standard deviations and t-statistics, for the full sample and the sub-samples of emerging and industrialised countries. To judge the robustness of a regressor in explaining the current account balance, the interpretation of the results follows a rule of thumb proposed by Jeffreys (1961) and refined by Kass and Raftery (1995). According to this rule, the evidence of a regressor having an effect is weak, positive, strong, or decisive if the posterior inclusion probabilities lie between 50-75%, 75%-95%, 95%-99% or are greater than 99%, respectively.

19. The results in Table 1 indicate that only a handful of determinants proposed in the literature are robustly related to the current account. In particular, the full sample results show that only the initial net foreign asset position, the oil balance, the Asian crisis dummy, the euro periphery dummy and the EU accession dummy are robustly related to the current account balance. Taking the estimated coefficients at face value, an improvement of the initial net foreign asset position of 10 percentage points of GDP is estimated to increase the current account balance subsequently by 0.5 percentage points of GDP, while an improvement of the oil balance of the same magnitude would lead to an increase of the current account balance by 3.5 percentage points of GDP. The estimates further imply that completion of EU accession negotiations was associated with a subsequent decline of the external balance on average by 5.4 percentage points of GDP in eastern European countries, whereas Asian countries improved their balance on average by 5 percentage points of GDP following the crisis in 1997/98. Finally, the dummy for euro area periphery countries suggests that euro area membership boosts the current account deficit of periphery countries by about 3 percentage points of GDP beyond what can be explained by fundamentals.

20. The results for the sub-sample of emerging countries are very similar to the full sample results. However, in the sub-sample of industrialised countries several additional variables become robustly related to the current account. In particular, the estimates suggest that a 1 percentage point improvement of the budget balance in terms of GDP (relative to the rest of the world) improves the current account balance by 0.3 percentage points of GDP, which implies that Ricardian equivalence does not hold. Furthermore, a 10 percentage point increase in trade openness (relative to the rest of the world) improves the current account by 0.3 percentage points, while a 1 percentage point faster population growth relative to other countries would worsen the current account by 3 percentage points.

Table 1. Baseline estimation results

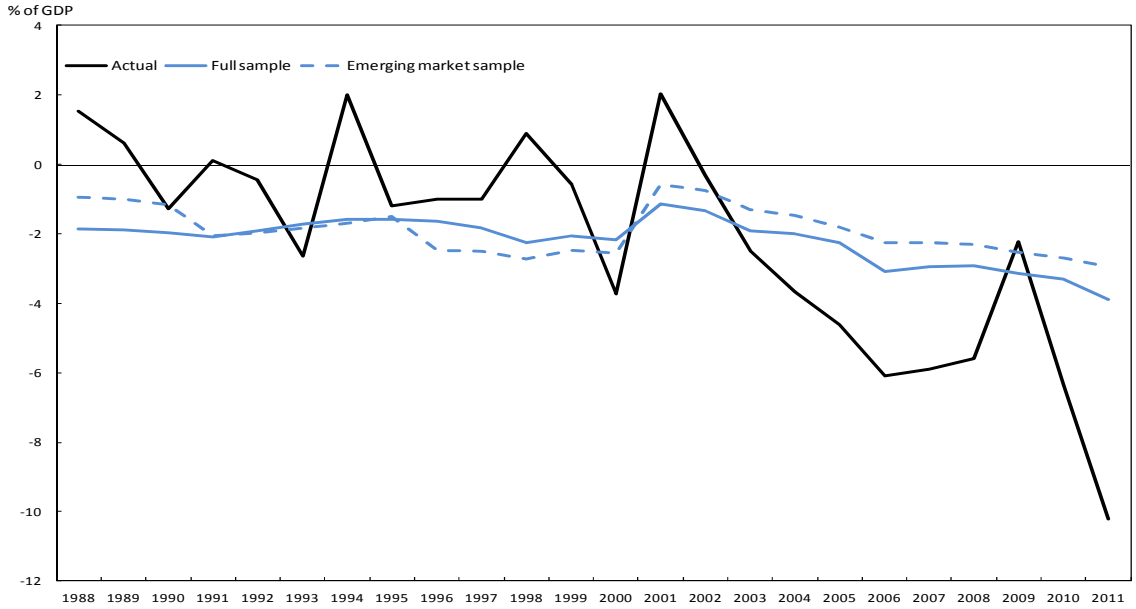
Variable	Full sample				Emerging market economies				Industrialised countries			
	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic
Initial net foreign assets	100	0.048	0.007	6.713	100	0.041	0.011	3.665	100	0.062	0.009	6.998
Oil trade balance	100	0.366	0.052	7.025	100	0.318	0.051	6.174	70	0.364	0.144	2.523
Inflation	2	0.004	0.007	0.531	25	0.018	0.010	1.782	7	0.007	0.024	0.288
Trade openness	6	-0.008	0.006	-1.297	11	-0.009	0.006	-1.514	98	0.034	0.010	3.389
Budget balance	30	0.136	0.068	1.999	2	-0.031	0.104	-0.302	96	0.317	0.108	2.945
Relative income	7	0.008	0.007	1.219	3	0.001	0.024	0.037	18	0.034	0.018	1.864
Relative income squared	16	0.000	0.000	1.690	5	0.000	0.000	-0.806	19	0.000	0.000	1.969
GDP growth	2	0.047	0.115	0.405	5	0.132	0.119	1.102	2	0.034	0.235	0.145
Old age	7	0.057	0.039	1.445	7	-0.073	0.064	-1.149	2	-0.046	0.126	-0.369
Young age	3	0.022	0.050	0.430	3	-0.007	0.036	-0.209	8	0.111	0.092	1.211
Population growth	7	-0.485	0.394	-1.231	5	0.370	0.389	0.952	100	-2.930	0.732	-4.003
Terms of trade growth	1	0.024	0.090	0.266	6	0.105	0.101	1.036	2	0.000	0.156	0.001
Asia dummy	100	4.915	0.899	5.469	100	5.782	0.879	6.581				
Financial centre	49	2.467	1.125	2.193	27	-4.514	2.458	-1.836	6	1.688	1.369	1.233
Euro core dummy	13	1.773	1.086	1.633					3	0.471	1.156	0.407
Euro periphery dummy	75	-2.919	1.070	-2.728					65	-2.469	1.059	-2.331
EU accession dummy	100	-5.422	1.330	-4.077	100	-5.385	1.244	-4.331				
Financial integration	22	-0.002	0.001	-1.898	13	-0.003	0.002	-1.520	7	-0.002	0.002	-1.122
Labour force participation	1	0.001	0.035	0.034	7	0.052	0.044	1.186	5	-0.039	0.059	-0.664
No of countries			52				29				23	
No of observations			232				119				113	

