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Romania: Selected Issues

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ROMANIA

Selected Issues

Prepared by Costas Christou, Manuela Goretti, Laurent Moulin (EUR),
and Ruben Atoyan (PDR)

Approved by the European Department

June 12, 2008

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I. ROMANIA'S EXTERNAL STABILITY RISKS [1]

Core Questions and Findings

- **What is the chapter's overall conclusion on Romania's external stability risks?** Against the backdrop of a managed float and considerable margins of uncertainty, the chapter concludes that Romania's balance of payments position is not likely to give rise to disruptive exchange rate adjustments. However, the unsustainably high current account deficit, an external balance sheet structure increasingly tilted toward short-term debt financing, and an overheating economy raise warning flags. Insuring against external stability risks going forward calls for a better macroeconomic policy mix, with fiscal policy carrying more of the stabilization burden, and additional measures to contain and manage financial sector vulnerabilities.

- **Is the present level of Romania's current account deficit sustainable?** Most likely not. During 2003–07, the current account deficit ballooned to 14 percent of GDP, largely reflecting a private-sector investment boom triggered by EU accession. Staff's point estimates put Romania's equilibrium current account deficit in the 8–10 percent of GDP range, with the range mostly reflecting exclusion or inclusion of EU capital transfers, and some statistical uncertainty around these estimates.

- **Is the present level of the real effective exchange rate significantly overvalued?** There is no strong evidence for this. Various assessment methodologies produce estimates of overvaluation margins in the range 3½-12¾ percent for the average real effective exchange rate (CPI-based) in 2007. The real effective exchange rate has since depreciated by some 4 percent (March 2008 relative to average 2007).

- **Is there other evidence that Romania's external price and cost competitiveness could have been eroded over recent years?** While nominal unit labor costs have picked up sharply since 2004, Romania's export market shares have steadily increased, and profitability in the tradables sector remains intact. Also, Romania's euro-denominated wages are still among the lowest in the EU, and foreign-investor interest in locating production facilities in Romania also remains strong.

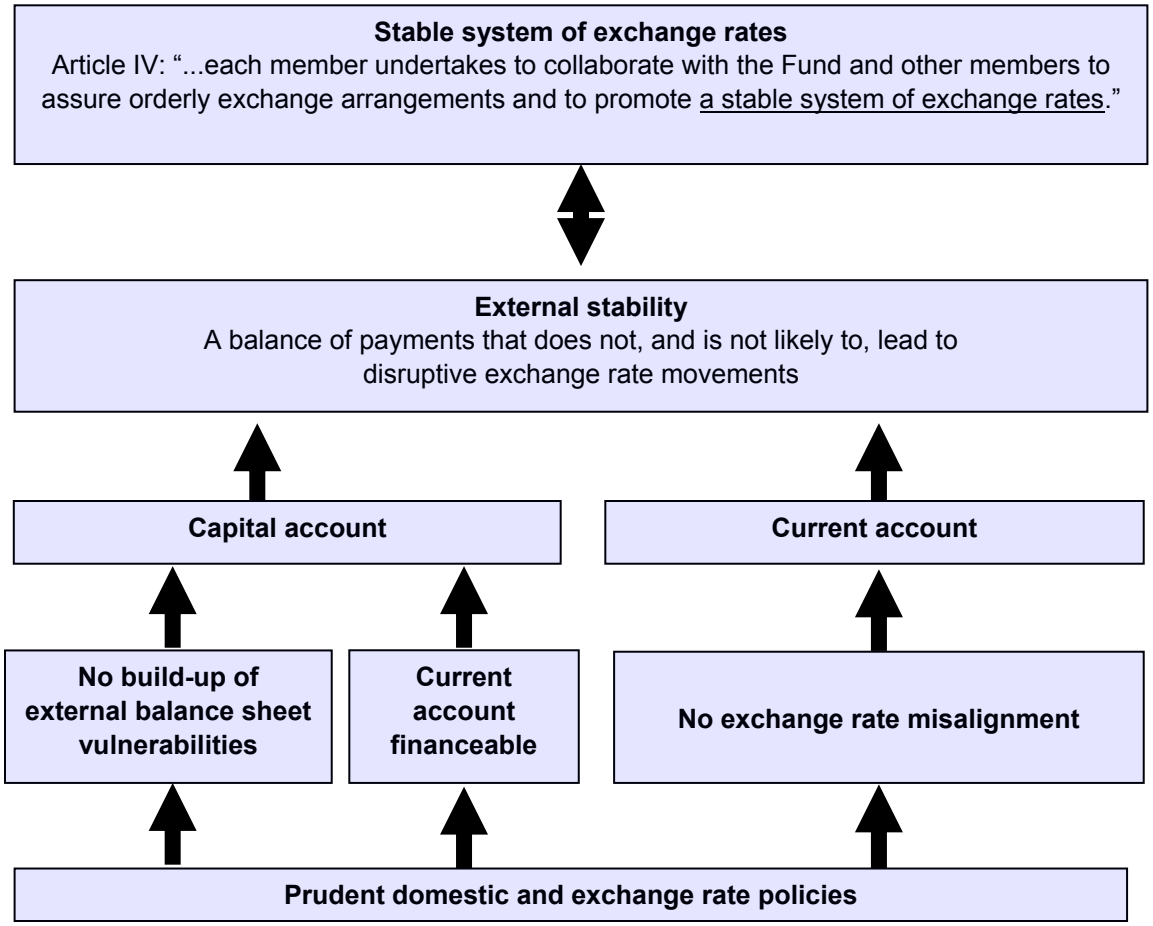
- **Does the structure of Romania's external balance sheet signal external stability risks?** Romania's external net exposure remains contained and compares favorably with other regional economies. However, an ongoing shift to shorter-term debt maturities in the external balance sheet signals increasing debt rollover risks.

[1] Prepared by Ruben Atoyan (PDR).

A. External Stability and Convergence

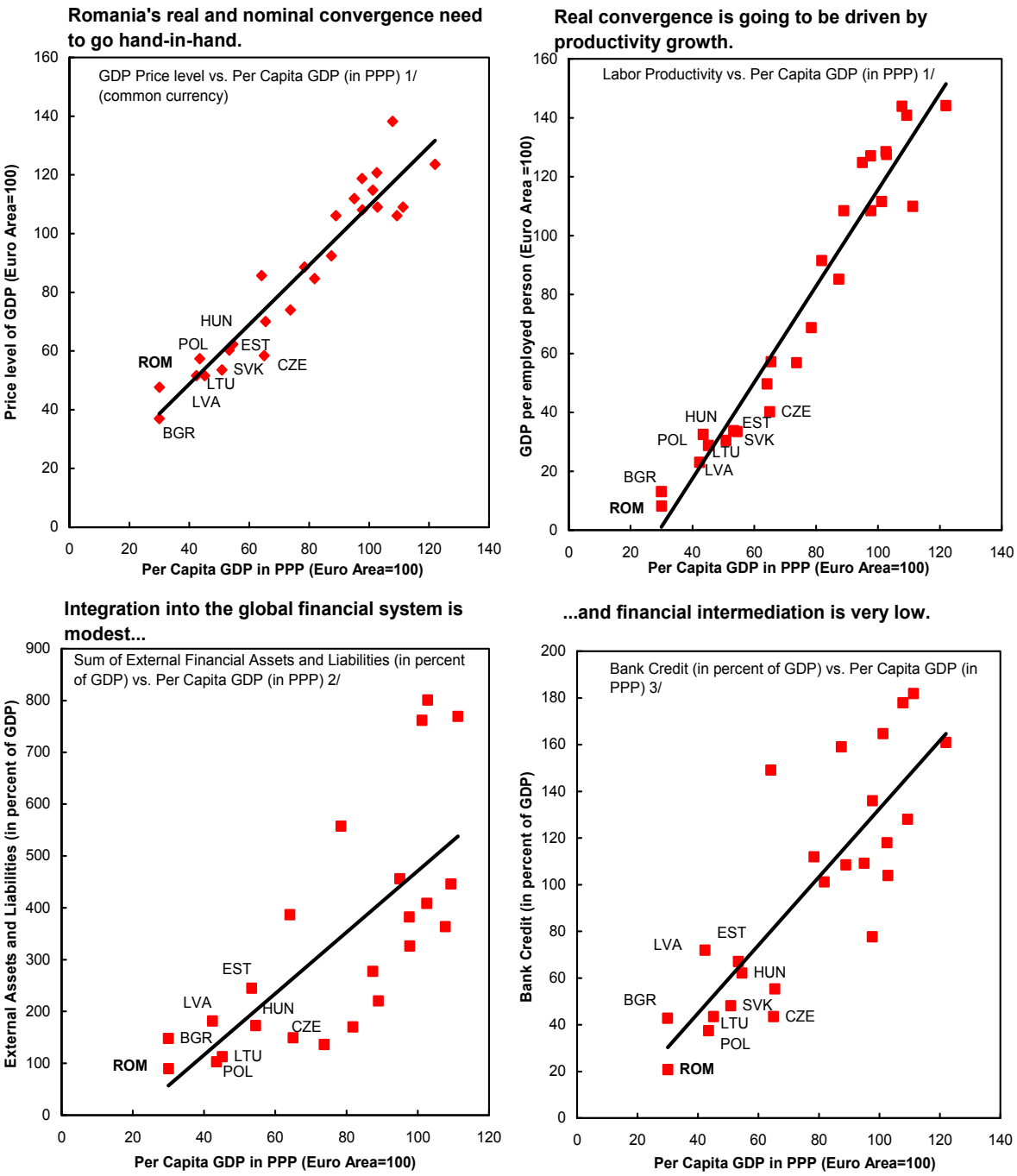
1. **Prudent macroeconomic policies are key for preserving external stability, the organizing principle of IMF surveillance.** External stability—defined as a balance of payments position that does not, and is not likely to, lead to disruptive exchange rate movements—entails maintaining a current account position that can be smoothly financed in the medium-term and that does not lead to the build-up of a vulnerable external balance sheet structure (Figure 1). Maintaining external, as well as internal, stability therefore requires attentive monetary and exchange rate, fiscal, income, and financial policies.

Figure 1. External Stability Assessment



2. **In the context of Romania's EU convergence economy, maintaining external and internal stability is broadly equivalent to observing real and nominal convergence speeds limits.** Romania has started real convergence, i.e. convergence in real per capita income and labor productivity, and nominal convergence, i.e. convergence in price and wage levels in euros, from the bottom of the EU's income league. Moreover, integration into the global financial system and financial intermediation are still modest (Figure 2). The cross-country data for EU countries also suggest that "real convergence gaps" and "nominal

Figure 2. Romania: Real, Nominal, and Financial Convergence



Sources: 2005 International Comparison Program; IFS; WEO; and Fund staff estimates.
1/ EU countries excluding Luxembourg.
2/ EU countries excluding Ireland, Luxembourg, Malta and Slovakia.
3/ EU countries excluding Luxembourg and Slovenia.

convergence gaps" (as well as "financial deepening gaps") will have to be bridged at closely coordinated speeds, and nominal convergence of price levels and labor costs in common currency in particular can not "jump ahead" of real convergence. This, however, is broadly equivalent to keeping aggregate demand aligned with potential output (internal stability) and avoiding a misaligned real exchange rate (external stability).

3. **External stability concepts for EU convergence economies like Romania are particularly difficult to benchmark.** In part, this reflects the difficulty of pinpointing equilibrium concepts in historical time series data generated by an economy that has generally operated in out-of-equilibrium mode.[2] In particular, transition countries generally started convergence from drastically undervalued real exchange rate levels.[3] Moreover, in the case of Romania, EU accession triggered a likely one-off but protracted private-sector investment boom given the perceived one-off improvements in the country's investment risk-return fundamentals—an unusual event that is difficult to integrate into conventional approaches to assessing external stability based on equilibrium savings and investment rates. Finally, data quality is an issue, for example growing wages and unit labor costs may in part reflect on-going deshadowing of the grey economy, adding further uncertainties to statistical inferences.

4. **This chapter's assessment of Romania's external stability risks uses a four-pronged approach:**

- First, a range of estimates of the equilibrium current account balance is compared with the present current account deficit, while attempting to account for the impact of temporary factors on the latter.

- Second, external stability risks are assessed by analyzing deviations of the real effective exchange rate from its estimated equilibrium level.

- Third, the conclusions on the exchange rate valuation are cross-checked against various indicators of external price and cost competitiveness, including export market shares, profitability of export industries, and sectoral FDI patterns.

- And fourth, indicators of the size and structure of Romania's external balance sheet are analyzed.

[2] To mitigate this problem, cross-country data are used to gauge equilibrium concepts. The panel data, however, include other transition countries, which means that estimates of the equilibrium concepts may still be biased.

[3] See Grafe and Wyplosz (1997).

B. Romania's External Flows 2003–07: Stylized Facts

5. **With EU accession prospects increasingly firming up during 2003–04, Romania turned into a recipient of massive capital inflows.** Investors' perceptions of lowered risks and high returns led to massive capital inflows, much of which has been foreign direct investment on the back of a large-scale privatization. More recently, however, debt-creating inflows started playing a predominant role, with the FDI-to-current account ratio falling from 100 percent in 2004 to 44 percent in 2007. Moreover, the composition of FDI flows is increasingly shifting toward intra-company loans.

Romania: Capital Flows, 2003-07
(In percent of GDP, unless indicated otherwise)

	2003	2004	2005	2006 2/	2007
Net capital inflows	6.7	15.7	15.7	15.7	17.7
FDI, net	3.6	8.4	6.6	9.0	6.2
Non-debt creating 1/	...	...	4.9	6.8	2.8
Intra-company loans	...	...	1.7	2.1	3.3
Debt-creating flows	2.7	6.5	8.4	6.8	10.9
Capital transfers	0.4	0.8	0.7	0.0	0.7
Memorandum item:					
FDI-CAB ratio, in percent	62.4	100.2	74.1	86.4	44.1

Source: NBR.
1/ Includes equity capital and reinvested earnings.
2/ FDI includes privatization of large state bank (BCR).

6. **The capital inflows fuelled a protracted absorption boom, but also a strong increase in foreign exchange reserves.** Spending surged strongly, significantly outpacing Romania's growth in gross disposable income. But the magnitude of the inflows was so large that a significant portion has not been absorbed by domestic demand but rather contributed to strong foreign exchange reserves accumulation.

Romania: Capital Flows, Foreign Reserves, Absorption, and Income, 2003-07
(In percent of GDP)

	2003	2004	2005	2006	2007
Net capital inflows	6.7	15.7	15.7	15.7	17.7
= FX Reserves (- is accumulation)	-0.9	-7.3	-6.8	-5.3	-3.7
+ Current account balance	-5.8	-8.4	-8.9	-10.4	-14.0
Absorption (domestic demand) 1/	107.5	109.1	110.2	112.0	114.3
= Gross disposable income 2/	101.7	100.7	101.3	101.7	100.3
+ Foreign savings	5.8	8.4	8.9	10.4	14.0

Sources: National Institute of Statistics (INS); and Fund staff estimates and projections.

1/ Consumption plus investment.

2/ GDP plus net factor income and transfer balance from abroad.

7. **Private investment spending was the main driver of the absorption boom.** The rapidly deteriorating economy-wide savings-investment gap reflected almost exclusively a boom in private-sector investment. The private savings rate remained remarkably constant during 2003–07, suggesting that consumption smoothing was not a principle boom driver.

Romania: Savings and Investment Balances, 2003-07
(In percent of GDP)

	2003	2004	2005	2006	2007
Foreign saving	5.8	8.4	8.9	10.4	14.0
Public S-I balance	-2.2	-1.0	-0.8	-0.6	-2.3
Government saving	1.2	1.7	1.8	2.6	1.2
Government investment	3.4	2.8	2.6	3.2	3.6
Private S-I balance	-3.6	-7.3	-8.1	-9.8	-11.7
Private saving	14.9	13.7	11.9	13.5	14.4
Private investment	18.5	21.0	20.0	23.3	26.0

Sources: Romanian authorities; and Fund staff estimates.

C. Equilibrium Current Account Balance

Macroeconomic balance approach

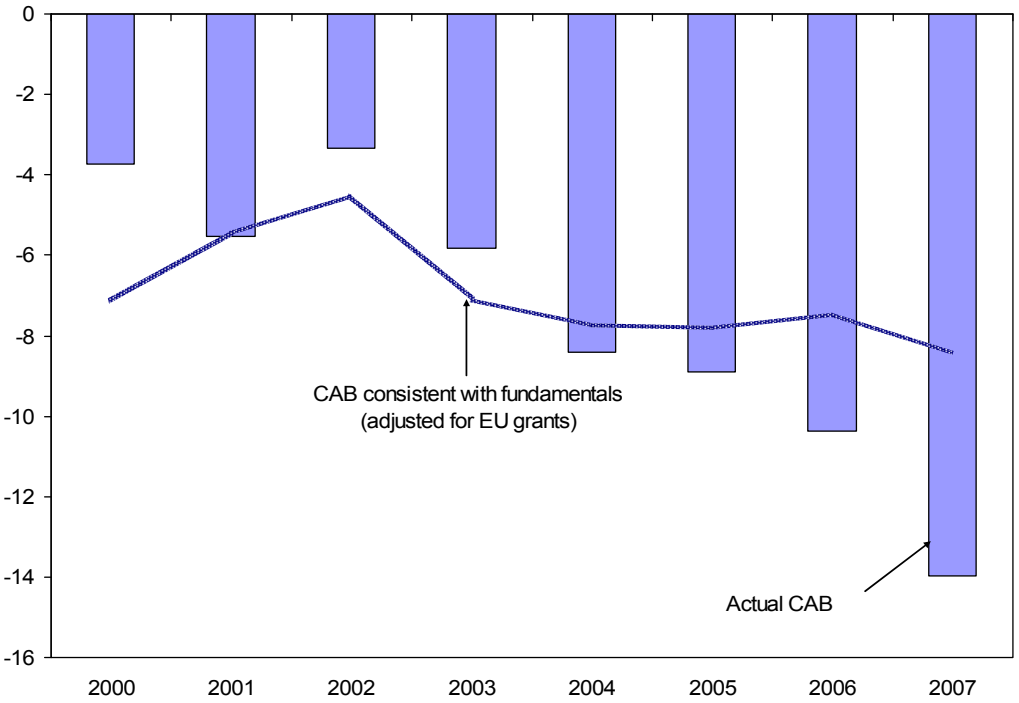
8. **A panel regression of the current account balance on a set of savings-investment fundamentals yields a wide range of estimates.** Ignoring EU capital transfers of over 1½ percent of GDP, the current account deficit norm for Romania is estimated to be in the range of 4-8¾ percent of GDP, depending on the model's specification and estimation technique, with the highest deficit norm based on fixed-effects specifications likely more reliable (Box 1). In addition, it is important to recognize, however, that EU grants will likely add to the sustainable level of the current account deficit. A corresponding adjustment of the current account norms yields estimates of the sustainable current account deficit of up to 10¼ percent of GDP. The estimates suggest that Romania's present current account deficit exceeds its equilibrium level. Since 2006, as a consequence of the private-sector investment boom, Romania's current account deficit has significantly diverged from the level consistent with its fundamental determinants (Figure 3).

Macroeconomic balance approach

	Estimates
	(in percent of GDP)
Underlying current account 1/	-12.6
Current account norms:	
Fixed effects, full sample	-8.7
adjusted for EU capital grants 2/	-10.3
Pooled, full sample	-4.2
adjusted for EU capital grants 2/	-4.9
Pooled, EUR sample	-5.4
adjusted for EU capital grants 2/	-6.2

1/ Underlying current account in 2007 is adjusted for the output gap (about 2.8 percent) effect.
2/ EU grants are assumed to increase current account deficits by the full amount (1.7 percent of GDP).
3/ Based on standard CGER elasticities for exports (-0.71) and imports (0.92) with respect to REER changes and Romania's exports and imports ratios to GDP.

Figure 3. Romania: Estimated current account norm
(In Percent of GDP)



Source: Rahman (2008), fixed effects in full sample.