Note: All regressions include an intercept and time dummies but are not reported. To judge the effectiveness of a regressor in explaining the current account, a rule of thumb proposed by Jeffreys (1961) and refined by Kass and Raftery (1995) is used. According to this rule, the evidence of a regressor having an effect is weak, positive, strong, or decisive if the posterior inclusion probabilities lie between 50-75%, 75%-95%, 95%-99% or are greater than 99%, respectively.

Source: OECD estimates

21. Figure 1 plots the fitted values based on the full and the emerging market samples (using five-year moving averages of the explanatory variables) together with the actual current account balance for Turkey. For the 1990s the estimated and actual current account deficits are relatively similar. While the actual current account deficit hovered around 1% of GDP, estimates from both samples imply a deficit of about 2% of GDP. Fundamental determinants are able to explain only a small part of the deterioration of the current account after 2001, driven by a deteriorating oil balance and the initial net foreign asset position. For 2011, the models predict a current account deficit in the range of 3% to 4% of GDP.

Figure 1. Baseline: Actual and fitted current account balance



Note: Five-year moving averages of the explanatory variables are used to calculate the fitted current account balances. Estimates are based on Table 1.

Source: OECD estimates.

Structural policies

22. Table 2 displays the estimation results when structural policy variables related to financial market development and institutional quality are added to the regressions.[3] The full sample results show a strong negative relationship between growth in private credit and the current account balance. Private credit to GDP growth 10 percentage points above the world average is associated with a decline of the current account balance by about 1 percentage point of GDP. The interpretation of this result is not straightforward and might depend on a country's circumstances. Strong credit growth might be due to the removal of credit constraints and hence be part of a catching-up process in financial development. On the other hand, as the global crisis has shown, strong credit growth might reflect lax credit conditions and excessive household

3. A variable capturing business regulations was not found to be robustly related to the current account. Since this variable is only available for a shorter time period and country sample the results are not shown.

Table 2. Structural determinants

Variable	Full sample				Emerging market economies				Industrialised countries			
	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic	Posterior inclusion probability	Conditional mean	Conditional standard deviation	Conditional t-statistic
Initial net foreign assets	100	0.036	0.007	4.849	100	0.027	0.007	3.721	100	0.059	0.010	6.203
Oil trade balance	100	0.379	0.054	7.008	100	0.308	0.055	5.584	65	0.296	0.121	2.445
Inflation	20	0.016	0.008	1.985	24	0.019	0.010	1.855	8	0.027	0.014	2.010
Trade openness	0	-0.004	0.006	-0.622	1	0.000	0.007	0.031	100	0.039	0.011	3.568
Budget balance	60	0.172	0.070	2.452	19	-0.193	0.117	-1.643	98	0.317	0.110	2.873
Relative income	3	-0.027	0.030	-0.915	1	-0.002	0.014	-0.159	4	0.027	0.016	1.672
Relative income squared	1	0.000	0.000	1.625	2	0.000	0.000	-0.803	5	0.000	0.000	1.728
GDP growth	1	0.129	0.117	1.102	5	0.170	0.146	1.164	1	-0.197	0.193	-1.023
Old age	0	-0.037	0.066	-0.564	6	-0.084	0.073	-1.147	2	0.114	0.126	0.904
Young age	30	0.105	0.052	2.025	1	0.007	0.027	0.252	2	0.096	0.089	1.077
Population growth	22	-1.255	0.542	-2.315	2	0.248	0.352	0.706	90	-2.024	0.761	-2.659
Terms of trade growth	23	0.205	0.101	2.041	83	0.280	0.112	2.504	0	0.059	0.144	0.408
Asia dummy	100	4.595	0.974	4.718	100	5.557	0.889	6.248				
Financial centre	97	3.009	0.941	3.196	4	-2.498	2.380	-1.049	0	0.729	1.068	0.683
Euro core dummy	0	0.396	1.037	0.382					1	0.605	1.018	0.595
Euro periphery dummy	80	-3.121	1.120	-2.786					53	-2.417	1.052	-2.298
EU accession dummy	99	-4.780	1.377	-3.471	100	-5.710	1.299	-4.397				
Financial integration	0	0.001	0.001	0.724	2	-0.002	0.002	-0.833	1	-0.001	0.001	-0.924
Labour force participation	2	0.048	0.045	1.060	1	0.015	0.060	0.256	12	-0.116	0.072	-1.606
Capital account openness I	0	0.137	0.227	0.605	11	-0.352	0.248	-1.416	3	0.553	0.473	1.170
Capital account openness II	4	-0.590	0.426	-1.385	3	-0.569	0.470	-1.209	2	-1.309	1.092	-1.199
Private credit to GDP	2	-0.864	0.738	-1.171	13	1.586	1.028	1.543	6	-1.152	0.758	-1.520
Growth of private credit to GDP	98	-0.093	0.028	-3.278	94	-0.093	0.032	-2.871	84	-0.101	0.042	-2.395
Credit controls	0	0.139	0.327	0.424	4	0.441	0.428	1.030	7	0.753	0.506	1.489
Credit market regulations	1	0.328	0.266	1.233	4	-0.293	0.276	-1.061	0	0.211	0.465	0.454
Stock market capitalisation	2	-0.517	0.551	-0.938	1	-0.144	0.601	-0.240	68	1.768	0.727	2.432
Securities market development	0	0.514	0.552	0.932	15	0.851	0.574	1.483	1	-0.979	1.012	-0.968
Bank concentration	0	0.485	1.306	0.371	5	-2.052	1.775	-1.156	0	0.360	1.915	0.188
Bank entry barriers	75	-1.300	0.486	-2.674	9	-0.775	0.551	-1.406	99	-1.966	0.599	-3.284
Privatization of banking sector	0	0.163	0.255	0.640	2	-0.199	0.303	-0.658	23	0.671	0.346	1.942
Banking sector supervision	25	-0.779	0.383	-2.035	1	0.253	0.624	0.405	60	-0.961	0.412	-2.334
Interest rate controls	8	0.750	0.489	1.533	1	0.015	0.591	0.025	3	1.092	0.890	1.226
Property rights & legal system	100	0.708	0.237	2.995	1	0.150	0.275	0.544	96	1.157	0.434	2.667
Labour market regulations	99	-0.578	0.170	-3.400	1	0.150	0.269	0.558	69	-0.642	0.255	-2.521
Trade restrictions	2	-0.347	0.358	-0.970	1	-0.159	0.329	-0.482	41	-1.171	0.566	-2.071
Number of countries			45				24				21	
Number of observations			199				96				103	

Note: All regressions include an intercept and time dummies but are not reported. To judge the effectiveness of a regressor in explaining the current account, a rule of thumb proposed by Jeffreys (1961) and refined by Kass and Raftery (1995) is used. According to this rule, the evidence of a regressor having an effect is weak, positive, strong, or decisive if the posterior inclusion probabilities lie between 50-75%, 75%-95%, 95%-99% or are greater than 99%, respectively.

Source: OECD estimates.

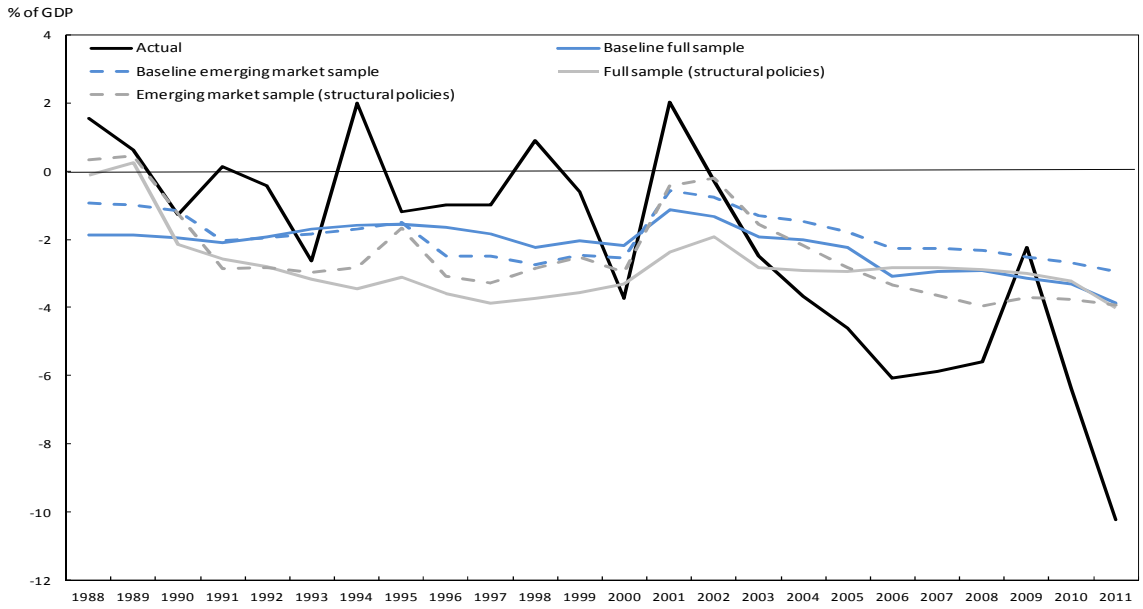
borrowing. The estimations also suggest that reducing entry barriers into the banking sector leads to a deterioration of the current account balance. This might be due to the presence of foreign banks and hence better access to foreign savings, but might also indicate better quality of banking intermediation driven by competition, which may spur domestic investment. Similarly, a reduction of labour market regulations is found to reduce the current account balance. This might reflect the positive effect of a more flexible labour market on the overall business environment and hence investment. Stronger property rights and a better legal system affect the current account positively. This is not in line with the theoretical prediction that better property rights protection should positively affect expected investment returns and hence investment. This result might be driven by the fact that this variable is strongly positively correlated with per capita income. Generally, higher income in turn is positively associated with the current account balance. Finally, the results with respect to the baseline variables are little changed except that a stronger effect of the budget balance on the current account is found.

23. In the emerging market sample only private credit growth is robustly related to the current account. One reason for the weak correlation between structural policies and the current account might be the limited variation in this sub-sample. Differences are likely to be more pronounced between developing and developed countries and hence explain the stronger results in the full sample. Regarding the baseline variables, terms-of-trade growth is now found to be positively associated with the current account, suggesting that terms-of-trade-induced income shocks are generally perceived as temporary and thus affect saving.

24. The results in the sub-sample of industrialised countries are very similar to those for the full sample with respect to structural policies. In particular credit growth, banking entry barriers, property rights and labour market regulations are robustly related to the current account. However, the evidence is slightly weaker for most of these variables. In addition, there is some evidence that higher stock market capitalisation affects the current account positively, while the impact of stricter banking regulations and supervision is negative. With respect to the baseline variables the results are little changed. In particular, the initial foreign asset position, the oil balance, population growth, the budget balance and trade openness are all found to be robustly related to the current account balance.