9. **The macroeconomic balance approach suggests some overvaluation of the leu.** Stripping the 2007 current account deficit of transitory output gap effects produces an estimate of the underlying current account deficit of about 12½ percent of GDP. [4] Based on the estimates for the preferred fixed-effects model specification, a mechanical adjustment of the real exchange rate (Box 2) required to eliminate external imbalances would suggest that Romania's average real effective exchange rate in 2007 was about 11½ percent overvalued (about 19 percent, ignoring EU capital grants).

External Sustainability Approach

10. **The external sustainability approach highlights Romania's difficult trade-off between external vulnerability and real convergence investment needs**. The approach focuses on the link between the external stock position and the flow current account position (Box 3). Accounting for EU grants, the analysis suggests that stabilizing Romania's net

[4] There are two ways to estimate the underlying current account balance: either as the actual present balance stripped of temporary factors (e.g., cyclical fluctuations, temporary shocks, and policy adjustment lags), or as the medium-term projected balance under an assumption of unchanged policies. Following the former approach, the 2007 underlying current account (zero output gap) is estimated to be about 12½ percent of GDP based on the staff estimates of 2007 output gap (2.8 percent above potential output growth) and staff estimates of the current account elasticity with respect to real GDP growth (0.5).

Box 1. Macroeconomic Balance Approach[1]

The macroeconomic balance approach tries to pinpoint an equilibrium relationship between the current account balance and a set of fundamentals using panel data. The equilibrium current account balance (current account norm) for an individual country is computed from this relationship based on the levels of fundamentals projected to prevail in the medium term. Broadly following Consultative Group on Exchange Rate Issues (CGER) methodology, Rahman (2008) assumes that the equilibrium movement in the current account is determined by the following determinants of savings and investment behavior:

- **Fiscal balance** (scaled by GDP). In the absence of full Ricardian equivalence, a higher government fiscal balance raises national saving, lowering current account deficit.
- **Demographics** (population growth rate and old-age dependency ratio). A higher share of economically inactive dependent population (either young or old) reduces national saving and thus increases current account balance.
- Initial **net foreign asset** (scaled by GDP). On the one hand, countries with higher NFA can afford to run larger current account deficits without jeopardizing their solvency. On the other hand, higher NFA a higher net foreign income flows from abroad.
- **Oil trade balance** (scaled by GDP). Higher oil prices increase the current account balance of oil-exporters and decrease the balance of oil-importers given everything else.
- **Relative per capita income at PPP** (scaled by U.S. PPP per capita income). Relatively poorer countries may need to invest more and thus import more capital.
- **Economic growth rate**. Controlling for stage of development, stronger economic growth is likely to lower current account if it is caused by foreign financed investment or it is perceived to be of a permanents nature.
- **FDI** (scaled by GDP). Higher FDI provides a stable source of financing current account deficits as it typically signals improvement in the investment climate. It may also lower current account balances through increased imports.

Box Table 1. Current Account Regressions.

Estimation:	Fixed Effects	Pooled	Pooled
Sample:	Full	Full	EUR
Fiscal balance	0.44***	0.39***	0.23***
Relative income	0.02	0.03**	0.003
Population growth	-2.02***	-0.79**	-0.65
Old age dependency	-0.04	-0.14**	-0.04
Oil trade balance	0.41***	0.15***	0.39***
Initial NFA	0.03***	0.04***	0.02***
FDI	0.05	-0.13*	-0.61***
GDP growth	-0.24***	-0.05	-0.14*
Remittance dummy		0.02***	
Asia dummy	0.02*	0.02*	
Financial center dummy			0.04***
Banking crisis dummy			0.02***
Romania's fixed effect	-0.04		
R-squared	0.59	0.42	0.57
Number of observations	460	460	244

Source: Rahman (2008).

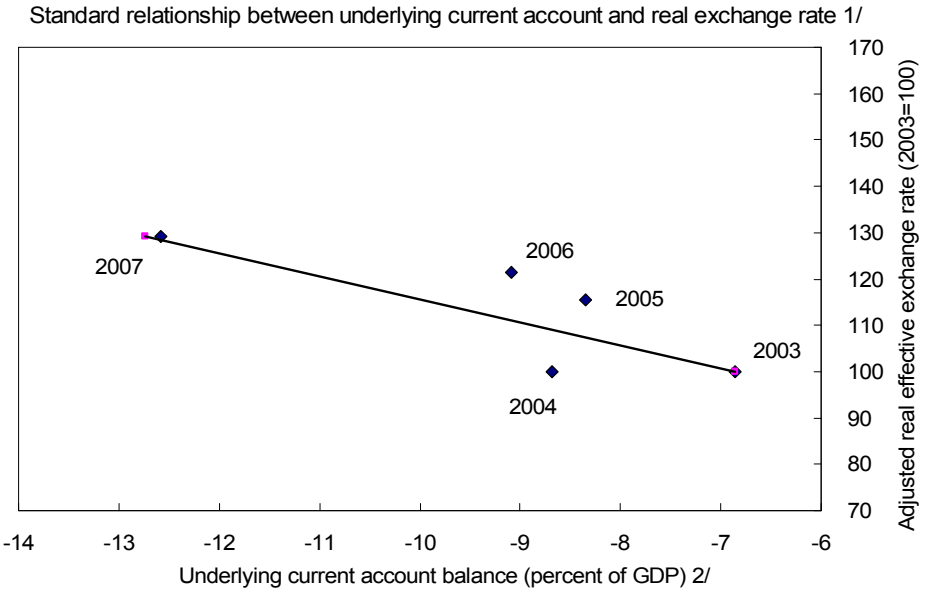
[1] IMF (2006).

Box 2. CGER Methodology for Assessing Real Exchange Rate Adjustment.[1]

The real exchange rate assessment based on Consultative Group on Exchange Rate Issues' (CGER) methodology involves identifying the real exchange rate adjustment that would close the gap between the sustainable level of current account (current account norm or NFA-stabilizing level) and the underlying current account (i.e., the current account balance under zero output gap). Assuming that the trade balance is the only source of current account adjustment, the magnitude of the exchange rate adjustment is derived by applying the elasticity of the current account balance to the real exchange rate (e^{CA}). The latter is computed as a difference of export (e^{X}) and import (e^{M}) elasticities weighted by country specific export and import ratios to GDP:

$$e^{CA} = e^{X} * \frac{X}{Y} - (e^{M} - 1) * \frac{M}{Y}$$

Somewhat remarkably, this highly stylized relationship seems to capture very well the interdependency between the underlying current account deficit and real exchange rate dynamics (adjusted for the equilibrium appreciation) in Romania. Indeed, Romania's ballooning current account deficit has been in line with the observed real effective exchange rate appreciation of recent years, providing some comfort in using this methodology for making inferences for the real exchange rate adjustment needed to close the gap.



Source: Fund staff estimates.

1/ Current account elasticity (-0.2) is computed based on standard elasticities for exports (-0.71) and imports (0.92) with respect to real exchange rate changes (CGER) and Romania's exports and imports ratios to GDP.
2/ Underlying current account is the actual current account adjusted for the staff estimates of the output gap.
3/ Adjusted REER is the actual index adjusted for the equilibrium real appreciation assumed to be about 2.5 percent per year.

[1] IMF (2006).

Box 3. Current Account Balance and External Sustainability Approach.[1]

The external sustainability approach focuses on the relationship between the sustainability of a country's external stock position and its flow current account position. Relying on an intertemporal budget constraint for the economy as a whole, the approach develops a concept of IIP-stabilizing current account deficit. To this end, changes in net international investment position (B_t) are assumed to be due either to net financial flows (net purchases of foreign assets minus net foreign purchases of domestic assets) or to changes in the valuation of outstanding foreign assets and liabilities:

$$B_t - B_{t-1} = CA_t + E_t,$$

where CA_t is the current account balance and E_t includes factors that drive a wedge between the current account balance and net financial flows (capital grants and/or errors and omissions).

Expressing all variables as ratios to GDP, the current account that stabilizes IIP at any given level (b^s) is:

$$ca^s = \frac{g+\pi}{(1+g)(1+\pi)} b^s - e,$$

where g and π are growth rate of real GDP and inflation, respectively.

Similarly, the level of trade balance inclusive of services and transfers ($bgst^s$) consistent with IIP stabilizing at the level determined by the stable differences between levels of external assets (a^s) and liabilities (l^s) is:

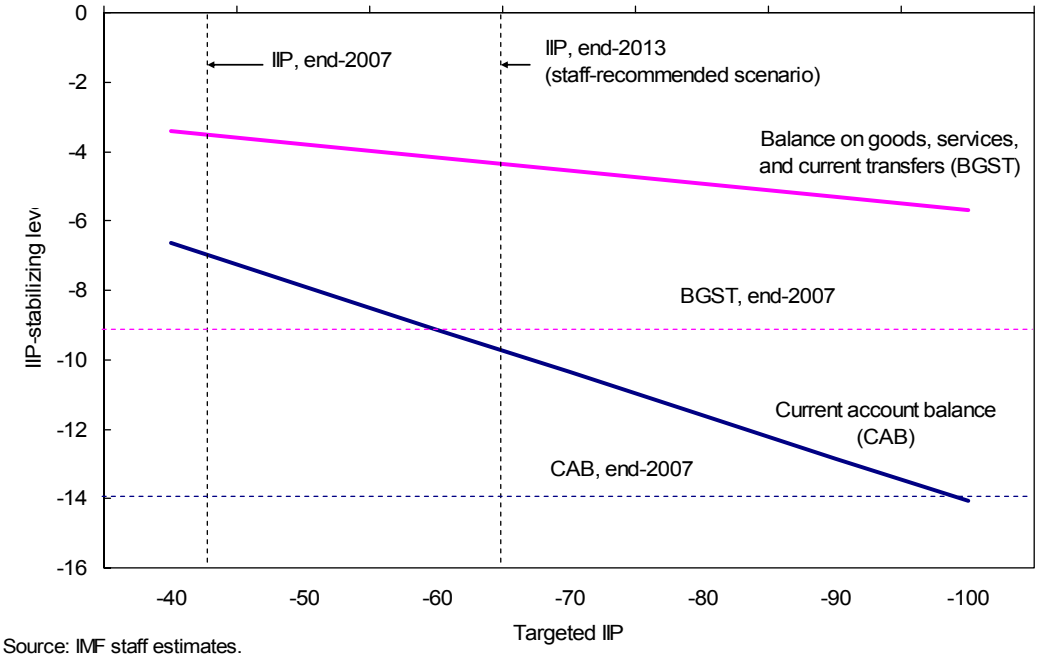
$$bgst^s = -\left(\frac{r^a - g}{1+g} a^s - \frac{r^l - g}{1+g} l^s \right) - e,$$

where r^a and r^l are real returns on foreign assets and liabilities, respectively.

[1] IMF (2006) for details.

international investment position (IIP) at its end-2007 level (-42 percent of GDP) would require keeping the current account deficit at about 7 of GDP (Figure 4). In contrast, maintaining the current account deficit at its 2007 level (14 percent of GDP) would imply a long-run IIP of about -100 percent of GDP—a level similar to the present position of some of the other Eastern European convergence economies, but also implying very high future repayment obligations.

Figure 4. Romania: IIP-Stabilizing Current Account Balance 1/
(In Percent of GDP)



Source: IMF staff estimates.
1/ The relationships are adjusted for EU capital grants (1.7 percent of GDP) and assume real GDP growth (6 percent), GDP deflator inflation (8 percent), real return on assets (3 percent), nominal return on liabilities (10 percent).

11. **Thus, the assessment of the sustainable level of current account deficit ultimately depends on the choice of the "sustainable IIP level."** In staff's medium-term projections under the staff-recommended scenario, the net international investment position stabilizes at about -65 percent of GDP. While arbitrary, this level might be viewed as striking an appropriate balance between (i) the external vulnerability of the economy and repayment obligations, on one hand, and (ii) the country's large needs for capital upgrading and increased attractiveness of Romania's assets to foreign investors on the back of EU accession, on the other hand. Stabilizing the IIP at this level would require reducing current account deficit from 14 percent of GDP in 2007 to about 10 percent of GDP.[5] Clearly, as Romania starts from a low level of net IIP, stabilizing the current account deficit at a high IIP level implies an underlying improvement in the trade balance that offsets the higher net income outflows. Accordingly, stabilizing the net IIP around 65 percent would require reducing the trade deficit (inclusive of services and transfers) from about 9½ percent of GDP in 2007 to 4¾ percent of GDP.

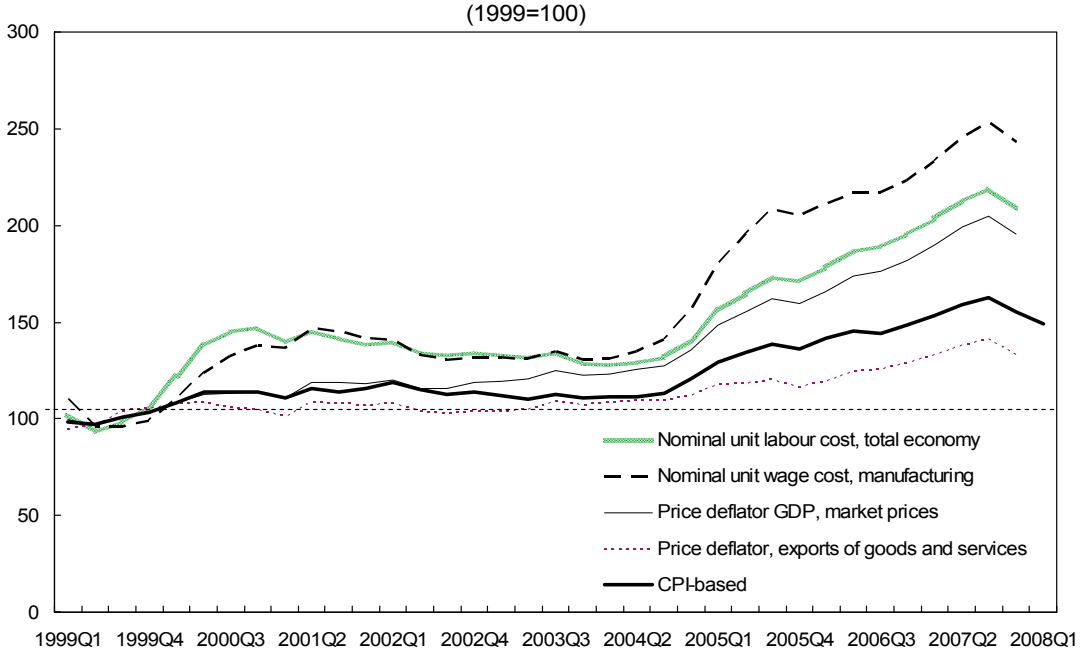
[5] A more moderate external deficit of about 8½ percent of GDP would be sustainable if committed EU capital grants are not disbursed.

12. **The gap between the underlying current account balance and the IIP-stabilizing balance also points to a significant overvaluation in 2007.** With the abovementioned caveats in mind, a mechanical application of the CGER methodology for the exchange rate adjustment suggests that Romania's current account deficit would improve to 10 percent of GDP if the real effective exchange rate depreciates by about 12¾ percent from its average 2007 level.

D. Equilibrium Real Exchange Rate

13. **Another approach to assess external stability risks is to estimate the equilibrium real exchange rate.** Based on a number of indicators, Romania's real effective exchange rate has experienced strong appreciation. Since early 2004, when pressures started to build up, the CPI-based real exchange rate has appreciated by over 47 percent (Figure 5). However, since August 2007, the leu has depreciated by over 15 percent vis-à-vis the euro, resulting in a notable real correction of the effective exchange rate: by end-March 2008, CPI-based REER had dropped by about 4 percent relative to its mid-2007 level. At the same time, the manufacturing ULC-based real exchange rate has nearly doubled over the same period.[6]

Figure 5. Romania: Real Effective Exchange Rates, 1999-2008
(1999=100)

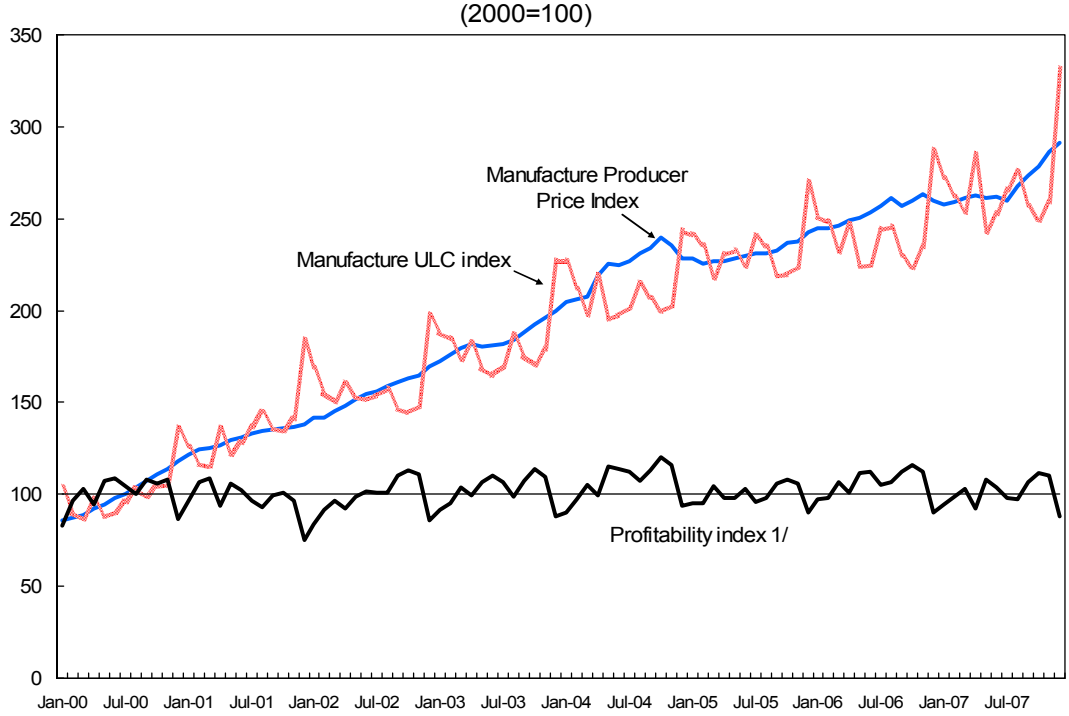


Source: EU Commission's report on Price and Cost Competitiveness (2007) and IMF staff calculations.

[6] Based on data compiled by the European Commission; Romania's labor market data, including for wages, tend to be difficult to interpret, partly reflecting on-going structural changes.

14. **However, the seemingly dramatic appreciation of real exchange rates based on nominal unit labor costs is likely to be misleading.** While shifts in relative nominal unit labor costs can be indicative of shifts in relative profitability, a more relevant indictor of competitiveness would be relative nominal unit labor cost in relation to value added deflators: relative real unit labor costs.[7] While Romania's real unit labor costs have started to pick up since 2005, much of this seems to reflect catch-up from a previously low level and a tightening labor market (see chapter II). In fact, trends in Romania's manufacturing sector profitability show no clear evidence of the erosion of profit margins in the tradable sectors, as rapid growth in nominal unit labor costs indicators has been matched by corresponding increases in producer prices (Figure 6).

Figure 6. Romania: Profitability in Manufacturing Sector, 2000-07
(2000=100)



1/ Defined as a ratio of manufacture PPI and manufacture ULC indices.

15. **The analysis of Romania's equilibrium real effective exchange rate is based on the CPI-based real effective exchange rate.** It is assumed that the equilibrium real exchange rate is a function of a set of fundamentals and that a reduced form of this relationship could be estimated in a panel setting (Box 4). The analysis suggests that overall Romania's real exchange rate has appreciated broadly in line with the estimated equilibrium

[7] See Lipschitz and McDonald (1992) for a discussion of why real effective exchange rates based on different price deflators and nominal labor cost measures can deviate significantly and provide highly misleading signals regarding price and cost competitiveness.