25. Figure 2 again plots the fitted values from the full and the emerging market samples together with the actual current account balance for Turkey. The estimates for both samples show a significant deterioration of the estimated current account balance in the beginning of the 1990s. While these dynamics are driven by the reduction of entry barriers in the banking sector in the full sample, this effect is due to a deterioration of the terms of trade in the emerging market sample. This terms-of-trade effect was partly reversed and together with high inflation rates explains the upward trend in the estimated current account for the emerging market sample in the second half of the 1990s. After 2001 the full sample estimates are relatively stable at around -3% of GDP, which reflects offsetting effects from strong credit growth and an improvement in the budget balance. The slight downward trend after 2008 is mainly due to a deterioration of the oil balance and the initial net asset position. In the emerging market sample the downward trend after 2001 is more pronounced albeit from a considerably higher level. This downward trend is mainly due to credit growth as well as sharp periodic deteriorations of the terms of trade. For 2011 the models predict a current account deficit of around 4% of GDP.

Figure 2. Structural policies: Actual and fitted current account balance



Note: Five-year moving averages of the explanatory variables are used to calculate the fitted current account balances. Estimates are based on Table 2.

Source: OECD estimates.

Current account norms in the medium term

26. To compute a medium-term current account norm, the estimated relationships have to be combined with predictions for the explanatory variables for Turkey as well as all other countries in the medium term (five years ahead). To this end, projections from the OECD Economic Outlook 91, the new OECD Long-Term Baseline (BLT) for Turkey and the IMF September 2011 World Economic Outlook until 2016 for all other countries have been employed when possible. For other variables values were extrapolated based on past growth rates and structural policy variables were generally held constant (Table 3). Based on these assumptions the estimates suggest a current account norm ranging from -2.8% to -3.8% of GDP (Figure 3).[4] This is broadly in line with previous findings for Turkey which are in the range of -2.5% to -5% of GDP (Table 4).

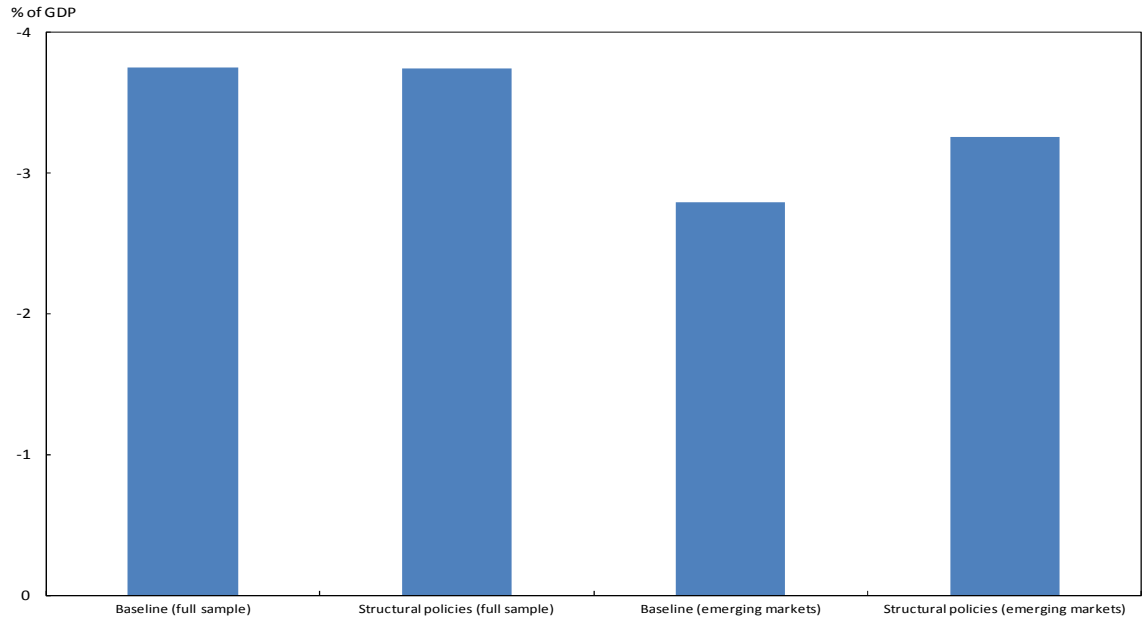
4. In additional estimations the dummy for completion of EU accession negotiations was replaced by a dummy capturing the start of negotiation talks, including Turkey. This dummy was only robustly related to the current account in the baseline estimations without financial and institutional variables. Taking this effect into account, the bracket of current account norm estimates would widen to -4.3% to -7.4% of GDP. However, it is unclear if such an effect is temporary or would persist over the medium-term, and hence if this effect should be captured in the medium-term current account norm.

Table 3. Medium-term assumptions

Variable	Current value for Turkey (2011)	Medium-term value for Turkey (2016)	Medium-term value for GDP weighted world (2016)
Initial net foreign assets	-44	-49 (2012)	n.a.
Oil trade balance	-6.4	-4.8	n.a.
Inflation	6.5	5	3
Trade openness	56	50.7	65.3
Budget balance	-0.3	-1.6	-2.4
Relative income (relative to GDP weighted average GDP per capita)	49	56.7	n.a.
GDP growth	8.5	5.5	4.6
Old age	8.8	9.1	18.4
Young age	38.2	34.5	28.2
Population growth	1.3	1.1	0.7
Terms of trade growth	2.9	0	n.a.
Financial integration	91.9	114.6	462.2
Labour force participation	49.8	51.1	63
Private credit to GDP	50	81	140
Growth of private credit to GDP	13.3	10	3

Note: All values in per cent. Medium-term values for all other variables are held constant at their latest observed value.

Figure 3. Medium-term current account norms for Turkey



Note: Estimates are based on Table 1 and 2.

Source: OECD estimates.

Table 4. Existing current account norm estimates for Turkey

Study	Estimated current account norm in % of GDP in the medium term	Considered time period
Medina *et al*. (2010)	-4.9%	Estimation: 1970-2008 Medium-term: 2014
Lee *et al*. (2008) [1]	-3.4%	Estimation: 1973-2004 Medium-term: 2011
Bussière *et al*. (2010)	-2.5%	Estimation: 1980-2005 Medium-term: 2013
IMF (2010)	-2.4%	Not reported
Akcay and Ücer (2008)	-3.5%	Not reported

1. As reported in Medina *et al*. (2010).

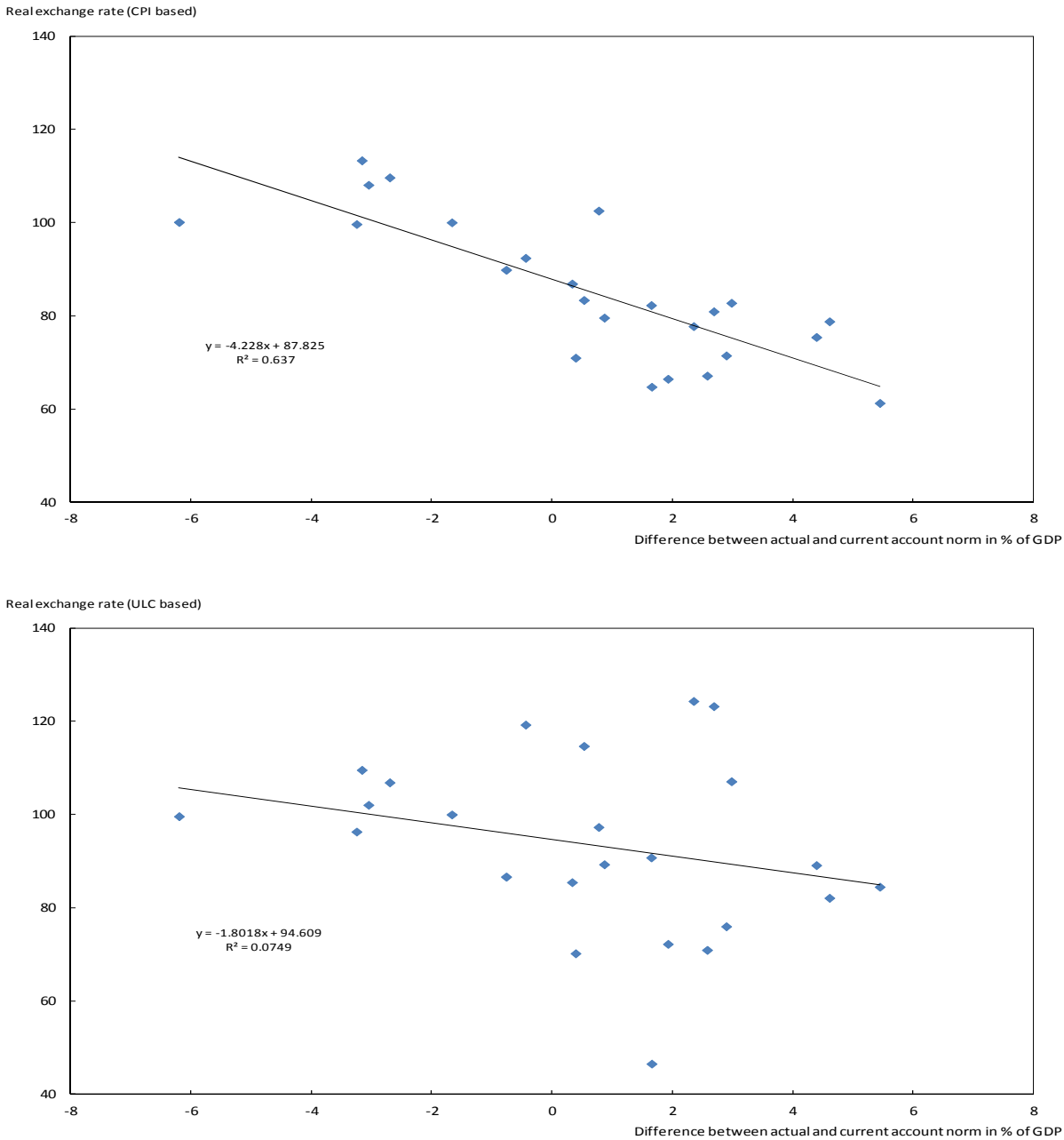
Differences between the actual current account and estimated norms

27. Fundamental saving and investment determinants do not seem able to fully capture the strong downward trend in Turkey's current account deficit since 2001. Differences between the actual current account and estimated norms can reflect cyclical factors but also omitted variables.

28. The real exchange rate, as a proxy for external competitiveness, might be such an omitted factor, which affects the current account mainly through the trade channel.[5] While variations in the real exchange rate are partly reflected in the norm estimates through the terms-of-trade variable, there, nevertheless, appears to be some correlation between the divergence from the norm and measures of external competitiveness (Figure 4). This correlation is quite strong for a CPI based measure of the real effective exchange rate (Figure 4A) and has the expected negative sign, *i.e.* exchange rate appreciations are associated with larger negative deviations of the actual from the estimated current account. The correlation is still negative albeit substantially weaker for the ULC based real effective exchange rate (Figure 4B) possibly reflecting the fact that variations in this measure are more closely correlated with terms-of-trade variations.

5. The real exchange rate may affect saving and investment directly. However, the variable was not included in the panel regressions as it is only available for a subset of countries and would have further reduced the already limited sample size.