Box 4. Equilibrium Real Exchange Rate (ERER) Estimation. [1]

For comparability purpose, we limit our analysis to a set of countries covering OECD-Eurostat and CIS countries in 1990-2007, conditional on data availability. To check robustness of results, we re-estimated the model over a sample of EU countries. Following CGER methodology, the econometric analysis assumes that CPI-based real effective exchange rate is expected to be determined by a set of fundamentals. The model—estimated as a dynamic OLS presentation to correct for likely correlations between residuals and stationary components of the unit root processes of the explanatory variables—produces estimates similar to CGER estimates:

- **Net foreign assets** (scaled by country's trade). Theory predicts that debt countries need a more depreciated real exchange rate to generate the trade surpluses necessary to service their external liabilities. To the contrary, we find that NFA enters regressions with a significant negative sign, possibly reflecting equilibrium movement allowing for coexistence of real appreciation and declining NFA. This is likely to be common in transition countries experiencing increased foreign investors' interest triggered by, for example, prospects of EU accession. These countries are heavily represented in our sample.

- **Productivity differential** per worker relative to the EU Area countries. Positive and significant coefficient on this variable is likely to witness that increases in productivity are associated with upward pressure on wages, resulting in higher relative prices and thus increasing ERER.

- **Terms of trade index.** Positive and significant coefficient on this variable suggests that higher terms of trade appreciate the real exchange rate, possibly through real income or wealth effects.

- **Government consumption** (scaled by GDP). Positive and significant coefficient on this variable indicates that higher government consumption is associated with appreciation of ERER, perhaps reflecting that such consumption primarily falls on non-tradables, thereby raising relative price of non-tradables versus tradables.

Equilibrium Real Exchange Rate Approach

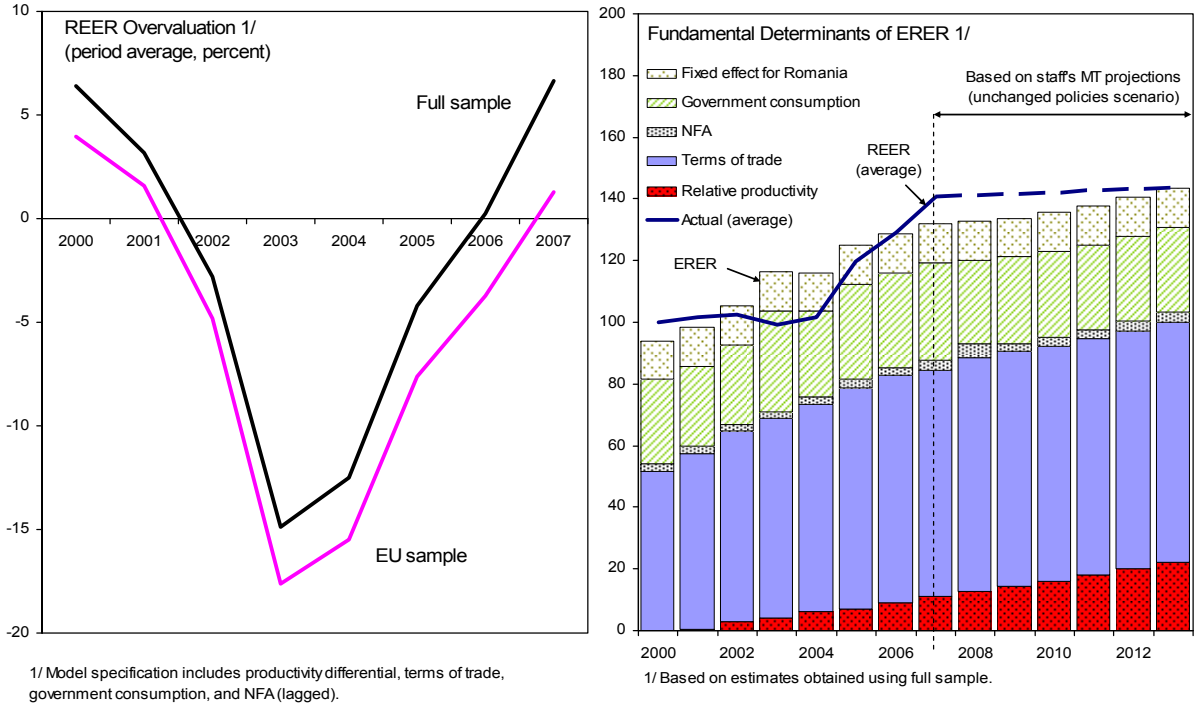
	Full sample	EU sample
Estimated Long-Run Coefficients		
Relative productivity	0.25***	0.39***
Terms of trade	0.52***	0.46***
NFA (lag)	-0.07***	-0.11***
Government consumption	1.59***	1.89***
Fixed effect for Romania	12.63	14.61**
Observations	496	303
R^2	0.68	0.61
	(in percent)	
REER overvaluation (average 2007)	6.6	3.6
REER overvaluation (end-March 2008)	2.6	-0.4

Note: A *, **, *** indicate significance at the 10, 5, 1 percent level based on robust standard errors.

[1] IMF, 2006.

real effective exchange rate. The equilibrium real appreciation appears to be driven primarily by improvements in terms of trade—likely to be related to export quality drift discussed in the next section—and, more recently, improvements in relative productivity (Figure 7).

Figure 7. Romania: Equilibrium Real Exchange Rate Approach, 2000-07



1/ Model specification includes productivity differential, terms of trade, government consumption, and NFA (lagged).

1/ Based on estimates obtained using full sample.

Source: IMF staff estimates.

16. **Following a correction of significant real undervaluation of 2003-05, the average real effective exchange rate appeared to be moderately overvalued in 2007.** Depending on the sample coverage, the estimates of overvaluation ranged from 3½ to 6½ percent, suggesting that recent real depreciation of the leu has likely moved Romania's real effective exchange rate close to its equilibrium level.

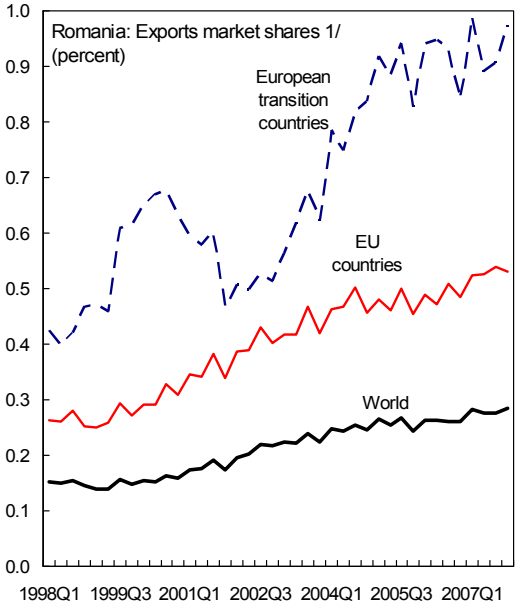
17. **The equilibrium real exchange rate approach provides an interesting insight for the envisaged path of Romania's real convergence.** Indeed, the approach enables us to use staff projections for constructing a corresponding estimated medium-term path for the equilibrium real exchange rate (Figure 7). The analysis clearly shows that the pace of real convergence will be primarily determined by the pace of productivity growth. The latter depends critically on the progress made on the structural reforms implementation.

E. External Competitiveness

18. **Notwithstanding significant real exchange rate appreciation, exports have been growing robustly.** Romania's exports market shares are growing steadily in all trading partners (Figure 8). Furthermore, historical developments in Romania's exports share normalized by the country's GDP share in world GDP suggest that its expansion has been

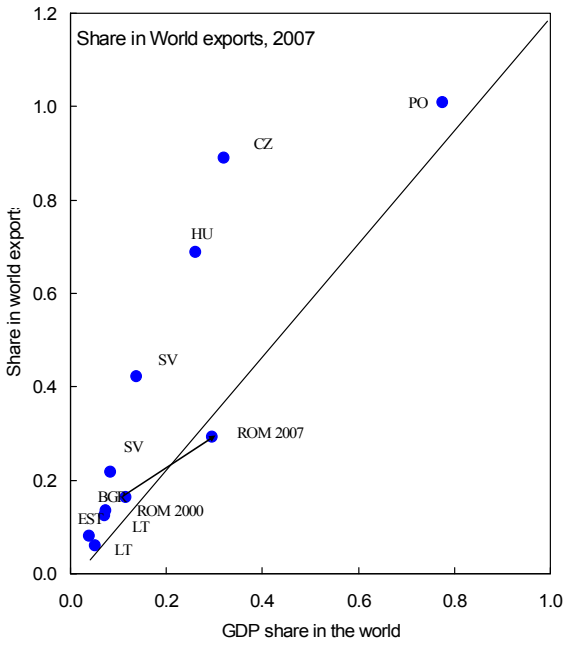
Figure 8. Romania: Exports Performance Indicators

Romania's exports shares have been steadily increasing in all markets...

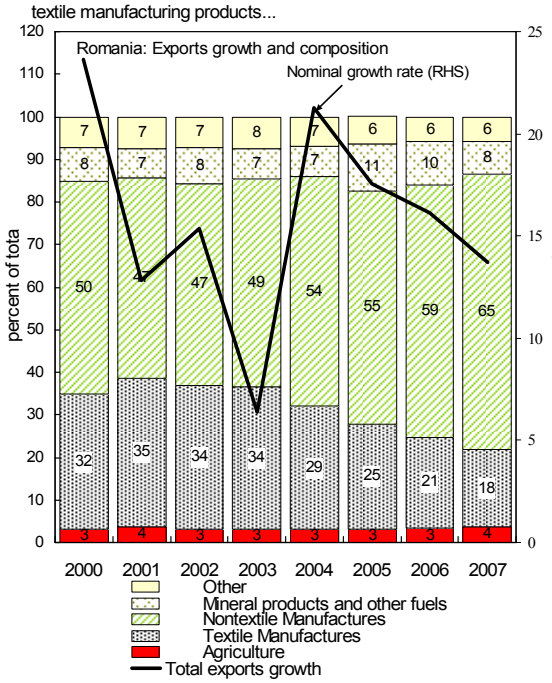


1/ Exports to EU countries and European transition countries account for 70 percent and 26 percent of total Romania's 2006 exports, respectively.

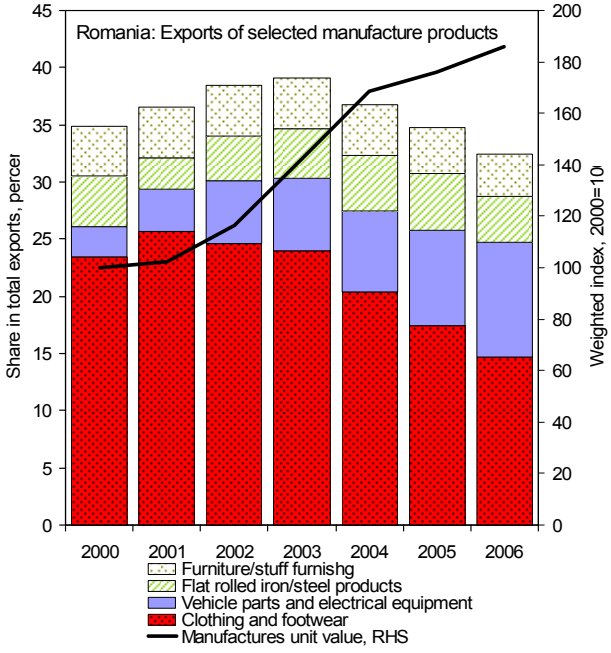
...and Romania's trading relationships have been evolving in line with its production capacity.



Romania's exports are shifting towards high value added non-textile manufacturing products...



Growth in unit values for many manufacture products have been accompanied by a reduction in product concentration.



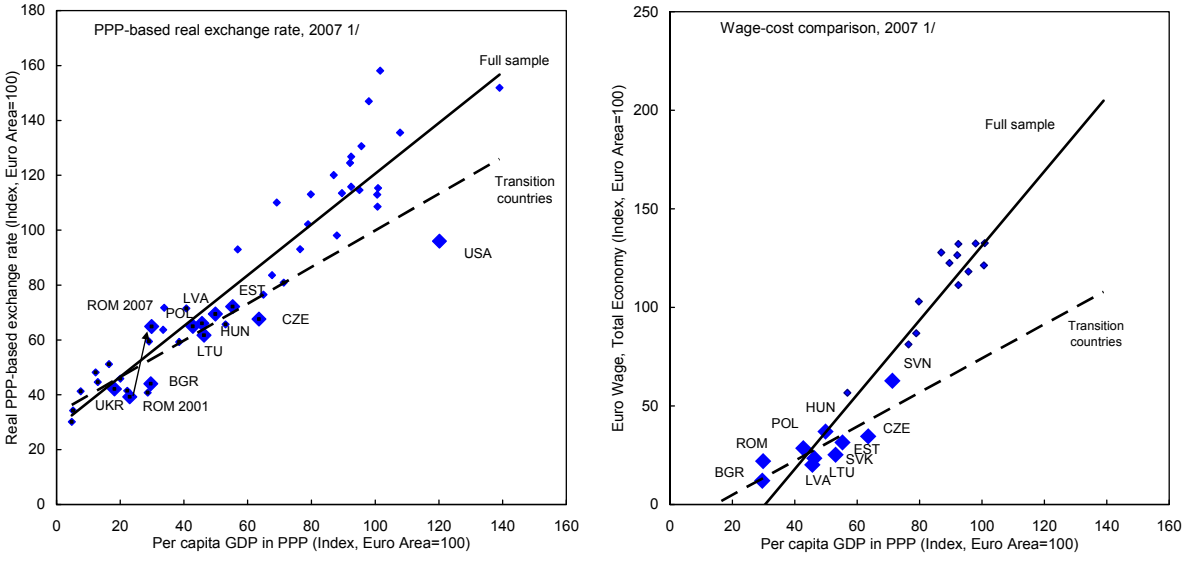
Source: Directions of Trade Statistics, Comtrade, IMF staff calculations.

evolving roughly inline with its production capacity. However, a similar metric for several other more advanced new member countries (e.g., Slovakia, Czech Republic, and Hungary) shows a considerably deeper penetration into the world market share relative to their production capacities, likely resulting from their location and status as early recipients of FDI inflows.

19. **Recent trends in technology and quality improvements, if continued, are likely to support future improvements in Romania's market shares.** At the aggregate level, Romania's exports structure has been increasingly shifting toward higher value added non-textile manufacturing goods (Figure 8). Furthermore, an analysis of unit value indices—constructed based on detailed three-digit level trade data from Comtrade database—clearly shows an upward trend in unit values of primary manufacture products, likely suggesting a significant quality improvement in Romania's exports. A weighted index of selected manufactures unit values—covering about one-third of the country's total exports—has nearly doubled since 2000, a magnitude which is hardly achievable without a significant quality enhancement. Similarly, there are some initial indications that Romania's exports are becoming more diversified.

20. **Cross-country purchasing-power-parity (PPP) and euro wage-cost comparisons do not point to any significant erosion of external competitiveness.** While the PPP-based equilibrium exchange rate assessment suggests some degree of overvaluation, Romania's euro wages are still among the lowest in the EU and are broadly consistent with its PPP-adjusted level of per capita income, casting doubts on the notion of a significant loss of external competitiveness (Figure 9).

Figure 9. PPP and Euro-Wage Comparisons



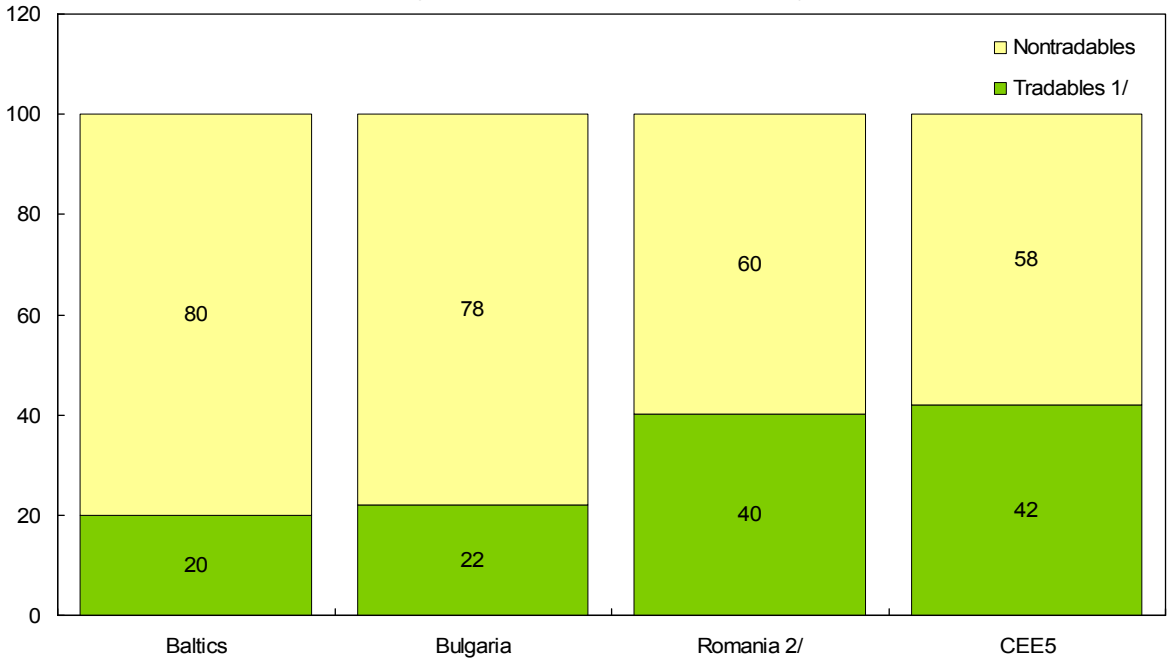
1/ OECD-Eurostat, and CIS countries, excluding Cyprus, Luxemburg, and Malta.

1/ EU countries.

Source: World Economic Outlook, AMECO, and Fund staff estimates.

21. **Foreign-investor interest in locating production in Romania remains strong, supporting the notion of economy's overall external price and cost competitiveness.** Much of recent FDI inflows have concentrated in export-oriented industries: in contrast to the Baltic emerging economies but in line with experiences of CEE-5 countries, Romania's share of FDI stocks concentrated in the tradable sector is relatively high (Figure 10). This likely reflects strong profitability of Romania's export-oriented industries and suggests that its potential for further inroads into world markets may be significant.

Figure 10. Emerging Europe: Share of FDI in Tradables
(In Percent of Stock, 2005 or Later)



Source: IMF Working Paper 07/236; Romanian authorities.
1/ Includes mining and manufacturing.
2/ Refers to end-2006 stock.

F. External Balance Sheet Analysis

22. **Similar to other transition economies, Romania's net international investment position has deteriorated rapidly.** Romania's net position has worsened from -23 percent o GDP in 2000 to about -42 percent of GDP in 2007 (Figure 11). This rapid accumulation of foreign liabilities reflects large FDI inflows and, more recently, significant external borrowing by the private sector (Figure 12). Notwithstanding significant deterioration, net IIP remains notably stronger than in other new EU member countries and thus, by itself, does not signal high external vulnerabilities.

Figure 11. Net International Investment Position in Selected EU Countries
(In Percent of GDP)

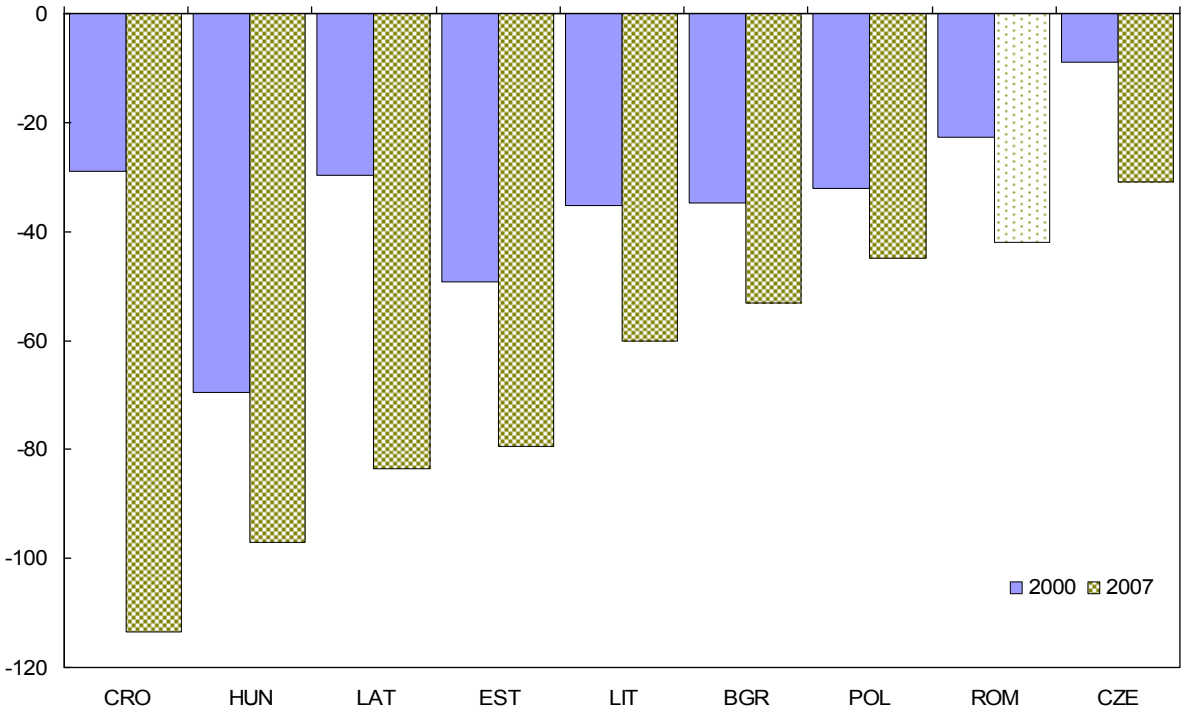
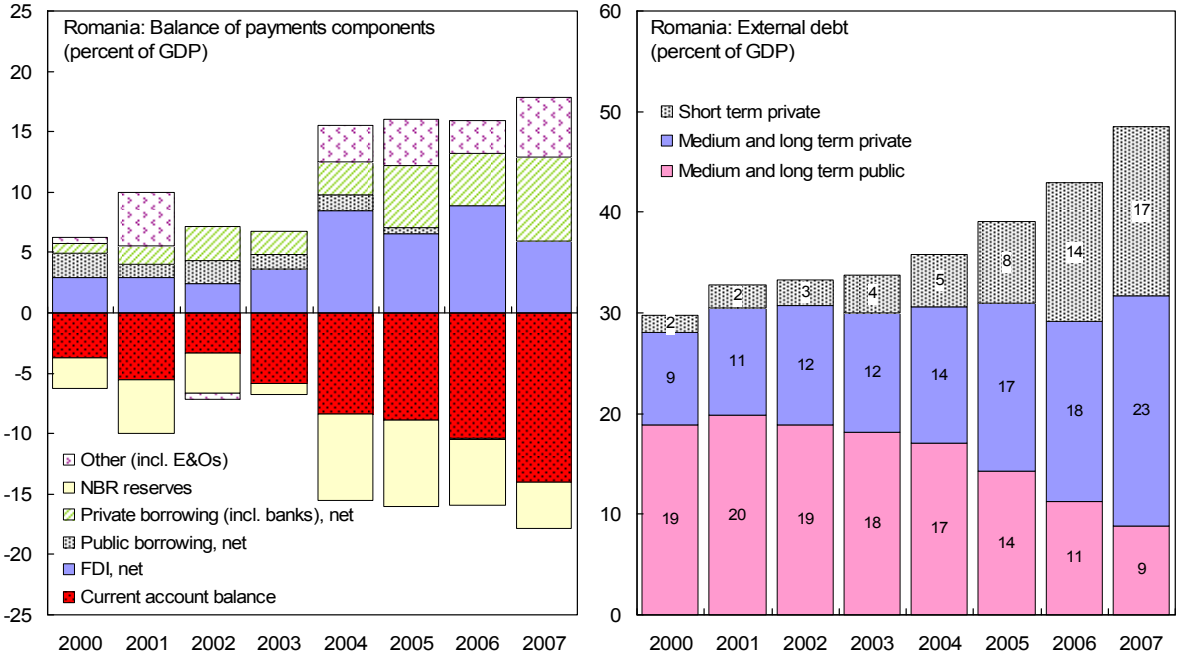


Figure 12. Romania's Balance of Payments and External Debt Dynamics, 2000-07

Widenning current account deficit has been increasingly financed by private borrowing from abroad...

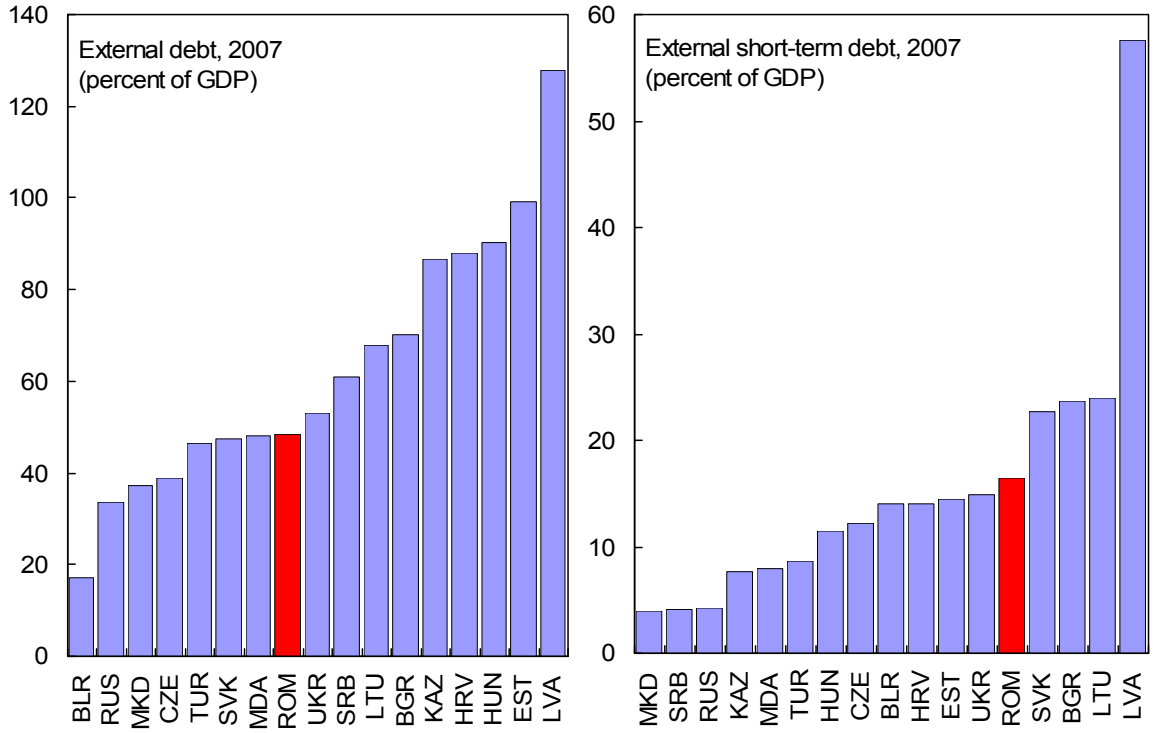
...and external debt maturity structure has worsened significantly, reflecting short-term borrowing by the private sector.



Source: National Bank of Romania (NBR) and IMF staff calculations.

23. **Notwithstanding a significant reduction of public sector's external debt overhang, total external debt has increased markedly.** Romania's external debt stock (48½ percent of GDP in 2007) remains relatively moderate when compared with some of its transition peers (Figure 13). However, the rapid pace of its accumulation and deteriorating maturity structure (short-term debt is about 34 percent of total debt in 2007) point to building up vulnerabilities. As of end-2007, NBR's reserves coverage is still adequate to cover all short-term external liabilities.

Figure 13. External Debt Stocks, 2007



Source: WEO database.

24. **External balance sheet analysis points at increased external stability risks.** While size of Romania's external liabilities seems to be manageable, rapidly deteriorating maturity structure of the external balance sheet, against the background of worsening current account deficit, signals increasing rollover risks. Taking into account increased reliance of Romania's banking sector on funding credit growth by borrowing from parent institutions, external stability risks may be further aggravated by the exposure to funding risks and by vulnerability to adverse spillovers from global financial tensions.

G. Summary of External Stability Assessment

Romania's external stability assessment: the four-pronged approach

Approach	Output	Judgment on External Stability
1. Estimate equilibrium CA balance Macro balance approach Sustainability approach	Equilibrium CA deficit is estimated to be in the range of 8½-10½ percent of GDP	A sizable gap between equilibrium and underlying CA balances indicates some external stability risks. REER correction could be in the range of 10-12 percent relative to average 2007 level.
Estimate underlying CA balance	Underlying CA balance is estimated to be about 12½ percent of GDP	
2. Equilibrium REER estimation	REER was overvalued on average by about 3½-6½ percent in 2007.	Present leu level is likely to be close to its equilibrium level.
3. External competitiveness crosschecks	Exports market shares continued to grow. Profitability remains intact. Foreign-investor interest remains strong.	External competitiveness appears to be intact.
4. External balance sheet analysis	Size of external liabilities is manageable. Maturity structure has deteriorated.	External balance sheet structure points at increased rollover risks.

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II. Wage-Price Setting in Romania and Other New EU Member States

Core Questions and Findings

- **What were the main drivers of the recent surge in Romania's real wage growth ahead of labor productivity growth?** A cross-country analysis of wage-setting behavior in new EU member countries (NMS) points to four main factors accounting for growing real unit labor cost in Romania: (i) real wage catch-up from the period before 2005, when real wages lagged significantly behind productivity growth; (ii) a tightening of labor market conditions, owing to strong labor demand, but also exacerbated by large-scale emigration; (iii) loose public sector wage policies, which have added to private-sector wage pressures via demonstration effects; and (iv) rigidities in the labor market.

- **What other factors seem empirically important for wage setting behavior in Romania and other NMS?** First, the estimates suggest that terms of trade shocks do not feed through to real wages. Second, there is no evidence of a direct wage catch-up effect arising from NMS countries' lower wages relative to the euro area.

- **Is there a risk of a wage-price spiral?** Parallel panel estimates of a price-setting equation suggest strong and significant wage pass-through to inflation. If real labor costs in Romania continue to outpace productivity growth, they are likely to increasingly feed through to inflation, in turn generating pressure for further wage increases.

- **What do these findings imply for Romania's macroeconomic policies and labor market reforms?** First, the monetary policy stance needs to be sufficiently tight to moderate inflation pressures, but monetary policy will need to be also supported by a tighter fiscal stance. Second, public sector wage and employment policies should avoid aggravating private sector labor shortages. And third, reforms that raise labor force participation, particularly in rural areas, and facilitate more efficient matching of labor supply and demand should also help reduce wage pressures, although beneficial effects from such reforms will take time to materialize.

A. Background

Conventional wage-price setting models suggest a tight link between real wages and labor productivity. Although changes in other fundamentals may loosen this link in the short run, anchoring real wages to labor productivity is necessary in the long run to limit cost-push inflation and to promote macroeconomic stability.

Recent Romanian data indicate high increases in real wages, not matched by comparable productivity gains. Since late 2005, real wages in Romania have been increasing at an accelerating pace. In particular, the service sector, public and private, has experienced high wage growth, although productivity growth has mostly remained flat.

Both the government and the National Bank of Romania (NBR) have highlighted the importance of a responsible and stabilizing wage policy for macroeconomic stability in the country current juncture. The government's Convergence Program notes that a rapid wage growth could undermine the sustainability of the short-run disinflation process. At the same time, the May 2008 Inflation Report by the NBR identifies continued wage rises in excess of productivity gains as one of the major inflation risks which, should they materialize, could cause inflation to exceed the NBR's target range in 2009.

The aim of this chapter is to test the link between real wages and productivity in NMS and to examine it in the context of recent developments in Romania's labor market. Section B and C set up the theoretical wage and price setting relations for the analysis. Section D introduces stylized facts on recent wage setting behavior in NMS. Section E presents the empirical model and hypotheses to be tested in the following Section F and G. The chapter makes use of panel data analysis. However, the econometric investigation is complemented by other qualitative evidence, given data constraints.

B. Wage–Price Setting Relations

On the demand side of the economy, firms' labor demand is determined by a price-setting equation. Under the assumption of a Cobb-Douglas production function, prices are set by applying a markup μ over unit labor cost. In logarithms:

$$p = ulc + \mu = [w - (y - n)] + \mu \quad (1)$$

where the markup – resulting from imperfect competition in the goods market and/or labor market imperfections – can be also defined as the ratio of the marginal product of labor, (y-n), to the real wage, (w-p).

The supply side of the economy specifies the wage setting equation, which links real wages to labor productivity and unemployment. As the equilibrium wage is the result of bargaining between firms and workers, an analysis of real wages cannot disregard the labor supply side of the economy. In absence of frictions and imperfections in the labor market,

workers' desired wage level depends on labor productivity, the unemployment rate, u, and other factors, z. Abstracting from expectations, the wage-setting equation can thus be represented as follows:

$$w - p = -\beta u + (y - n) + z \quad (2)$$

The variable z in the wage setting equation includes a range of "wage-push" factors: unemployment benefits, minimum wages, restrictions on firing or hiring, the degree of unionization, the tax wedge (both in terms of earnings and payroll taxes) as well as skills mismatch and information problems. By creating a disconnect between wages and effective total compensation, these factors affect in turn the firms' unit labor costs and wage setting behavior.

C. Additional Considerations for Wage-Price Setting

Data Issues

One of the main obstacles in the analysis of transition economies is the limited availability and poor quality of labor market data. Due to the poor statistical quality of early series for transition economies, the sample period for the empirical analysis is restricted to 2001-07, and, to maximize series comparability, uses Eurostat as main data source[8]. The limited time span is enhanced by the use of panel data from 9 New Member States[9]; for comparison, estimates are also presented for the other EU countries (EU18).

Furthermore, accurate definition and construction of the labor market indicators is essential for a correct interpretation of the data. In particular, in the analysis of real wages and productivity data, the selection of alternative price deflators or employment series can produce widely different results.

The choice of the GDP deflator as price deflator for real wages and productivity allows consistency in the data[10]. Productivity is defined here as real GDP per person employed. Therefore, the GDP deflator is the correct price to be used in the construction of real wages. Given that the GDP deflator growth tends to be higher than the private consumption one during the sample period for most NMS, and especially Romania[11] (Figure 1), the use of the

[8] The only exception is represented by the unemployment rate series from the World Economic Outlook database (WEO) and the wage flexibility index from the World Bank's Doing Business indicators.

[9] In the text below, we refer to the following regional groups among NMS: CEE4, including Czech Republic, Hungary, Poland and Slovak Republic; and the Baltic countries, including Estonia, Latvia and Lithuania.

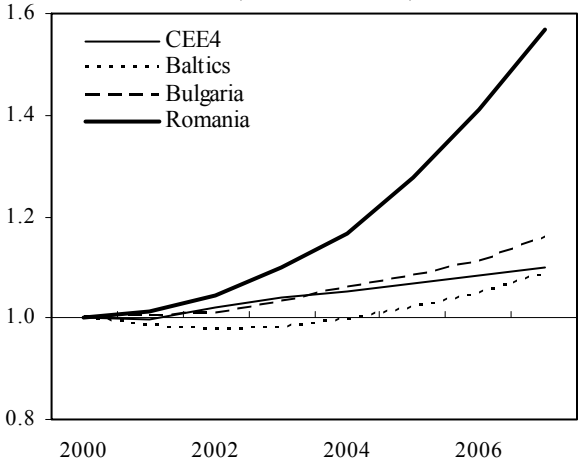
[10] See Bosworth et al. (1994) and Feldstein (2008) for a further discussion of price and wage measuring issues.

[11] Assuming that domestic demand and private consumption deflators grow at the same rate, this result implies an increase in terms of trade - that is an increase in the relative price of exports with respect to imports, which is

(continued)

consumption deflator would bias real wage growth upward with respect to productivity growth.

Figure 1. Relationship between GDP and Private Consumption Deflator in NMS
(Index, 2000=100)



Source: Eurostat; and staff calculations.

Nevertheless, workers bargaining decision are based on the purchasing power deriving from their real wage. Therefore, in the wage setting equation the nominal wage should be rather deflated by the private consumption deflator. However, the impact of productivity on real wages would need to be corrected by the difference between GDP and consumption deflator. A useful way to rewrite the wage setting equation is therefore as follows:

(2)' $$w - pc = -\beta u + (y - n) + \theta(p - pc) + z,$$

where real wages depend on the difference between growth in the GDP deflator (p) and the private consumption deflator (pc). For θ equal to one, equation (2)' is equal to the baseline wage setting equation and implies no pass through from a terms-of-trade shock to real wages.

Similar considerations apply to the selection of employment statistics. The use of payroll statistics or narrower estimates of employment rather than more comprehensive labor survey data could lead to underestimate the number of employees in the economy and therefore bias upwards productivity estimates.

Finally, the role of the informal economy cannot be disregarded. The increasing deshadowing of the gray economy in recent years is likely to lead to higher figures for employment and wages, although this is merely the result of broader reporting rather than changes in fundamentals.

Different Wage Setting Behavior in the Private and Public Sector

The relation between real wages and labor productivity suggested by the wage and price setting relations refers to the private sector, and mainly industry. In equilibrium, these relations suggest that deviations of real wages from productivity would be determined

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consistent with the increase of the technology and human capital content of transition countries' exports during the convergence process.

by the rate of unemployment, the degree of competition in the economy and a range of wage-push factors.

Wage determination in the public sector may diverge from the wage setting behavior identified for the private sector and even have a 'wage-push' effect on the entire economy. Shifts in public sector labor demand and a loose wage policy may have a demonstration effect on the private sector[12]. Furthermore, in some countries collective bargaining at the national level may set by law the minimum conditions for all of the economy, therefore generating a wage-push effect originating from the public sector.

Catch-up Process to Euro-Area Average Wages and Prices

Finally, wage setting behavior in transition economies may be affected by these countries' convergence process. Real convergence toward comparable purchasing power could represent a further wage-push factor in most NMS starting from very low initial levels. Furthermore, increasing labor mobility across the European Union and the growing weight of remittances from abroad in households' income could trigger an even faster nominal convergence in wages and prices.

D. Stylized Facts on Wage Setting Behavior in NMS

A first analysis of labor market data in NMS suggests that real wage growth[13] has been high in most NMS but notably in Romania in the last years. While for the CEE-4 group, which is ahead in the convergence process, real wage growth has been relatively stable and on average well below 5 percent, real wages have accelerated in the other NMS (Figure 2). However, while as from 2005 the trend seems to have moderated for the Baltics and Bulgaria, real wage growth in Romania remained high.

Productivity growth[14] has been persistently high in NMS, especially in the Baltic countries. The Baltics stand out from the NMS for the sustained productivity gains in recent years, averaging 7 percent. The other NMS show productivity growth around 4 percent in the last three years, although gradually increasing over time (Figure 2).