Figure 4. Current account norm deviations and external competitiveness

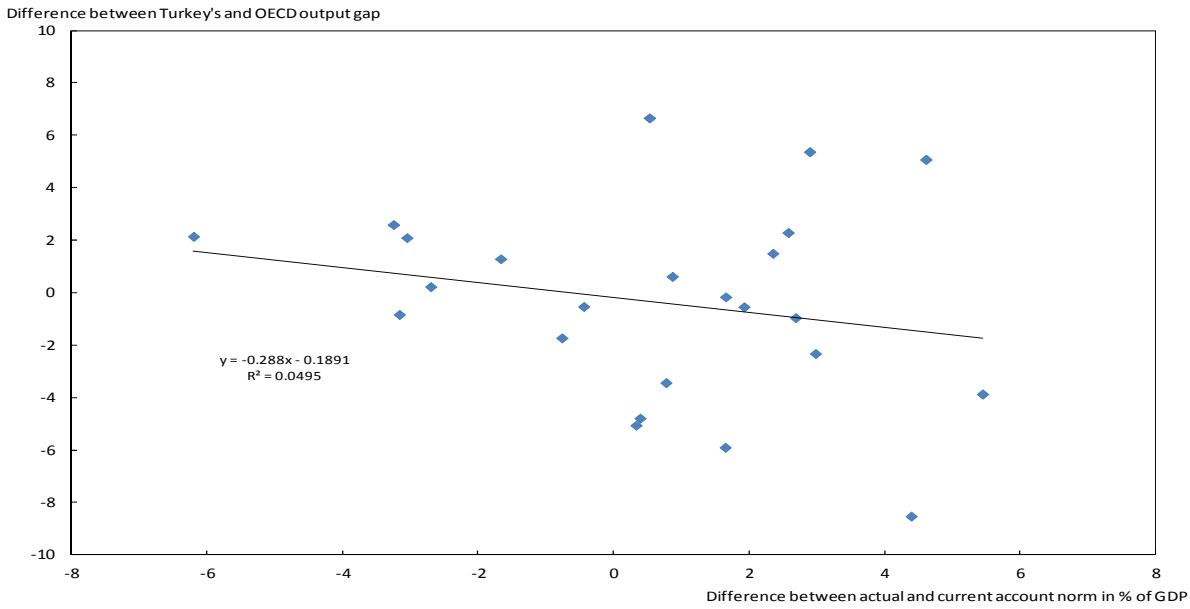


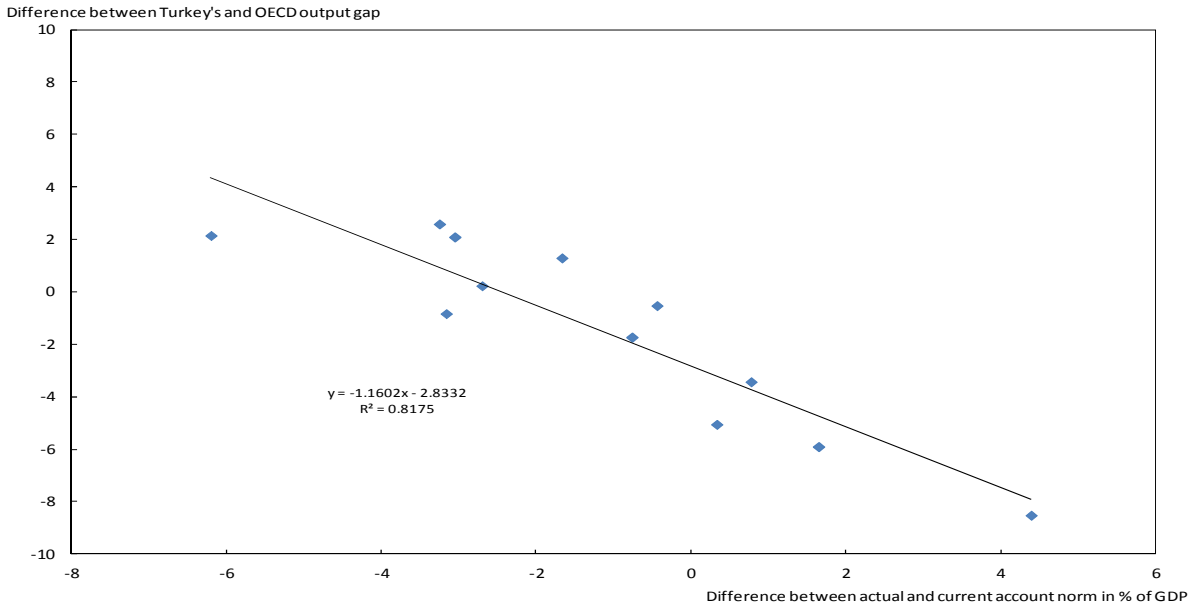
Note: Estimate of the current account norm is based on the results reported in Table 2 for the full sample. Both panels capture the period 1988-2011. External competitiveness is measured by the consumer price index (CPI) or unit labour cost (ULC) based real effective exchange rate. This measure is a weighted average of 48 bilateral exchange rates. The weights are based on a double-weighting principle, taking into account the structure of competition in both export and import markets of the manufacturing sector of 49 countries (see Brézillon *et al*., 2010).

Source: OECD calculations.

29. Cyclical factors appear to have played some role in the more recent past (Figure 5). While the correlation between the deviation from the norm and the relative output gap (difference between Turkey's and the OECD output gap) is weak for the entire 1988-2011 sample (Figure 5A), it becomes substantially stronger if only the period since 2000 is considered (Figure 5B).

Figure 5. Current account norm deviations and cyclical factors





Note: Estimate of the current account norm is based on the results reported in Table 2 for the full sample. The first panel captures the period 1988-2011, while the second captures the period 2000-11.

Source: OECD calculations.