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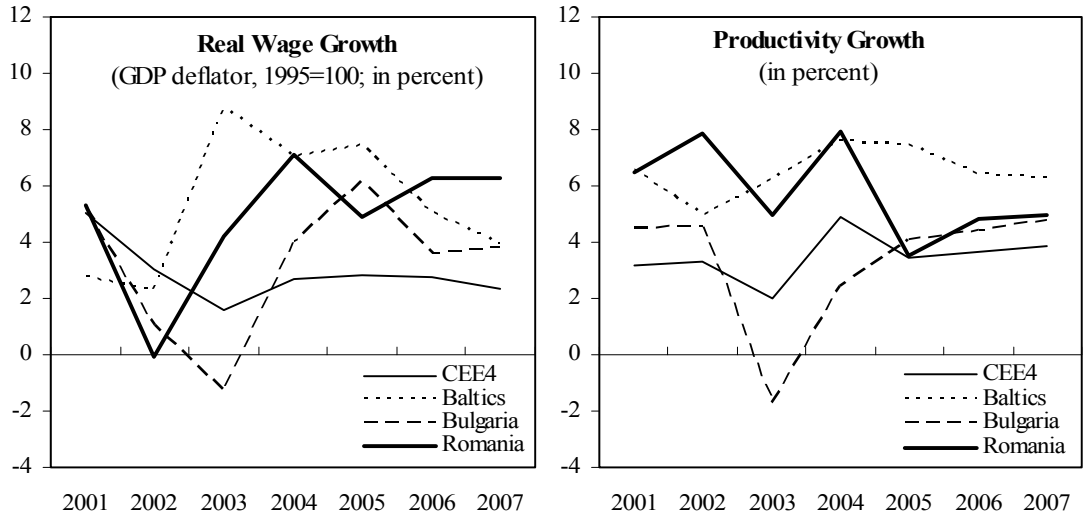
[12] See Christou (2007).

[13] For the cross-country sample, the real wage is defined as the nominal wage deflated by the GDP-deflator. According to the Eurostat definition, the nominal wage is the remuneration in cash paid by the employer during the reference year, before tax deductions and social security contributions payable by wage-earners and retained by the employer. All bonuses, whether or not regularly paid, are included. Severance payments as well as payments in kind are instead excluded.

[14] Labor productivity is defined as gross domestic product at 1995 market prices per person employed, according to Eurostat definition.

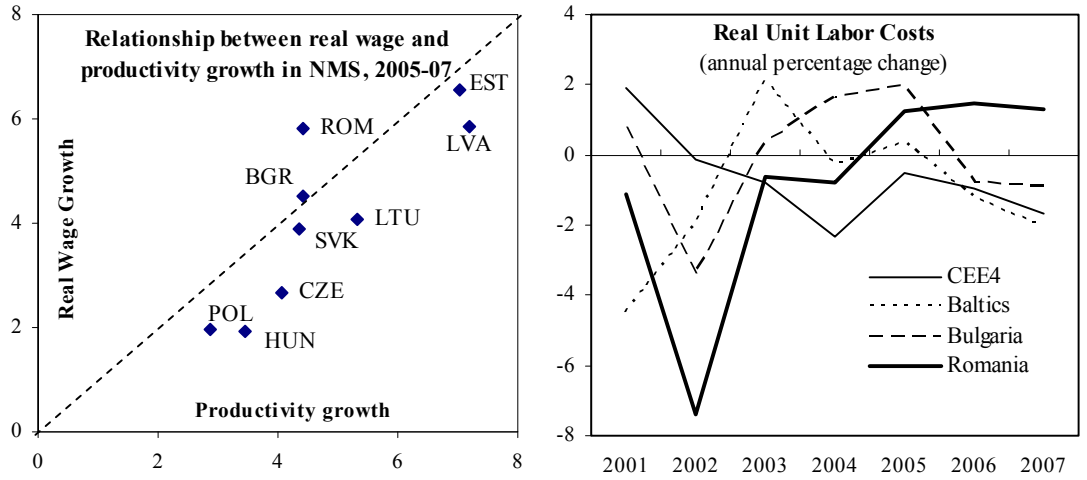
Figure 2. Real Wage and Productivity Growth in NMS



Sources: Eurostat; and staff calculations.

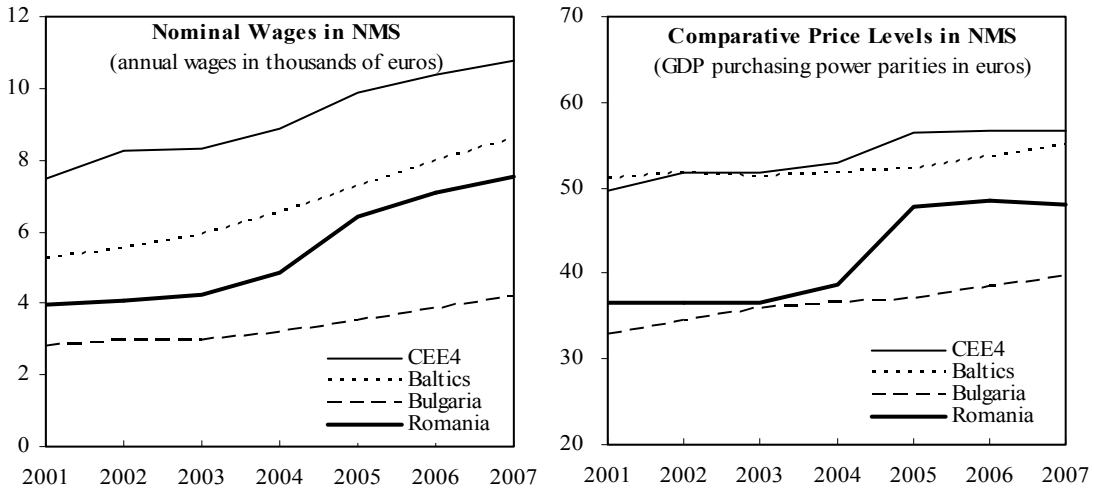
Real unit labor costs – measuring the difference between real wage and productivity growth – have currently been decreasing in all NMS with the exception of Romania. While the increase of wages above productivity has been corrected in most countries, since 2005 wage growth in Romania has been higher than productivity (Figure 3).

Figure 3. Developments in Real Unit Labor Cost in NMS



Sources: Eurostat; and staff calculations.

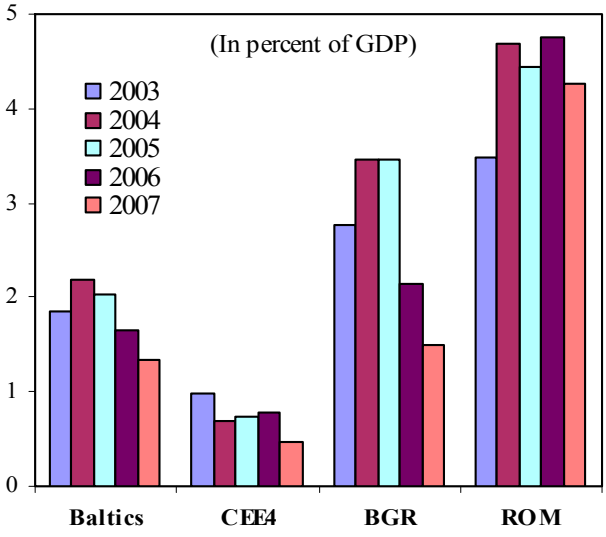
Figure 4. Wage and Prices Developments among NMS



Sources: Eurostat; and staff calculations.

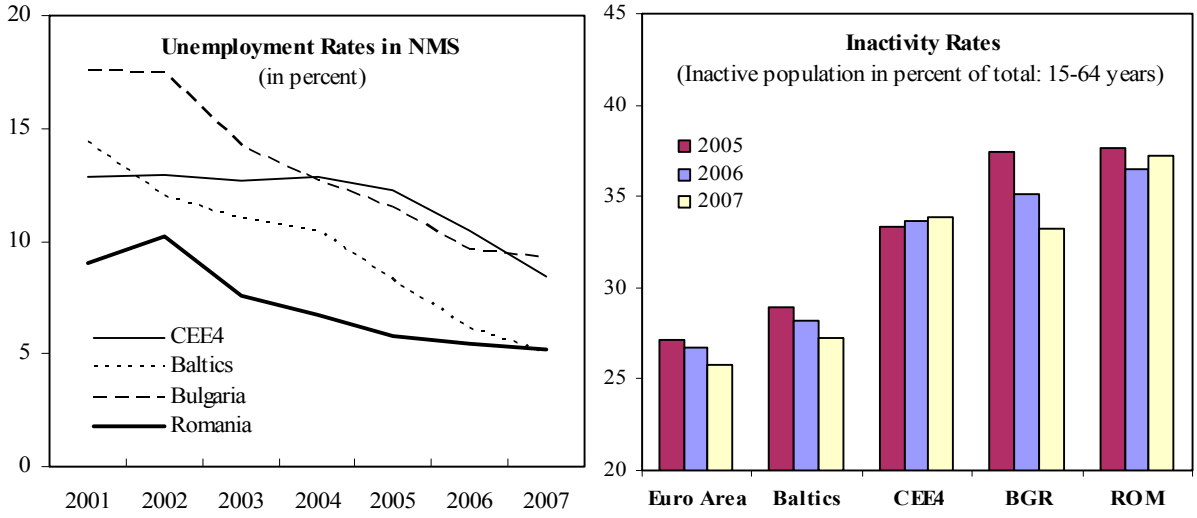
Recent wage setting behavior in most NMS might reflect catch up from extremely low wage levels relative to peer countries. As presented in Figure 4, euro wages in all NMS have been increasing, but with still wide differences across countries. While wages in Romania have been rapidly catching up, the pace in other countries has been much slower even when starting from lower levels as in the case of Bulgaria. The same pattern is identifiable in NMS price adjustments: Romania's price levels have increased very rapidly, notably in 2004-05, compared to the much smoother adjustment of the other NMS. The high inflows of remittances from workers abroad – proxied in Figure 5 by private transfers and accounting for almost 5 percent of GDP in Romania – may explain part of this price and wage adjustment given its impact on households' disposable income and thus their reservation wage.

Figure 5. Private Transfers in NMS



Sources: WEO; and staff estimates.

Figure 6. Labor Force Developments in NMS

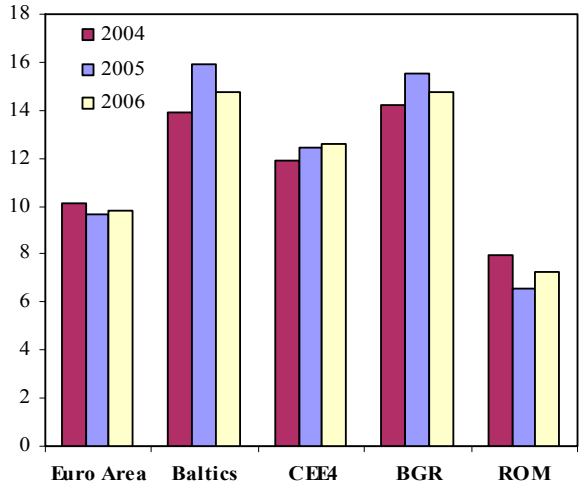


Source: Eurostat; WEO; and staff calculations.

Unemployment rates have dropped to single digits in most NMS. Unemployment rates have decreased rapidly in most NMS over the last three years (Figure 6). Large-scale migrations and robust labor demand are at the root of tight labor markets in most cases. As highlighted by the stylized wage-setting equation, the level of the unemployment rate affects directly wage setting behavior and may therefore explain part of the differences in real wage growth across countries.

The decrease in unemployment has been matched by a change in the production structure, with increased needs for skilled workers. As shown in Figure 7, firms in all NMS have excess demand for qualified workers[15], notably in Bulgaria and the Baltics. Romania's shortage of skilled workers, instead, although significant, is still way below the NMS average. At the same time, with the exception of the Baltics, inactivity rates in NMS are also very high and well above the euro area average (Figure 6). Bulgaria and Romania stand out with the highest rates: however, the

Figure 7. Excess Demand of Workers with Tertiary Education

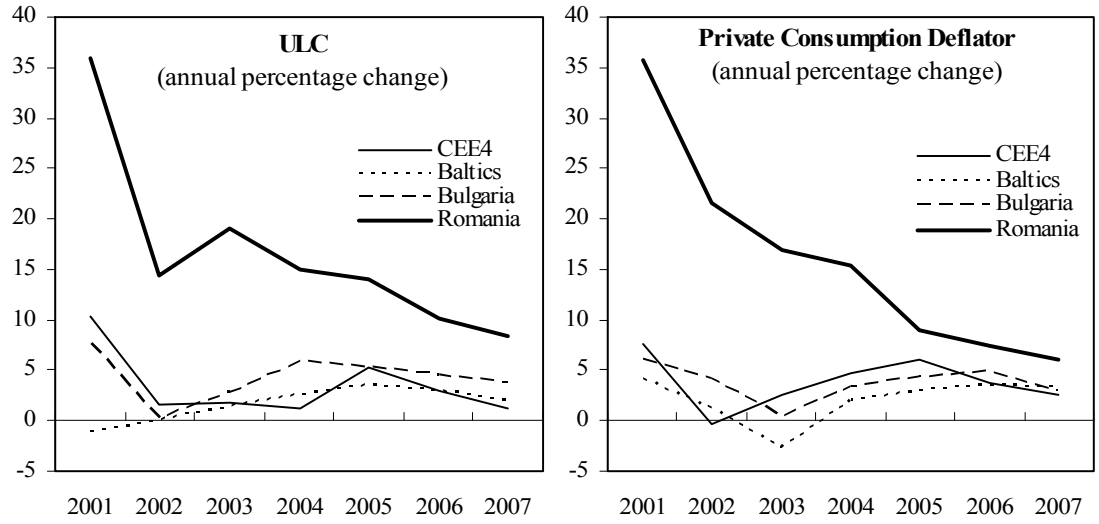


Sources: Eurostat; and staff estimates.

[15] "Excess demand" for skilled workers is defined as the difference between the percentage share of workers with tertiary education in unemployment and that one of workers in employment, considering only workers between 15 and 64 years old (see World Bank, 2007).

participation rate has been improving in Bulgaria in recent years, while it has remained quite persistently high in Romania.

Figure 8. Nominal Unit Labor Costs and Consumer Price Inflation in NMS

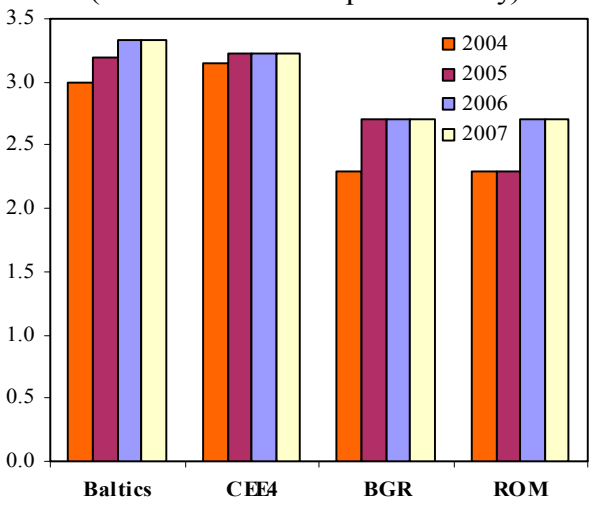


Sources: Eurostat; and staff calculations.

As regards price setting behavior in NMS, stylized facts suggests that ULC and consumer price inflation have followed similar paths over the last years. In all NMS, but even more remarkably along Romania's disinflationary path, reductions in ULC have been in general matched by lower inflation (Figure 8).

Finally, competition levels have improved in all NMS, although from very low starting levels in Bulgaria and Romania (Figure 9). As described in Section B, the degree of competition in the goods market affects the price setting behavior of firms and as a result their ability to accommodate nominal wage pressures via price increases. Enhanced competition, by reducing firms' markup, is expected to strenghten the relation between real wages and labor productivity.

Figure 9. Competition in NMS
(EBRD Index of Competition Policy)



Sources: EBRD; and staff estimates.

E. Empirical Wage and Price Setting Equations

The above stylized facts raise the question to what extent have recent increases in wages diverged from fundamentals. The disconnect between wages and productivity, notably in the case of Romania, might be due to the role of other fundamentals in the country. As presented in Section B, real wages depend also on the unemployment rate, on the terms of trade (the latter a proxy of the difference between GDP and private consumption deflator), and on a wide range of 'wage-push' factors. These can be summarized in two main empirical hypotheses to be tested in order to explain different wage setting behaviors across countries:

1. **Countries' wage setting behavior might have been the result of tight labor market conditions.** High productivity and changes in countries' production structure increase demand for qualified workers in countries experiencing at the same time massive migration flows. Wage pressures in high-productivity sectors end up affecting also less productive sectors in the economy. Shifts in public sector labor demand, in part justified by recent EU memberships, can be a further cause of pressure on wages.

2. **Catch up from unusually low wage levels and a rigid structure of the labor market may be a further source of wage pressures.** Countries starting from very low initial wage levels may experience higher real wage growth in order to reach the equilibrium level suggested by the long-run relation between real wages and productivity. Apart from the country-specific adjustment, further pressures on real wages may arise from a direct wage catch-up effect to euro area nominal wages. This process can be intensified by improvements in households' incomes, and thus higher reservation wages, due to high remittances. The structural characteristics of the labor market, by affecting effective compensation or in general the economy wage setting behavior, might also alter the link between real wages and productivity: differences in tax wedges, minimum wages, and labor market rigidities, including the degree of unionization and collective bargaining in the economy, are among the main structural factors to be considered.

Part of these hypotheses can be tested empirically by means of an empirical wage equation. The stylized wage setting equation discussed in Section B is estimated in the form of an error correction model (ECM), in line with Blanchard and Katz (1999). Furthermore, as real wages are deflated by the consumption deflator, a variable accounting for the difference between GDP and private consumption deflator – and therefore proxying changes in terms of trade – is added to the final specification[16]. The short and long run dynamics of wages can be therefore represented by the following empirical wage equation:

$$(3) \qquad \Delta(w_t - pc_t) = \alpha_w + \beta_w \Delta(y_t - n_t) - \gamma ECT_{t-1} + \theta \Delta(p_t - pc_t) - \delta u_t + \phi z_t + \varepsilon_t$$

[16] See, among others, OECD (1997) for a similar specification.

$$(4) \qquad ECT_t = (w_t - pc_t) - [\alpha_{LR} + \beta_{LR}(y_t - n_t) + \theta_{LR}(p_t - pc_t)]$$

In the short run, real wage growth would depend on labor productivity growth, changes in terms of trade, and unemployment, as well as a series of "wage-push" factors that can be added to the regression as control variables[17]. In line with the seminal work by Sargan (1964) and more recent empirical studies of European countries, the specification allows for a long-run adjustment component by means of an error correction term (ECT), defined as the difference in levels between real wages and productivity.

Furthermore, as any wage increase not justified by fundamentals could lead to inflation and generate a price-wage spiral, the analysis needs to consider the firms' price setting behavior. Any increase in wages beyond productivity affects prices, by increasing unit labor costs in the firms' price setting equation. The extent to which increases in nominal wages will be transferred to prices will depend on the structural characteristics of the goods market and the firms' pricing power. In particular, if wages and markups are not flexible, the process of nominal adjustment towards equilibrium will be slower and generate longer-lasting output fluctuations (see Blanchard, 1985). Empirically, the price setting equation [1] in Section B can be translated into the following specification:

$$(5) \qquad \Delta pc_t = \alpha_p + \beta_p \Delta w_t - \gamma\Delta(y_t - n_t) - \delta ECT_{t-1} + \phi\Delta mp_t + \varepsilon_t$$

$$(6) \qquad ECT_t = pc_t - [\alpha_{LR} + \beta_{LR} w_t - \gamma(y_t - n_t) + \phi_{LR} mp_t]$$

The short run dynamics of inflation are explained by a level adjustment towards steady-state represented by an ECT, as in the previous wage equation, and by changes in firms' unit cost. The latter is defined as unit labor cost – that is the nominal wage net of labor productivity – plus an import price pass-through effect. Changes in the firms' pricing power can also be added to both the long-run and short-run specifications. The following section tests these hypotheses by means of econometric techniques and, whereas data constraints are binding, by a more qualitative analysis of stylized facts.

F. Empirical Evidence on Price-Wage Setting Behavior in New Member States

The econometric results from a panel analysis of the empirical wage equation for EU countries suggest a tight long-run relation between real wages and productivity. The empirical long-run wage setting equation is estimated separately for the 9 NMS and, for comparison purposes, the remaining 18 EU countries, including the euro area, Denmark, Sweden and the UK, over the period 2001-2007. The overall response of real wages to productivity, controlling for fixed effects, is equal to 0.86 in both samples.

[17] All variables are in logs.

A significant error correction term enters into the wage equation of EU countries and its higher level for NMS seems to provide evidence of a convergence effect. The residual of the long-run wage equation is found stationary and entered in the empirical wage equation together with the short run dynamics. As presented in Table 2, the sign of the ECT coefficient is negative implying an adjustment of real wage growth to deviation of real wages from their long-run equilibrium level. While the ECT coefficient estimated for the EU18 is consistent with the 0.25 value estimated in the literature for EU countries (Blanchard and Katz, 1999), the NMS coefficient is much higher at 0.46. This result seems justified by the very low starting wages in most NMS, notably Bulgaria and Romania. However, there is no significant evidence of a direct wage catch-up effect arising from NMS countries' lower euro wages relative to the euro area average.

Table 1. EU27: Long-Run Wage Equation Estimation

Specification:

$w_{it}-pc_{it}=\alpha_i+\beta(y_{it}-n_{it})+\theta(p_{it}-pc_{it})+\varepsilon_t$

2001-2007	EU18	NMS
Labor Productivity	0.86	0.86
	[0.03]***	[0.04]***
Terms of Trade	1.02	1.24
	[0.14]***	[0.21]***
Constant	1.13	0.41
	[0.14]***	[0.22]*
R^2	0.86	0.95
Observations	126	63

Note: SE in parentheses. *,**,*** denote significance at 10, 5, and 1 percent level, respectively.

The short-run relation between real wage growth and labor productivity gains is remarkably strong in NMS, and so is the relation with unemployment. The labor productivity coefficient is close to one once other control variables are included in the specification. The relation between unemployment and real wage growth is also particularly strong in NMS and with the expected negative sign, while it is hardly significant in the EU18 group. Moreover, both likelihood ratio and Wald tests cannot reject the hypothesis that the coefficient on changes in terms of trade is different from one in both EU18 countries and NMS, therefore suggesting that shocks to terms of trade do not pass through to real wage growth. Finally, higher remittances in percent of GDP contribute to real wage pressures, although the impact is relatively small. The regressor might be proxying higher disposable

incomes as well as countries' tight labor market conditions due to emigration flows: indeed, the unemployment coefficient is lower and no longer significant once the remittances variable is added to the baseline specification.[18]

Table 2. EU27: Wage Error Correction Model Estimation

Specification:

$\Delta(w_{it}-pc_{it})=\alpha+\beta\Delta(y_{it}-n_{it})+\gamma ECT_{it-1}+\theta\Delta(p_{it}-pc_{it})+\delta u_{it}+\varepsilon_t$

2001-2007	EU18	NMS		
Error Correction Term (lagged)	-0.28 [0.07]***	-0.46 [0.10]***	-0.49 [0.12]***	-0.44 [0.11]***
Labor Productivity Growth	0.42 [0.12]***	0.79 [0.12]***	0.81 [0.18]***	0.93 [0.18]***
Terms of Trade Growth	1.06 [0.13]***	1.20 [0.22]***	1.25 [0.21]***	1.22 [0.22]***
Unemployment Rate	-1.13 [0.72]	-3.01 [1.55]*	-2.46 [1.87]	-2.40 [1.56]
Euro-area Wage Level Catch-up 1/			-0.02 [0.03]	
Remittances				0.01 [0.00]*
Constant	0.03 [0.01]	0.07 [0.04]*	0.08 [0.04]*	0.05 [0.04]
R^2	0.46	0.56	0.57	0.62
Observations	108	54	54	50

Note: SE in parentheses. *,**,*** denote significance at 10, 5, and 1 percent level, respectively.

1/ Lagged deviation of euro area wage (in euros) from country wage (in euros).

[18] Other control variables are added to the baseline specification (including the activity level, skilled-workers' excess demand, tax wedges, minimum wages, and the World Bank Employing Workers Indicator as a measure of labor rigidity). Although all these variables are found to have a wage-push effect as suggested by the literature, lack of a sufficient time span for most indicators hampers the statistical reliability of these results, which are therefore omitted.

Table 3. EU27: Long-Run Price Equation Estimation

Specification:

$pc_{it}=\alpha_i+\beta w_{it}+\gamma(y_{it}-n_{it})+\theta(p_{it}-pc_{it})+\varepsilon_t$

2001-2007	EU18	NMS	
Nominal Wage	0.76	0.76	0.78
	[0.05]***	[0.05]***	[0.05]***
Labor Productivity	-0.52	-0.69	-0.62
	[0.09]***	[0.09]***	[0.09]***
Import Deflator	0.16	0.20	0.24
	[0.05]***	[0.10]**	[0.10]**
Pricing Power			0.20
			[0.09]**
Constant	3.59	6.37	5.98
	[0.30]***	[0.50]***	[0.52]***
R^2	0.90	0.91	0.92
Observations	126	63	63

Note: SE in parentheses. *,**,*** denote significance at 10, 5, and 1 percent level, respectively.

A panel analysis across NMS of the empirical price equation shows evidence of high and significant pass-through effect from wage growth to inflation. The long-run estimation is consistent with the wage-setting analysis (Table 3); the ECT is found stationary and therefore included in the short-run estimation. The average response of inflation to wage growth is strongly significant and estimated at around 65 percent in both country samples (Table 4)[19]. Labor productivity growth has the expected negative sign, implying that gains in productivity by reducing firms' unit labor costs mitigate inflationary pressures. The impact of an increase in unit labor costs on inflation in NMS would be therefore limited, as long as increases in nominal wages are matched by productivity gains.

Import price pass-through to domestic inflation is also strongly significant. In NMS, increases in the import deflator pass through to private consumption deflator inflation by a coefficient of 31 percent. For the EU 18 group the coefficient is instead lower at 14 percent.

Finally, an additional variable controlling for firms' pricing power in NMS enters with the expected sign in both the long-run and short-run specifications. As suggested by

[19] Results are robust to specifications allowing for lags of the dependent variable and the regressors.

theory, prices are set at a higher level in countries with stronger firms' pricing power. The latter is proxied – with an inverted sign - by the EBRD index of competition policy: as shown in Figure 8, Bulgaria and Romania have the lowest rank in the index for the entire sample period as well as for recent years. Nevertheless, the relation holds significantly only in the long run.

Table 4. EU27: Price Error Correction Model Estimation

Specification:

$\Delta pc_{it}=\alpha+\beta\Delta w_{it}+\gamma\Delta(y_{it}-n_{it})+\delta ECT_{it-1}+\theta\Delta(p_{it}-pc_{it})+\varepsilon_t$

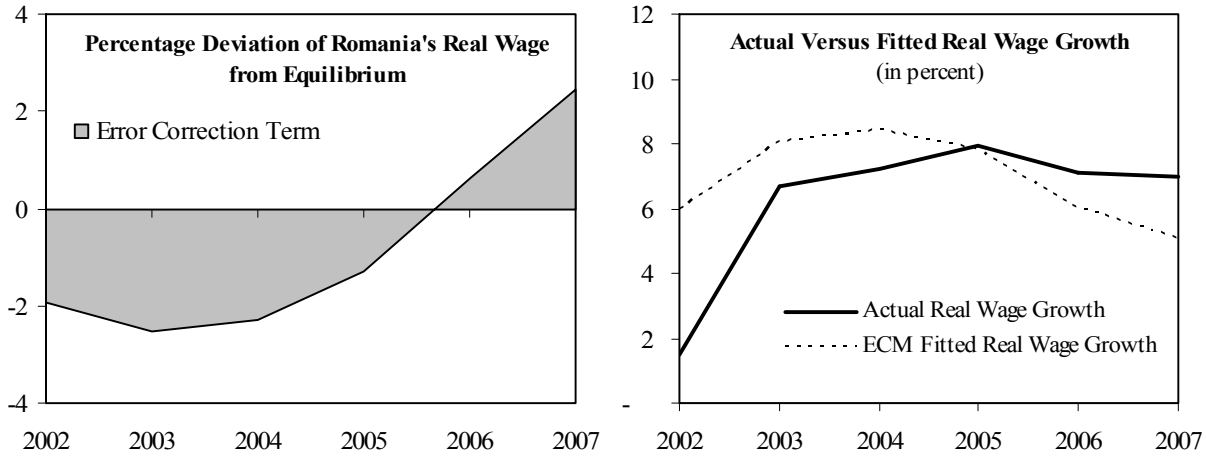
2001-2007	EU18	NMS	
Error Correction Term (lagged)	-0.21 [0.07]***	-0.32 [0.11]***	-0.35 [0.11]***
Nominal Wage Growth	0.63 [0.07]***	0.64 [0.07]***	0.65 [0.07]***
Labor Productivity Growth	-0.28 [0.13]**	-0.62 [0.18]***	-0.59 [0.18]***
Import Deflator Growth	0.14 [0.04]***	0.31 [0.11]***	0.32 [0.11]***
Changes in Pricing Power			0.07 [0.05]
R^2	0.56	0.88	0.89
Observations	108	54	54

Note: SE in parentheses. *,**,*** denote significance at 10, 5, and 1 percent level, respectively.

G. Wage-Price Setting Behavior in Romania

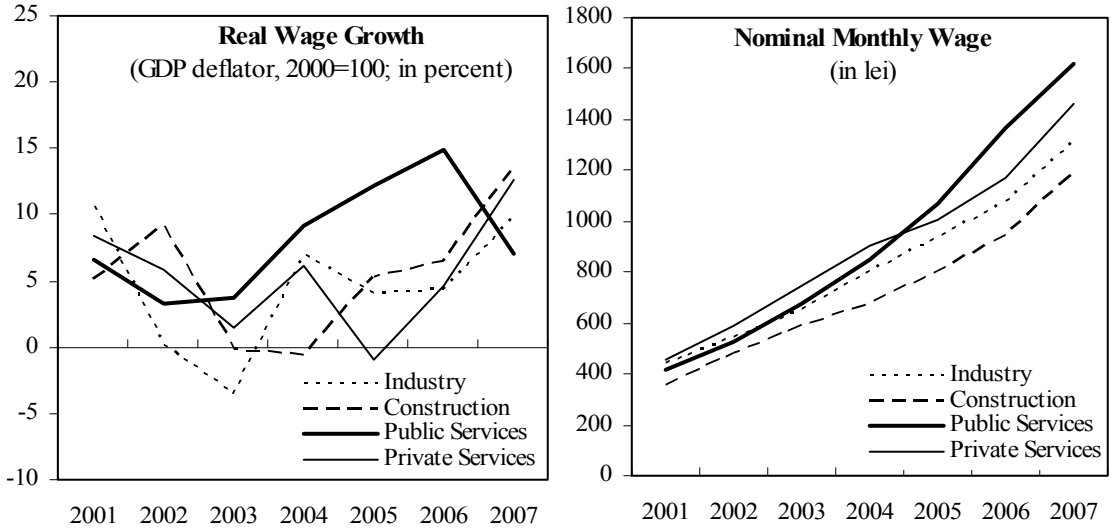
Stylized facts on labor market developments in NMS suggest a wide cross-country variation and, in particular, a diverging relation between real wages and productivity for the case of Romania. The panel analysis of wage setting behavior in NMS has highlighted a response of almost 65 percent of real wage growth to labor productivity gains. Nevertheless, labor market data, as presented in Section D, suggest large differences across NMS. In particular, Figure 10 shows that, as from 2005, actual real wage growth in Romania has been outpacing the value predicted by the NMS short-run dynamics. As a result, as from 2006, the actual level of real wages in Romania has surpassed its equilibrium value, according to the estimated long-run wage equation.

Figure 10. How Far are Romania's Wages from Equilibrium?



The purpose of this section is to identify possible reasons behind Romania's specific wage developments. The analysis will therefore look into further detail to the wage setting relation for Romania by decomposing its sectoral component and analyzing recent labor developments in the country.

Figure 11. Romania: Real and Nominal Wages



Sources: National authorities; and staff calculations.

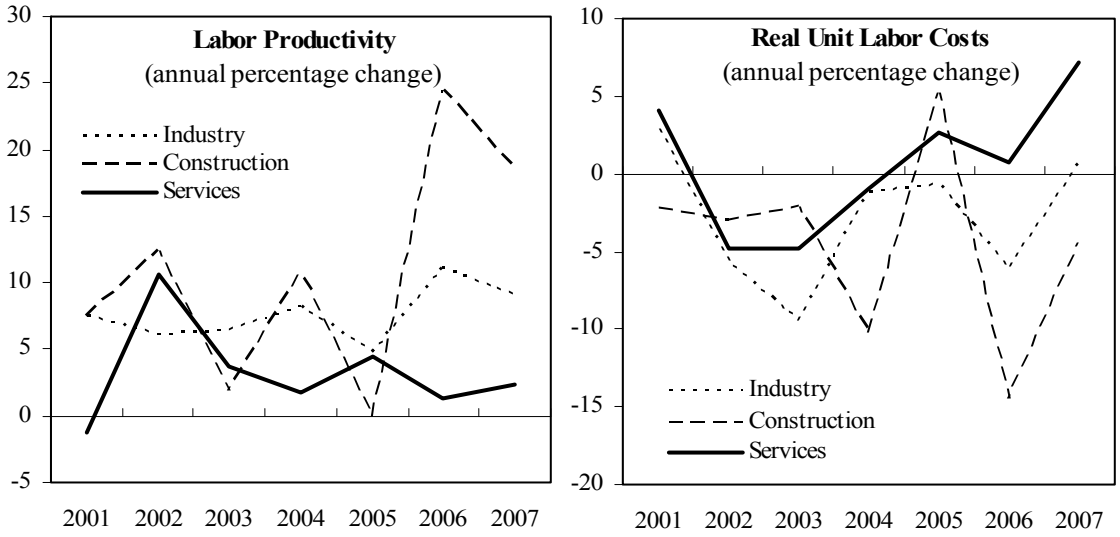
An analysis of sectoral data on Romanian wages[20] presents similar patterns to those identified by the previous analysis for the overall economy, although poor data quality suggests caution in interpreting the results. Real wages have been growing at an average

[20] Wage statistics are from the Household Labor Force Survey and nominal wages are defined as average gross salary earnings per employee per month.

of 7 percent since early 2005, reaching 10 percent during 2007. The main increases have been registered in services and agriculture, and more recently in the booming construction sector (Figure 11). Furthermore, in levels, nominal wages in services have been consistently higher than wages in industry, construction and agriculture.[21]

In the service sector, real wage increases took place mostly in the public sector. In particular, real wages in the public administration have been raised by over 20 percent in the last two years and early data releases for 2008 suggest substantial increases also in the education and health sectors (including payment of occasional bonuses). Also in level terms, average wages in the public sector in 2007 were 20 percent higher than in the industry and 10 percent higher than in the private service sector. Nevertheless, the private sector has almost matched the rapid wage increases in the public sector during the last period, with the wholesale and retail trade sector averaging a 24 percent growth in wages during 2007.

Figure 12. Romania: Labor Productivity and Real Unit Labor Costs



Sources: Eurostat; and staff calculations.

Nevertheless, wage increases in services have been associated with negligible productivity gains and have thus been one of the main drivers of the recent increases in real unit labor costs. Real ULC have increased by 7.2 percent on average in 2007. The main increases were registered in services, where real wage growth has been associated to hardly any change in productivity (Figure 12). Surprisingly, wages in the construction sector, which experienced the greatest gains in productivity (almost 20 percent in 2007), have grown much less in relative terms.

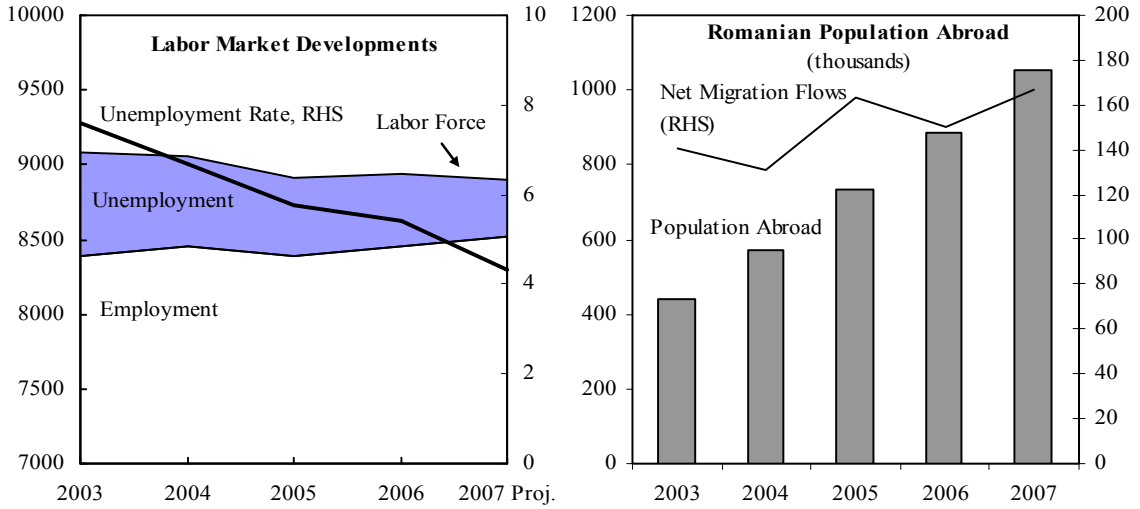
[21] Data for the agriculture sector are not reported, although available, to enhance the readability of the figures, given the big swings in the series.

Part of these developments can be justified by a rapid nominal catch up process. As already presented in Figure 4 and supported by the empirical evidence from NMS, wage levels in Romania have been converging, from very low levels, at a very high pace compared to other countries.

The tight Romanian labor market and its contribution to wage pressures in the economy is another possible explanation. Increases in employment in recent years have not been matched by increases but rather a slowdown in the labor force (Figure 13). This has led to a decline in the registered unemployment rate to almost 4 percent.

Large-scale emigration of Romanian citizens has contributed to the strong reduction in the labor force and unemployment. Although national statistics on emigration flows tend to underestimate the number of Romanian citizens leaving the country every year, statistics from EU recipient countries offer quite a remarkable picture (Figure 13). EU countries report more than one million Romanian citizens residing in their countries, with the highest concentration in Spain and Italy. Although increasing, immigration flows from neighboring countries, notably Moldova, are still limited.

Figure 13. Romania: Labor Force Developments

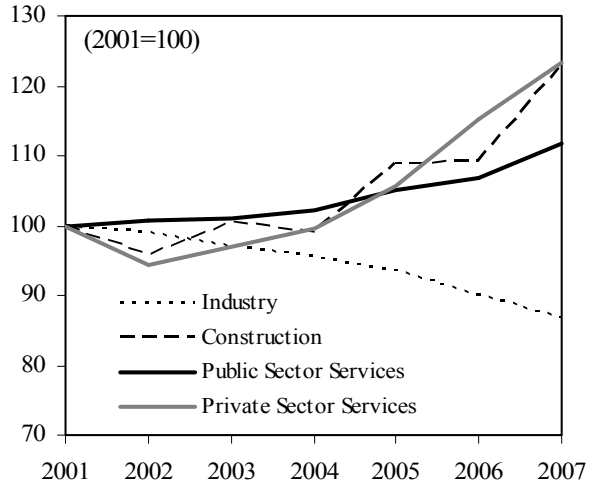


Sources: Eurostat; National authorities; and staff estimates.

At the same time, demand for qualified workers has been robust due to changes in production towards outputs with higher technological and human capital content. As shown in Figure 7, Romania's excess demand for skilled workers has been increasing, although the shortage is still below EU and NMS average. Furthermore, inactivity rates are still very high and show no sign of improvement. Low participation rates mainly occur in rural areas, where a large share of the working-age population has difficulties re-entering the labor force. Agricultural self-subsistence and remittances from relatives working abroad are the main sources of income for this portion of the population.