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Annex A: Empirical literature review

Table A1: Empirical studies

Study	Country coverage	Time coverage	Estimation approach	Baseline variables	Structural variables
Barnes *et al*. (2010)	25 OECD countries	1969-2008	Static pooled OLS and fixed effects, 5-year averages	• Initial net foreign asset position (NFA) (++) • Budget balance (++) • Old age (--) • Projected old-age (++) • Young age(+-) • GDP p.c. (++) • GDP growth (0) • Oil price (--) • Trade openness (++) • Long-term interest rate (++) • Euro core (0) • Euro periphery (-)	• Credit to private sector (0) • Stock market capitalisation (0) • Housing investment (--) • NAIRU (++)
Bussière *et al*. (2010)	77 countries (57 emerging and 20 industrial)	1980-2005	Bayesian model averaging (BACE), 12-year and 4-year averages	• Initial NFA (++) • Budget balance (+) • Old age (--) • Young age (-) • Relative income (++) • GDP growth (+) • Oil balance (++) • Trade openness (+) • Population growth (--) • Financial integration (0) • Asian crisis (++) • Investment (0)	• Civil liberties (reverse order)(+)
Cheung *et al*. (2010)	94 countries (30 OECD and 64 developing)	1973-2008 (baseline), 1994-2008 (with structural variables)	Static pooled OLS, 5-year averages	• Initial NFA (++) • Budget balance (++) • Old age (0) • Young age (-) • Relative income (+, - emerging economies) • Relative income squared (- emerging economies) • GDP growth (0) • Oil consumption per capita (+ emerging economies) • Oil production (++) • Trade openness (+)	• Credit to private sector (-, full sample) • Regulatory quality (-, full sample)

Study	Country coverage	Time coverage	Estimation approach	Baseline variables	Structural variables
Chinn and Prasad (2003)	89 countries (18 industrial, 71 developing)	1971-95	Static pooled OLS, dynamic pooled OLS, 5-year averages. Robustness tests: dynamic fixed effects	*Full sample excluding Africa* • Initial NFA (++) • Budget balance (++) • Old age (0) • Young age (0) • Relative income (+) • Relative income squared (0) • GDP growth(0) • Oil exporting countries(++) • Trade openness (0) • Terms of trade (ToT) volatility (+) Developing countries excluding Africa • Initial NFA (+) • Budget balance (++) • Old age (0) • Young age (-) • Relative income (0) • Relative income squared (0) • GDP growth(0) • Oil-exporting countries(+) • Trade openness (0) • ToT volatility (+)	*Full sample excluding Africa* • Financial deepening (M2/GDP) (++) • Capital controls (current account) (0) • Capital controls (capital account) (0) *Developing countries excluding Africa* • Financial deepening (M2/GDP) (++) • Capital controls (current account) (0) • Capital controls (capital account) (0)
Chinn and Ito (2007)	89 countries (19 industrial and 70 developing)	1971-2004 (baseline), 1984-2004 (with structural variables)	Static pooled OLS, 5 years average. Robustness tests: fixed effects, 2SLS, GLS	*Full sample* • Initial NFA (++) • Budget balance (++) • Old age (--) • Young age (--) • Relative income(0) • Relative income squared(0) • GDP growth(0) • Oil exporting countries (++) • Trade openness(0) • ToT volatility (0) *Industrial countries* • Initial NFA (++) • Budget balance(++) • Old age (0) • Young age (0) • Relative income(+) • Relative income squared(-) • GDP growth(0) • Trade openness(+) • ToT volatility (0)	*Full Sample* • *Credit to private sector (0)* *Industrial countries* • *Credit to private sector (0)* • Legal development (0) • Current account openness (0) • Credit to private sector * legal development (--) • Current account openness * legal development (++) • Current account openness * credit to private sector (0)

Study	Country coverage	Time coverage	Estimation approach	Baseline variables	Structural variables
				Asian emerging market countries • Initial NFA (++) • Budget balance(++) • Old age (--) • Young age (-) • Relative income(++) • Relative income squared(0) • GDP growth(0) • Oil exporting countries (+) • Trade openness(0) • ToT volatility (0)	*Asian emerging market countries* • *Credit to private sector (--)* • Legal development (-) • Current account openness (0) • Credit to private sector * legal development (--) • Current account openness * legal development (0) Current account openness * credit to private sector (0)
Kerdrain *et al*. (2010)	30 OECD,117 OECD and non-OECD	1965-2008 (OECD sample), 1993-2008 (full sample)	Error correction model, annual data (for OECD sample), static pooled OLS, 5 year averages (full sample)	*OECD sample (long run)* • Budget balance (0) • Old age (--) • Young age (+) • Population growth (--) • Productivity growth (--) • Real long term interest rate (0) • User cost of capital (0) • ToT growth(++) *Full sample* • Old age (-) • Young age (--) • Productivity growth (0) • Real interest rate (0) • ToT growth (++)	*OECD sample (long run)* • Public health spending (--) • EPL [higher=stricter] (--) • Unemployment benefits (0) • Public spending, total (0) • Public spending, old age (0) • Retirement age (0) • Financial market regulation [various measures] (0) • PMR (0) *Full sample* • Public health expenditure (-) • Employment law index (0) • Unemployment benefits (0) • Doing business (0) • Cost of starting business (0) • Days to start business (0) • Number of procedures (0) • Financial reform index (0)
Lee *et al*. (2008)	54 advanced and emerging market economies	1973-2004	Static pooled OLS and fixed effects, 4-year averages	• Initial NFA (++) • Budget balance (++) • Old age (--) • Population growth (-) • Relative income (+) • GDP p.c. growth (-) • Oil balance (++) • Banking crisis (+) • Asian crisis (++) • Financial centre (++)	

Study	Country coverage	Time coverage	Estimation approach	Baseline variables	Structural variables
Medina *et al*. (2010)	33 emerging market economies	1970-2008	Static pooled OLS, annual data	• Initial NFA (++) • Budget balance (++) • Old age (0) • Young age (--) • Population growth (0) • Relative income (0) • GDP growth (--) • Oil balance (++) • Asian crisis (++) • FDI (0)	
Rahman (2008)	59 (21 industrial and 38 developing)	1971-2006 (full sample), 1992-2006 (transition economies)	Static pooled OLS and fixed effects. 4-year averages	• Initial NFA (++) • Budget balance (++) • Old age (-) • Population growth (--) • Relative income (+) • GDP growth (-) • Oil balance (++) • Banking crisis(++) • Asian crisis (++) • Financial Centre (0) • FDI (-) • Remittances (+)	
Weber and Yang (2011)	54 advanced and emerging	1969-2008	Dynamic pooled OLS, 4-year averages	• Budget balance (++) • Old age (--) • Population growth (--) • Rel. income (++) • GDP p.c. growth (--)	

Notes: ++ positive and highly significant coefficient, + positive and weakly significant or not robust across specifications, 0 insignificant coefficient, -- negative and highly significant coefficient, - negative and weakly significant or not robust across specifications.