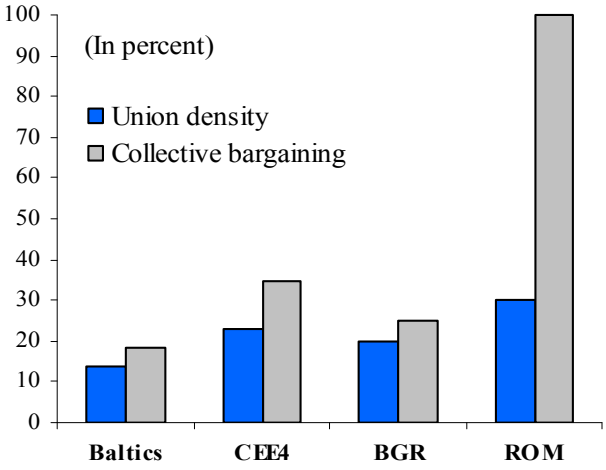
Across sectors, increases in employment have been driven by the buoyant construction sector as well as the service sector. Employment growth in private sector services, notably trade, has been the highest across sectors since 2005 (Figure 14). Employment has been decreasing in industry and, to a much higher extent, in agriculture. Employment in the construction sector has been increasing although its level - and therefore its impact on overall employment - is still small. As regards public sector services, the public administration has registered the main increases, while employment in health and education has remained stable. However, recent EU membership and the reorganization of the public administration according to EU regulations can only limitedly justify such increases.

Figure 14. Romania: Employment Growth by Sector



Sources: National authorities; and staff calculations.

Figure 15. Union Density and Collective Bargaining in NMS 1/



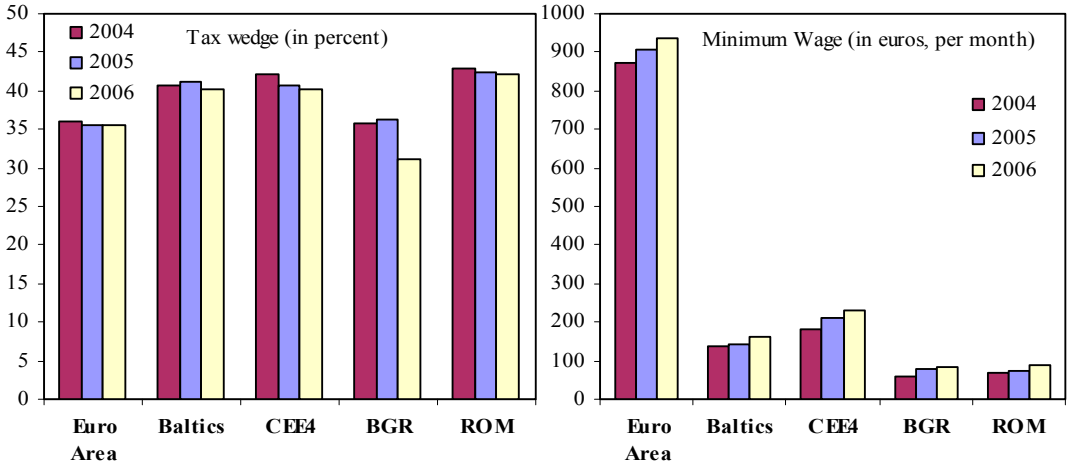
Sources: European Trade Union Institute-REHS; and staff estimates.
1/ Survey data collected between 2000 and 2007.
In Romania, collective bargaining at national level sets national minimum pay and conditions for all employees.

The structural characteristics of the Romanian labor market may also have played an important role in the relation between real wages and labor productivity. As noted already in Section C, the wage and price setting relations refer essentially to the industrial sector. However, collective bargaining at national level is likely to affect the wage setting process for the whole economy, with demonstration effects from the high- to the low-productivity sectors and, in turn, from the public to the private sector[22]. And indeed, Romania stands out from the other NMS for the highest union density – defined as union members as a percentage of total employees – which, although much lower than in the past, reaches 30-35 percent (against 11 percent in Estonia). Also, collective bargaining at the national level is regulated by law and sets national minimum pay and conditions which

[22] See Christou (2007).

apply across the whole economy. The result is that national level agreements cover all employees –implying collective bargaining coverage of 100 percent.

Figure 16. Selected Labor Market Indicators in NMS



Sources: Eurostat; and staff estimates.

Specific non-wage labor costs remain also higher in Romania compared to other NMS. For example, it is interesting to note that Romania has one of the highest tax wedges among NMS (second only to Hungary) as well as one of the lowest minimum wages (Figure 16). These "wage-push" factors create a wedge between the workers' wage and effective compensation and may therefore hide differences in the country price and wage setting strategy. However, changes in both indicators have only been marginal over the last years and, therefore, while they are likely to have a level effect on Romanian real wages, they do not seem to justify recent increases in real wages.

Table 5. Romania: Labor Flexibility 1/

	Romania		Best NMS performers 2/				Distance 3/	
	2007	2008	2007		2008		2007	2008
World Bank *Doing Business* survey								
Employing Workers	25	18	Bulgaria	67	Czech	69	-42	-51
Difficulty of Hiring Index	62	56	Poland	100	Hungary	100	-38	-44
Rigidity of Hours Index	55	55	Czech	77	Czech	77	-23	-23
Difficulty of Firing Index	77	77	Bulgaria	94	Bulgaria	94	-17	-17
Rigidity of Employment Index	65	63	Bulgaria	84	Bulgaria	84	-19	-21

Sources: World Bank; and Fund staff calculations.

1/ For comparability, all indices normalized so that they range from 0 (lowest) to 100 (best).

2/ Country name and index of best performers among New Member States (NMS)

3/ Distance of Romania from NMS best performer for each index.

Finally, indicators of labor market flexibility show that the country still lags behind most of the other NMS. Romania's labor flexibility, as proxied by the World Bank Doing Business Indicator for "Employing Workers", is quite low and the distance from the best performers among NMS seems on average to have widened rather than shrunk (Table 5). Poor labor flexibility may exacerbate the already tight labor market conditions in Romania, as firms cannot efficiently achieve the desired level of workers.

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III. RETOOLING ROMANIA'S BUDGET CULTURE [23]

Core Questions and Findings

- **What have been the fiscal outcomes under Romania's present budget culture?** Since 2000, Romania has restored fiscal discipline, and public financial management has been strengthened in some areas. However, against a backdrop of fragmented politics, Romania's short-term oriented budget culture has recently been associated with undesirable fiscal outcomes including a highly procyclical fiscal stance in the face of an absorption boom, biases in revenue projections, underutilization of EU funds, end-year spending surges, frequent intra-year budget revisions, and underfinanced spending commitments.

- **What are the main ingredients of a good budget culture?** A country's budget culture is largely shaped, over time, by its fiscal institutions. The latter should provide policy makers with incentives and constraints favoring sound policies. In particular, the budgetary procedures should support the setting of sustainable and credible budget targets and help avoid pro-cyclical policies. Other elements of a robust fiscal framework are the existence of a functioning medium-term fiscal framework and the availability and use of independent expertise and policy advice on fiscal issues.

- **How do Romania's fiscal institutions fare vis-à-vis those of other EU countries?** Indicators measuring the quality of fiscal institutions in the EU countries suggest that Romania's fiscal institutions are still far away from best practices. In particular, the rules governing the budget process need to be strengthened to guarantee the stability and credibility of the budget targets, there is no operational medium-term fiscal framework, and independent expertise and advice on fiscal issues is scarce.

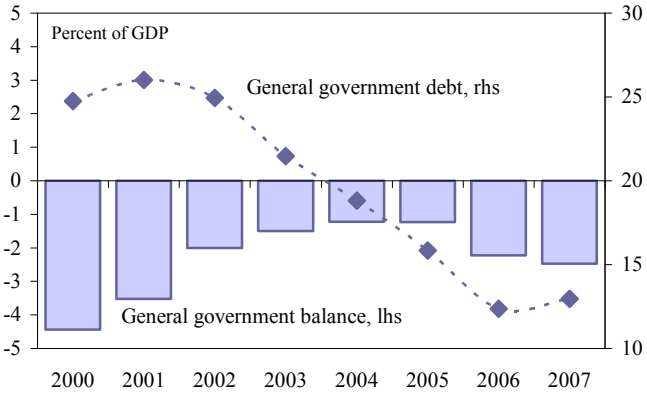
- **What are the key steps toward a new budget culture?** A strengthening of fiscal institutions could gradually bring a change in Romania's budget culture. The recommended reforms include: (i) technical capacity building and improved transparency in fiscal policy; (ii) reforms limiting the frequency of supplementary budgets and helping to anchor fiscal policy in a medium-term perspective; and (iii) developing and using more independent expertise and advice on fiscal policy issues.

[23] Prepared by Costas Christou and Laurent Moulin.

A. Background

25. **Since 2000, Romania has restored fiscal discipline.** Following the 1999 currency crisis, macroeconomic imbalances narrowed, with fiscal adjustment, including measures to improve the financial performance of SOEs and privatizations, playing a key role. Guided by EU accession rules, as well as commitments under IMF programs, fiscal policy outcomes were relatively stable. In particular, the general government deficit was kept below the 3 percent Maastricht deficit benchmark, although it recently came close to it.

Figure 1. Romania: General government balance and debt



Source: Eurostat. The aggregates are calculated according to national accounts concepts (ESA95).

26. **Moreover, public financial management has been strengthened in some areas.** A recent assessment by the Fund's Public Financial Management Advisor in Ljubljana noted a number of positive changes, in line with the recommendations of the Fiscal Transparency ROSC (IMF, 2002) and the World Bank's Public Expenditure and Institutional Review (World Bank, 2006). Among others, a framework for external and internal audit has been established, and institutional arrangements and operational programs have been developed for managing EU funds. The restructuring of the debt and cash management functions provide an important basis for developing a coherent debt management strategy. The revised budget circular is also a useful step toward a modern budget process.

27. **But, against a backdrop of political fragmentation, present fiscal institutions remain weak.** Fiscal policy decisions are often driven by short-term political considerations, with little attention to the consequences for the functioning of the economy and the long-run sustainability of government finances. Symptoms of this short-term bias are the tendency to artificially inflate revenue forecasts, the high frequency of budget revisions, the pronounced end-year surge in government spending, the systematic underutilization of EU funds, and underfunded social commitments.

28. **At the same time, the requirements and challenges facing Romania's fiscal policy management have changed drastically.** The present short-term focus of fiscal policies may well have been appropriate during Romania's earlier transition stage, a time when establishing basic fiscal discipline was the order of the day. But Romania has now advanced well beyond that stage. Structural growth bottlenecks are looming that call for forward-looking fiscal planning. In particular, maximizing the benefits of EU accession and the availability of EU funds require the use of a medium-term fiscal framework.

29. **Against this background, what could be done to improve Romania's budget culture?** Evidence for EU member countries suggests that sound fiscal institutions, including well-defined budgetary procedures, an effective medium-term fiscal frameworks, sound numerical fiscal rules and where non-partisan fiscal advice is available, tend to record lower deficits and debts, conduct less procyclical fiscal policies, and lead to more efficient allocation of public resources. On the basis of this evidence, documented in section B, this chapter reviews the roots and outcomes of the current budget culture in Romania (section C), and suggests concrete steps to improve the situation (section D).

B. Characteristics of a Good Budget Culture

30. **Fiscal institutions are a key determinant of a country's budget culture.** Despite abundant literature on how fiscal policy should be set to be considered sound and sustainable, there are many examples of sub-optimal policies (pro-cyclical bias, high debt levels, low allocative efficiency). Most explanations point to political economy considerations and the short-term motivations shaping policy-makers' behavior. Reforms to improve fiscal policy therefore tend to focus on a strengthening of fiscal institutions. The basic idea is that the fiscal framework should provide policy makers with incentives and constraints favoring sound policies and, over time, a positive change in a country's budget culture.

31. **Fiscal institutions consist of four main elements**: (i) the procedures that govern the elaboration and implementation of the annual budget; (ii) a multiannual fiscal framework; (iii) the numerical rules imposing constraints on fiscal policy; and (iv) the independent bodies involved more or less directly in the conduct of fiscal policy. While (i) exist in all EU countries, the extent of reliance on (ii), (iii), and (iv) varies considerably. The countries generally considered to have strong fiscal institutions rely on several or all devices.

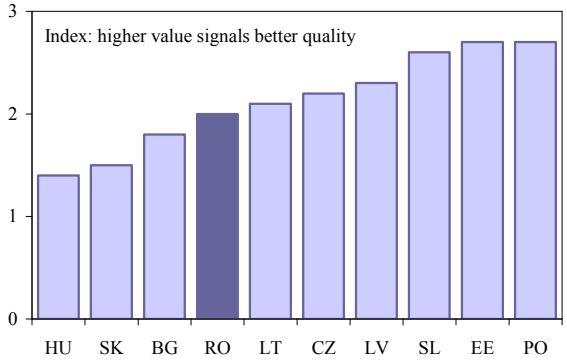
Budgetary Procedures

32. **Sound budgetary procedures help contain deficits.** A key element is to ensure a sufficient unification of the budget process. This forces participants to recognize the costs and benefits of each spending decision, which in turn helps addressing the common pool problem and favors allocative efficiency.[24] For the same reasons, targets for the main fiscal aggregates should preferably be agreed at an early stage of the budget process and the amendment powers of the parliament subject to restrictions. A high degree of transparency at all stages of budgeting, including comprehensive fiscal coverage, and reliance on prudent economic and government revenue forecasts, are other key elements of a sound budget process.

[24] The common pool problem arises when several actors bargain on the allocation of public resources. Each player tends to maximize its own spending, without internalizing the overall budget constraint. In the absence of a proper unification of the budget process, such behavior leads to a spending (and deficit) bias.

33. **Budgetary procedures should also support the credibility of the spending and deficit targets agreed in the budget.** The binding force of the budget depends critically on the flexibility to incur additional expenditure during budgetary execution, including the ability to enact supplementary budgets during the fiscal year. Excessive reliance on the latter may be an important channel for fiscal indiscipline and inefficient resource allocation.

Figure 2. Quality of budgetary procedures in the EU-10 Member States



Source: Fabrizio and Mody (2006) and Staff calculations. While focusing on the rules and procedures of the budget process, the index also includes information on the existence of numerical fiscal rules.

34. **There is evidence of a link between the quality of budgetary procedures and fiscal performance.** The European Commission recently calculated summary indicators measuring the quality of budgetary procedures in selected EU countries (see European Commission, 2007). Table 1 provides some evidence that countries with higher scores on budgetary procedures tend to have lower fiscal deficits and debts, more frequent countercyclical fiscal policies and a better efficiency of government expenditure. A recent study by Fabrizio and Mody (2006) on fiscal institutions in the new EU Member States also found a robust link between fiscal discipline and the quality of fiscal procedures. The same study suggests that the quality of Romania's budgetary procedures is below the average of the new EU countries (Figure 2).

Table 1. Quality of Budgetary procedures and Fiscal Indicators in EU countries 1/

	Fiscal balance (average 05-07)	Public debt (2007)	Frequency of counter-cyclical stance 2/	Efficiency of public spending 3/
	(Percent of GDP)			Index
Countries above median 1/	0.1	38.8	63%	7.1
Countries below median 1/	-1.8	59.0	44%	5.5

Sources: European Commission (2007), AMECO, Fabrizio and Mody (2006), and Staff estimates. 1/ Based on the indicators measuring the quality of budgetary procedures in the EU countries calculated in European Commission (2007). The indicators capture several dimensions (transparency, centralization, use of top-down budgeting techniques, performance budgeting, prudent economic assumptions). 2/ Frequency of years where the cyclically-adjusted balance and the output gap move in the same direction over the period 2005-2007. 3/ New EU-10 Member States only. The estimates are based on Afonso, Tanzi and Schuknecht (2006). The indicators for each country were re-scaled to range between 0 and 10.

Medium-Term Budgetary Frameworks (MTBF)

35. **MTBFs are increasingly considered as an essential fiscal policy tool.** Single-year budgeting is a poor basis for strategic planning, and most fiscal policy decisions have effects which go well beyond the year in which they are taken. Many countries have therefore decided to supplement their fiscal institutions with MTBFs, which extend the horizon for fiscal policy beyond the annual budget calendar. Well-designed MTBFs are organized around multiannual expenditure ceilings, which take into account projected developments in

government revenue and the desired path for the budget balance, and fully reflect past expenditure commitments and the cost of new policies. In the EU countries, the multiannual budgetary projections elaborated in the context of the national MTBFs generally constitute the basis for the preparation of Stability and Convergence Programmes.

36. **There are several conditions for MTBFs to be effective.** Projections should be supported by a clear policy statement and based on realistic macroeconomic assumptions. The budgetary targets should be vetted by the legislature, and there should be a clear link with the annual budget process, in the sense that the first out-year estimate in the MTEF should become the basis for the preparation of the next year's budget, and deviations from previous plans should be explained. The overall expenditure targets should be translated into spending norms for individual ministries, with adequate monitoring procedures. Table 2 provides evidence that countries with sound MTBFs tend to have better fiscal outcomes. A recent study (European Commission, 2007) showed that well-designed MTBFs help stick to medium-term budgetary plans.

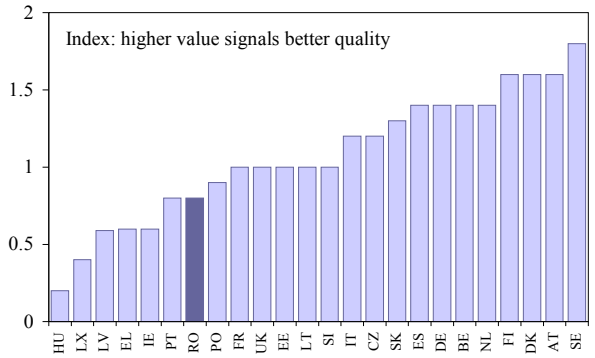
Table 2. Medium-term Fiscal Frameworks and Fiscal Indicators in EU countries 1/

	Fiscal balance (average 05-07)	Public debt (2007)	Frequency of counter-cyclical stance 2/	Efficiency of public spending 3/
	(Percent of GDP)			Index
Countries above median 1/	0.30	36.7	58%	7.6
Countries below median 1/	-2.10	50.4	41%	6.2

Sources: European Commission (2007), AMECO, Fabrizio and Mody (2006), and Staff estimates. 1/ Based on the indicators measuring the strength of the MTBFs in place in the EU countries calculated in European Commission (2007). 2/ Frequency of years where the cyclically-adjusted balance and the output gap move in the same direction over the period 2005-2007. 3/ New EU-10 Member States only. The estimates are based on Afonso, Tanzi and Schuknecht (2006). The indicators for each country were re-scaled to range between 0 and 10.

37. **Romania does not have a well-functioning MTBF.** Most EU member states rely on flexible forms of MTBFs, which foresee the possibility to revise the expenditure ceilings every year on a rolling basis. Some have decided to place the MTBF at the center of their fiscal framework (Slovakia, Czech Republic). Since 2006, Romania has prepared medium-term projections for the main fiscal variables in the context of the annual budget. However, these projections do not receive much attention in parliament, and do not serve as a basis for policy setting on a rolling basis. The absence of well-functioning medium-term fiscal framework in Romania is illustrated by Figure 3, which compares the strength of MTBFs in the EU countries.

Figure 3. Reliance on MTBFs in the EU Member States



Source: European Commission (2007) and staff calculations. The index captures several dimensions: coverage of the MTBF, link with the annual budget, monitoring procedures, involvement of Parliament, etc.

Numerical Fiscal Rules

38. **Numerical fiscal rules define permanent targets or ceilings for budgetary variables.** These rules may target different aggregates (budget balance, expenditure, debt), and be more or less binding, depending on their statutory basis and the strength of their enforcement mechanisms. While all EU member states are subject to the numerical fiscal rules of the Stability and Growth Pact, a recent study shows that a large number of EU countries, including some recently acceded member states, have decided to strengthen their fiscal framework by introducing national-level numerical fiscal rules (Debrun et al., 2008). The same study suggests a statistically significant link between numerical fiscal rules and fiscal discipline. Table 3 provides additional evidence of a positive relation between fiscal rules and fiscal performance.

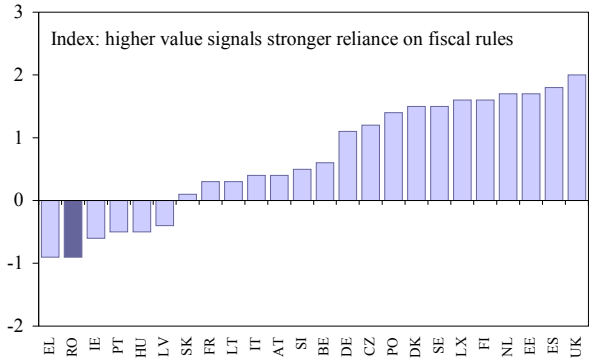
Table 3. Numerical Fiscal Rules and Fiscal Indicators in EU countries 1/

	Fiscal balance (average 05-07)	Public debt (2007)	Frequency of counter-cyclical stance 2/	Efficiency of public spending 3/
	(Percent of GDP)			Index
Countries above median 1/	0.5	38.5	58%	6.4
Countries below median 1/	-2.3	47.5	40%	7.2

Sources: Debrun et al. (2008), AMECO, Fabrizio and Mody (2006), and Staff estimates. 1/ Indicators measuring the extent of reliance on numerical fiscal rules and the quality of the rules in each country. 2/ Frequency of years where the cyclically-adjusted balance and the output gap move in the same direction over the period 2005-2007. 3/ New EU-10 Member States only. The estimates are based on Afonso, Tanzi and Schuknecht (2006). The indicators for each country were re-scaled to range between 0 and 10.

39. **At present, Romania's fiscal policy is not subject to numerical fiscal rules other than those of the Stability and Growth Pact** (Figure 4). Its deficit and debt have to be kept below 3 and 60 percent of GDP respectively, and it is broadly agreed that Romania's fiscal policy should aim at reaching a structural deficit of 1 percent of GDP in the medium-term. This framework is appropriate and there no clear pressing need for other binding numerical constraints. Reliance on strictly binding numerical rules could in fact be problematic in lagging transition economies like Romania, where the occurrence of potentially large shocks can not be ruled out and calls for keeping some discretion in fiscal policy.

Figure 4. Reliance on numerical fiscal rules in the EU Member States



Source: Debrun et al. (2008) and staff calculations. The charts provide the value of the index for 2005. The index captures the existence, coverage and strength of the numerical rules in force in the country.

Independent Bodies

40. **Independent fiscal expertise can contribute to improve fiscal policies in several ways.** It can ensure that fiscal policy is based on unbiased inputs (e.g. through the provision of independent macroeconomic or revenue forecasts), provide analysis on fiscal policy issues (e.g. estimates of the cost of policy measures; of contingent liabilities; analysis of the sustainability of government finances), or/and release regular assessments and recommendations related to fiscal policy, with a view notably to increase reputational costs for unsound policies. These bodies are generally not mandated to carry out any particular fiscal policy task: there is no delegation of policy decisions.

41. **The experience of other EU countries illustrates the benefits of independent fiscal expertise.** According to a recent survey by the European Commission (2006), such institutions exist in 15 EU countries. Jonung and Larch (2004) showed that the macroeconomic forecasts prepared by independent institutions have no statistically significant bias, while such a bias seems to exist in some countries. There is also convincing evidence that some of these institutions have a considerable impact on the public debate and policy decisions (e.g. the CPB in the Netherlands, the High Council of Finance in Belgium, or the Economic Council in Denmark). In Romania, the Prognosis Commission is in charge of macroeconomic projections, and although it is a government institution, its forecasts have in general been accurate and not prone to a strong political bias.

C. Outcomes Under Romania's Present Budget Culture

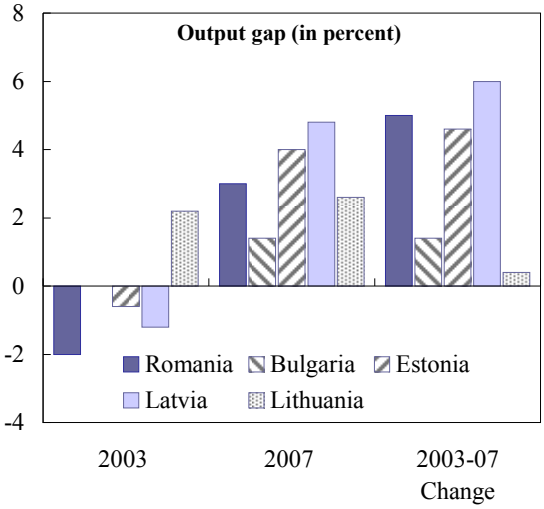
42. **The combination of Romania's fragmented politics with weak fiscal institutions provides particularly fertile ground for undesirable fiscal outcomes.** The literature on the relation between a country's fiscal institutions and its fiscal outcomes shows that strong institutions are even more important in countries where political powers are dispersed among different parties in the government, disputes between the government and Parliament over fiscal issues are frequent, and political systems lead to unstable coalitions and frequent elections (Roubini and Sachs, 1989; Annett, 2007). The relative instability of Romania's politics is therefore another strong argument for building fiscal institutions that can provide pushback against political biases.

43. **The weaknesses of Romania's fiscal institutions have clearly hampered fiscal policy formulation and implementation.** Given the weakness of budget procedures and the absence of other credible institutional constraints (apart from the Maastricht 3 percent deficit limit), fiscal policy decisions are mainly driven by short-term considerations and haggling. The annual budget target is determined on an ad hoc basis, lacks credibility, and is subject to frequent revisions: in 2006 and 2007 Romania had four budget revisions and, in 2008, the Budget was revised as early as March. The dominance of short-term political considerations on strategic planning and analysis has also contributed to slow progress in technical capacity building.

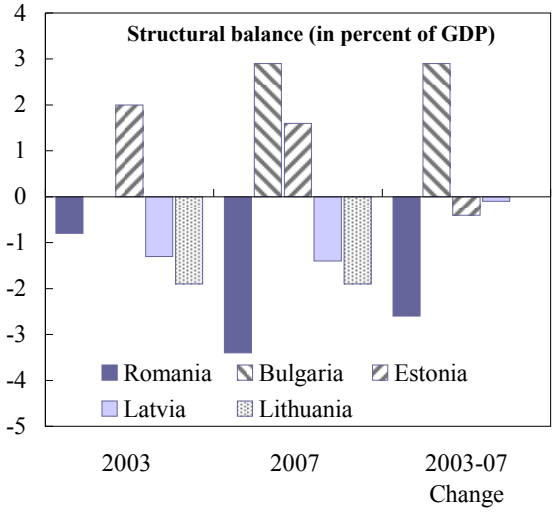
44. **Perhaps most striking at the macro policy level has been Romania's recent inability to eschew a highly procyclical fiscal stance in response to the capital-inflow-driven absorption boom that started in 2004.** The massive and persistent capital inflows as EU accession prospects firmed were clearly unexpected, and led to overheating. In the case of Romania, the widening of the structural budget deficit despite highly favorable cyclical conditions points to a particularly pronounced procyclical loosening of fiscal policy (Figure 5). While some procyclicality is observed also in countries with strong fiscal institutions, usually in these cases reflecting large lower government sectors that operate with balanced-budget rules or large pay-as-you-go social insurance systems, in Romania procyclicality clearly reflected discretionary spending increases and changes in tax rates.

Figure 5. Selected EU Countries: Fiscal Policy Responses to Absorption Booms

While all countries' cyclical positions switched into overheating mode ...



… Romania's fiscal stance turned highly procyclical.



Sources: National Authorities; and Fund staff estimates.

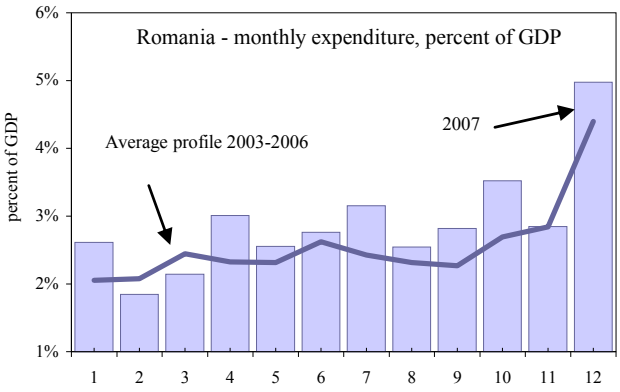
The combination of weak institutions and fragmented politics has also led to other undesirable fiscal outcomes:

- **Underutilization of EU funds.** Romania's fiscal policy management has not yet fully adjusted to the increasing capacity and administrative needs associated with membership in the European Union. In its first year of EU membership, underutilization of EU funds was evident. From the maximum committed resources of more than 2 percent of GDP, the Romanian budget absorbed only about ¾ percent of GDP.

- **A large "end-year surge" in public spending** (Figure 6). On average over the last three years, more than 15 percent of total consolidated expenditure were spent in December, i.e. about twice as much as in other months of the year. This

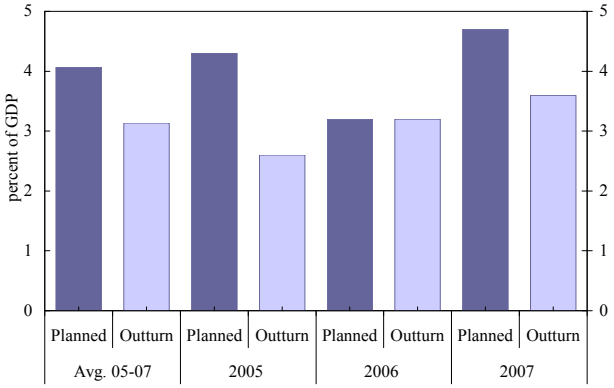
end-year surge hampers the predictability of budget execution, weighs on allocative efficiency, results in a succession of destabilizing fiscal expansions and contractions, and renders liquidity management by the central bank more difficult.

Figure 6. Romania: Monthly profile of budgetary execution



- **Under execution of capital spending.** On average over the last three years, capital expenditure has been significantly lower than planned in the budget, both in nominal terms and as a share of GDP (Figure 7). Some of the funds initially appropriated for capital expenditure seem to have actually been used to finance additional current spending.

Figure 7. Romania: Planned and observed capital expenditure (percent of GDP)



- **Myopic policies.** A recent example is the approval on a fast-track basis last year of a pension law stipulating massive two-stage increases in pensions in January 2008 and January 2009, although key decision makers agreed that at least the second-stage pension increase is underfunded.

- **Bias in revenue projections.** Contrasting with the previous practice of conservative revenue projections, the revenue forecasts underpinning the budget have turned too optimistic in recent years. Inflated revenue forecasts were used as a way to artificially create margins for higher spending increases.[25] This practice has not led to big shortfalls in nominal government revenue, but this was only because GDP growth surprised on the upside. The ratio of government revenue to GDP has however almost always been lower than expected in the budget (Table 4).

[25] This point has been documented in Milesi-Feretti and Moriyama (2004). Overly favorable growth and revenue assumptions help opportunistic governments to avoid the political cost associated with the implementation of consolidation measures. Difficult policy choices can be avoided ex ante, while ex post negative surprises are blamed on bad luck.

Table 4. Romania: Summary of Consolidated General Government, 2003-07 1/

	2003		2004		2005		2006		2007	
	Original Budget	Outturn	Original Budget	Outturn	Original Budget	Outturn	Original Budget	Outturn	Original Budget	Outturn
	(In millions of Lei)									
Revenue excluding grants	56,205	56,584	64,717	70,577	79,183	85,285	97,030	105,129	126,794	124,203
Outturn - Plan		379		5,860		6,103		8,099		-2,591
	(In percent of GDP)									
Revenue excluding grants	30.8	28.6	29.8	28.6	30.3	29.6	30.1	30.7	33.2	30.7
Outturn - Plan		-2.2		-1.1		-0.7		0.6		-2.5

Sources: Ministry of Public Finance; and Fund staff estimates and projections.
1/ Figures for 2003 and 2004 are based on the old fiscal classification.

D. A Road Map to a New Budget Culture

45. **Improving fiscal policy management will require a strengthening of fiscal institutions in line with best EU practices.** To this end, a three-pronged approach is recommended that encompasses capacity building and improved transparency, a medium-term framework for fiscal policy, and increased use of independent fiscal expertise.

46. **Capacity building and fiscal transparency.** Key will be improvements in current practices of public financial management and analysis, at all stages of budgeting (Table 1 provides detailed suggestions). This includes:

- **Ex-post analysis of macroeconomic and budget developments.** Budgets and supplementary budgets should incorporate an analysis of past macroeconomic and budget developments, including an explanation of deviations between projections and actual developments.

- **Better consideration of macro-fiscal linkages in setting budgetary targets.** Budget documents should provide an assessment of the position of the economy in the cycle and of the expected cost and economic impact of the measures introduced in the budget.

- **Improved regulations and budgeting techniques.** Regulations need to be revised to ensure that the budget captures the impact of all legislative changes, including changes in public sector wages. In addition, greater emphasis should gradually be placed on performance-oriented budgeting.

47. **Anchoring fiscal policy in a medium-term perspective.** The current practice of focusing on the day-to-day operations of fiscal policy needs to shift toward a medium-term strategic thinking setting. This involves two key steps:

- **Limit the frequency of supplementary budgets.** Timelines and trigger mechanisms for supplementary budgets should be clearly defined (e.g. budget

revisions take place in the context of a mid-term review of fiscal developments). Rules ensuring that the first supplementary budget will not be submitted before the mid-year review could be considered (barring exceptional circumstances).

- **Introduce a fully-functional MTBF.** Projections should be based on a clear policy statement and realistic macroeconomic assumptions, have a broad fiscal coverage, and be fully integrated in the budget process. They should be articulated around multi-annual expenditure targets vetted by parliament, possibly revised annually on a rolling basis and set in real terms, to avoid the budget being affected by unexpected developments in inflation.

48. **Using independent expert panels**. A first step would consist in further strengthening the independence of the Prognosis Commission. Other steps would consist in the development of non-partisan bodies providing analysis and advice on fiscal issues:

- **Independent revenue forecast.** An independent expert panel or body providing fiscal revenue forecasts would help address the optimistic bias in revenue projections observed in recent years. Examples in the EU are the *Working Party on Tax Revenue Forecasting* in Germany and the *CPB* in the Netherlands. The timing of the independent revenue forecasts and updates should be aligned with the budget calendar (e.g. preparation of the budget and mid-term budgetary review).

- **Expert analysis and recommendations on fiscal issues.** Setting up an independent agency in charge of providing independent analysis on fiscal issues (e.g. costing and impact of measures and reforms; analysis of the sustainability of government finances) could be considered at a later stage. Based on this analysis, the agency could be mandated to provide normative assessments and recommendations on fiscal policy. Examples of such institutions in the EU are the *High Council of Finance* in Belgium and the *Government Debt Committee* in Austria.

Table 1. Strengthening Public Financial Management

Area and weakness	Recommendation
1. **Budget formulation** The preparation of the annual budget is delinked from last year's forecasts included in the medium-term indicative framework. Specifically: (i) the following year, there is no column for reconciliation between projections and the deviation from actual revenues and expenditures, as well as macroeconomic assumptions; and (ii) the ministries developing their budgets do not seem to use the previous year's estimates as a guide for their budget submissions leading to requests disconnected from last year's spending outcomes.	Each year's budget should incorporate a brief analysis of last year's macroeconomic and budget developments, including an explanation of deviations between projections and actual. Require ministries and other spending units (including local governments) to include in their expenditure submissions the budgeted and actual allocations together with the next year's requests, as well as an explanation for deviations.
Some times, relevant legislation is not in place by the time of the budget's approval. For example, negotiations on government wage policy are not finalized until the first few months of the year; as a result the budget has to be revised to accommodate granted wage increases (this is a perennial problem).	Strengthen budget regulations to ensure that the budgetary impact of all legislative changes are included in the budget, and do not include budgetary allocations related to legislation not yet approved. In the case of public sector wages, revise the framework of wage negotiations (including the timing) to ensure that public sector wage policy for next year is approved before the budget's approval by Parliament.
Perhaps due also to the lack of a credible medium-term framework, the original budget is revised three or four times during the year. Revisions are approved by government by Executive Order and become effective immediately, with approval by Parliament during the course of the year. This institutional setup has resulted in situations that parliament is discussing one budget revision, while another has already been approved by government.	Change the culture of frequent budget revisions, by making the initial budget more realistic and free of political influence and by strengthening the medium-term fiscal framework. Establish a mechanism stipulating that—barring emergency situations not been able to be handled by the reserve fund, whose modalities also need to be amended to deal with emergencies—the first supplementary budget will not be submitted to Parliament before the half-year review of the budget (see below) has been completed.
2. **Budget classification** Budget classification has been updated several times, but is still not fully consistent with GFS 2001 and ESA 95. One concern pertains to the accrual of liabilities related to property restitution.	More efforts are needed to improve classification and make it consistent with GFS 2001 and ESA95. Utilization of the Fund's transition matrix from GFS1986 to GFS2001 and ESA95 could be useful in that respect.
3. **Budget accounting** An effort has started to move to accrual accounting and government accounting moved to an accrual basis from 2006, but without a detailed road map.	More realism is needed along with attention to basic processes and automation of the current system to move to accrual accounting.
4. **Budget execution** The current system—a remnant of the past when there was significant overspending and arrears accumulation—focuses a lot on financial control.	As financial control improves and other components—e.g., internal audit and program budgeting—come on line, the internal control environment can move away from a highly legalistic undertaking to one that emphasizes systems and procedure confidence. Budget reporting needs to improve and become more timely, including by establishing a comprehensive mid-year assessment and incorporating better reports on liabilities and financial risks. The mid-year

	assessment should be accompanied by a report on the implementation of the budgets and should also include an updated forecast of the budget outcome for the current year, and if possible, for the medium term. The economic assumptions underlying the budget should be reviewed and the impact of any changes on the budget quantified.
5. **Budget transparency** Important steps have been made to improve budget transparency, including by making the budget more comprehensive, producing more and better data, and improving the quality assurance and accountability process. Thus, Romania has a good legal base from which to improve the transparency of the budget.	Continue to consolidate all funds into one budget document and one decision point (e.g., while health and social funds are voted at the same time, they are voted on separately). In addition, further efforts need to be made to expand the coverage of the budget to include own revenues of budget organizations on a consistent basis. The budget document should include a column showing the changes in the medium-term projections (both revenue and expenditure) for what was forecast in year 2 from the previous year's budget and the amount budgeted for that year accompanied by a short explanation on deviations. The end-year report should be prepared and audited in a more timely manner so that it can be used during the budget formulation stage, and should include a comparison of targets and results. It should also incorporate a comprehensive discussion of the government's financial assets and financial liabilities, and non-financial assets. The reporting on contingent liabilities should be strengthened.
6. **Capital budget integration** Budget submissions identify individual capital projects, but smaller projects may be aggregated. There are no specific budget ceilings for investments, and the level of capital spending that is included in the budget is determined on the basis of a top-bottom approach and not linked to Romania's implementation capacity or recent capital budget execution. The MOPF reviews how capital budget proposals fits into spending ceilings, but does not assess project quality or verify cost-benefit analysis. As a result, project delays are very common, due to inadequate project design, inadequate procurement documents and unrealistic expectations about implementation times.	The level of capital spending in the budget should be set following an iterative process taking into account the country's development needs, recent capital budget execution, and capacity constraints. More attention to program budgeting should be an integral part of capital budget integration.
7. **Performance-oriented budgeting** Program structure is established for all institutions and entities. For the 2007 budget, the Ministry of Finance issued an updated budget circular, requiring ministries to provide information on strategies, outcomes, efficiency and performance information. However, compliance has been mixed and the quality generally unsatisfactory. For the 2008 budget, the requirements were compromised due to the reorganization of government.	Strengthening of efforts on re-orienting the budget process toward strong links between results and budget decisions.

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