Annex B: Dataset

Table B1. Data description

Theory	Variable	Description	Source
Dependent variable	Current account balance	Current account balance in % of GDP	IMF WEO Sept. 2011
	Initial net foreign assets	Net foreign assets in % of GDP at the beginning of the 5-year period	Lane and Milesi-Ferretti (2007)
Oil dependency	Oil balance	Oil trade balance in % of GDP	IMF WEO Sept. 2011
Uncertainty	Inflation	CPI inflation	IMF WEO Sept. 2011
Trade integration	Trade openness	Sum of exports and imports in % of GDP	IMF WEO Sept. 2011
	Trade regulations	Coded from 0 (restricted) to 10 (free)	Gwartney *et al*. (2011)
	Terms of trade growth	Growth of goods and services terms of trade index	IMF WEO Sept. 2011
Fiscal policy	Budget balance	General government net lending/borrowing in % of GDP	IMF WEO Sept. 2011
Economic development	Relative income	Real GDP in per capita in % of GDP weighted average	IMF WEO Sept. 2011
	Relative income squared	Real GDP in per capita in % of weighted average, squared	IMF WEO Sept. 2011
	GDP growth	Real GDP growth	IMF WEO Sept. 2011
Demographics	Population growth	Growth of total population difference	IMF WEO Sept. 2011
	Old age dependency	Ratio of population over 65 in total population aged 15-64	WDI
	Young age dependency	Ratio of population under 15 in total population aged 15-64	WDI
Dummies	Asian crisis	Dummy for Asian economies after the crisis	
	Euro area core	Dummy for Austria, Belgium, Germany, France, Italy, Netherlands	Barnes *et al*. (2010)
	Euro area periphery	Dummy for Cyprus, Spain, Finland, Greece, Ireland, Portugal	Barnes *et al*. (2010)
	Financial centre	Dummy for Belgium, Hong Kong, Netherlands, Switzerland	Lee *et al* (2008), Rahman (2008)
	EU accession	Dummy for Bulgaria, Czech Republic, Estonia, Hungary, Poland, Romania for the 5-year period after the accession negotiations were completed	Rahman (2008)
Financial integration and development	Financial integration	Sum of assets and liabilities in % of GDP	Lane and Milesi-Ferretti (2007)
	Capital account openness I	Index that ranges from -1.84 (closed) to 2.48 (open)	Chinn and Ito (2008)
	Capital account openness II	Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Private credit to GDP	Private credit by deposit money banks and other financial institutions in % of GDP	Beck and Demirgüç-Kunt (2009)
	Growth of private credit to GDP		Beck and Demirgüç-Kunt (2009)
	Stock market capitalization to GDP	Stock market capitalisation to GDP ratio	Beck and Demirgüç-Kunt (2009)
	Bank concentration	Assets of three largest banks as a share of assets of all commercial banks	Beck and Demirgüç-Kunt (2009)
	Credit controls	Credit controls and excessively high reserve requirements, Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Bank entry barriers	Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Interest rate restrictions	Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Privatization of banking sector	Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Securities market development	Coded from 0 (fully repressed) to 3 (fully liberalised)	Abiad *et al*. (2008)
	Banking sector supervision	Prudential regulations and supervision of the banking sector, coded from 0 (not regulated) to 3 (highly regulated)	Abiad *et al*. (2008)
	Credit market regulations	Coded from 0 (restricted) to 10 (free)	Gwartney *et al*. (2011)
Institutional quality	Legal system and property rights	Coded from 0 (restricted) to 10 (free)	Gwartney *et al*. (2011)
	Labour market regulations	Coded from 0 (restricted) to 10 (free)	Gwartney *et al*. (2011)
	Labour force participation	Labour force participation rate of the population over 15 years	WDI

Note: All variables except for the current account, net foreign asset position, oil balance and growth in terms of trade enter the regressions in deviations from a GDP weighted cross-country mean.

Table B2: Country coverage

Country	Time period in baseline	Emerging market sample
Argentina	1995-2010	X
Australia	1985-2010	
Austria	1985-2010	
Belgium	1985-2010	
Brazil	1995-2010	X
Bulgaria	1995-2010	X
Canada	1985-2010	
Switzerland	1985-2010	
Chile	1995-2010	X
China	1985-2010	X
Colombia	1985-2010	X
Cyprus	1990-2010	
Czech Republic	1990-2010	X
Germany	1985-2010	
Denmark	1985-2010	
Spain	1985-2010	
Estonia	1990-2010	X
Finland	1985-2010	
France	1985-2010	
United Kingdom	1985-2010	
Greece	1985-2010	
Hong Kong	1985-2010	X
Hungary	1990-2010	X
Indonesia	1990-2010	X
India	1985-2010	X
Ireland	1985-2010	
Iceland	1985-2010	
Israel	1990-2010	X
Italy	1985-2010	
Japan	1985-2010	
Korea	1985-2010	X
Mexico	1985-2010	X
Malaysia	1985-2010	X
Netherlands	1985-2010	
Norway	1985-2010	
New Zealand	1985-2010	
Pakistan	1990-2010	X
Peru	1995-2010	X
Philippines	1985-2010	X
Poland	1990-2010	X
Portugal	1985-2010	
Romania	1995-2010	X
Russia	1995-2010	X
Slovak Republic	1990-2010	X
Slovenia	1990-2010	X
Sweden	1985-2010	
Thailand	1990-2010	X
Turkey	1985-2010	X
United States	1985-2010	
Venezuela	1985-2010	X
Vietnam	1995-2010	X
South Africa	1990-2010	X

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