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Supplement 1

CONFIDENTIAL

July 7, 2010

To: Members of the Executive Board

From: The Secretary

Subject: **Republic of Latvia—Selected Issues—Supplementary Information**

The attached supplement provides further background information to the staff report on the 2010 Article IV consultation discussions with the Republic of Latvia (SM/10/180, 7/7/10), which is tentatively scheduled for discussion on **Wednesday, July 21, 2010.** At the time of circulation of this paper to the Board, the authorities of the Republic of Latvia have indicated that they need more time to consider whether they will consent to the Fund's publication of this paper. Publication will only proceed upon the receipt by the Fund of the member's explicit consent. Any requests for modifications for publication are expected to be received two days before the Board concludes its consideration.

Questions may be referred to Mr. Griffiths (ext. 35354), Mr. John (ext. 35637), Mr. Saxegaard (ext. 39739) and Ms. Jurzyk (ext. 34223) in EUR.

Unless the Documents Section (ext. 36760) is otherwise notified, the document will be transmitted, in accordance with the procedures approved by the Executive Board and with the appropriate deletions, to the European Central Bank and the WTO Secretariat on Thursday, July 15, 2010; and to the European Bank for Reconstruction and Development, the European Commission, the European Investment Bank, the Food and Agriculture Organization, the Organisation for Economic Cooperation and Development, and the United Nations Development Programme, following its consideration by the Executive Board.

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REPUBLIC OF LATVIA

Latvia—Selected Issues—Supplementary Information

Prepared by Irena Asmundson (SPR), Lone Christiansen,
and Magnus Saxegaard (both EUR)

Approved by the European Department

July 6, 2010

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LATVIA'S EXCHANGE RATE AND COMPETITIVENESS[1]

A. Introduction

1.   **Before the launch of the Fund-supported program in late-2008 there were concerns that Latvia's competitiveness was rapidly eroding (Figure 1).** Between 2005 and the peak at end-2008, nominal wages increased 117 percent, while consumer prices rose 43 percent. As a result, the real exchange rate appreciated rapidly: the CPI-based real effective exchange increased by roughly 30 percent from 2005 to its peak in early 2009, while the ULC measure increased 50 percent. These indicators plus large current account deficits—over 22 percent of GDP in 2007—pointed to substantial exchange rate overvaluation before the crisis.

2.   **Developments since the start of the program suggest that an updated assessment of competitiveness is needed.** Given the fixed exchange rate, the authorities relied on internal devaluation to improve competitiveness. Substantial fiscal consolidation led to price and wage cuts, but also a deeper than anticipated recession. Public sector wages fell 24 percent year-on-year in the fourth quarter of 2009. In the private sector measured wages fell by around 5 percent, but the true decline—obscured by payments of envelope wages—was probably much larger. In addition, the private sector relied on employment cuts to raise productivity. With domestic demand falling by almost 30 percent, inflation turned negative in early-2009 and the real exchange rate has depreciated by more than 8 percent since, while the current account moved from deficit to a substantial surplus of 9.4 percent of GDP in 2009 as import demand declined.

3.   **This chapter uses model and non-model approaches to assess the extent of exchange rate misalignment in Latvia.** The chapter first presents updated estimates of real exchange rate misalignment using the three different CGER models that are common to Fund surveillance. These models yield a wide range of estimates of the competitiveness gap, from around zero to above 30 percent, making it difficult to provide a precise estimate of the amount of misalignment. Moreover, the findings are sensitive to assumptions regarding the natural rate of unemployment and the output gap—which are difficult to estimate in the current economic environment—as well as the sample period and model parameters. Because of this uncertainty, the chapter also looks at alternative measures of competitiveness, including purchasing power parity comparisons and export developments. These qualitative approaches also provide a mixed assessment—although they do show that competitiveness has improved—highlighting the fact that the assessment of competitiveness in Latvia is currently subject to greater than usual uncertainty.

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[1] Prepared by Irena Asmundson (SPR), Lone Christiansen, and Magnus Saxegaard (both EUR)

B. Model-Based Approaches

4.   **Model-based approaches yield a wide range of estimates of the competitiveness gap.**

- A simple application of the macro-balance (MB) approach—which is based on the cyclically adjusted current account—suggests the real exchange rate is broadly in line with fundamentals. However, as we show below, this estimate implicitly assumes that the natural rate of unemployment is very high, which may not be an appropriate equilibrium. Reducing it would require further competitiveness improvements to redirect economic activity towards tradables.

- The external sustainability (ES) approach–which is based on the current account which stabilizes net foreign assets—also suggests that the real exchange rate is close to equilibrium. However, as with the MB approach, more realistic assumptions regarding the output gap and the natural rate of unemployment would raise the estimate of the competitiveness gap substantially.

- The equilibrium real exchange rate (ERER) approach—which relates to the real exchange rate to medium-term fundamentals—suggests a competitiveness gap of around 30 percent. However, this estimate is extremely sensitive to the sample period—shortening the sample could lower the estimate by up to 10 percentage points—and it is unclear to what extent the coefficients used to calculate the equilibrium real exchange rate in this approach are applicable to Latvia.

The remainder of this section outlines these three models in more detail, discusses the caveats of each approach, and the reasons for the wide range of estimates.

The Macro-Balance Approach

5.   **The MB approach compares the current account adjusted for cyclical factors with the equilibrium current account derived from a set of economic fundamentals.** The gap between the cyclically adjusted current account (the underlying current account) and the equilibrium current account (the current account norm) is translated into an estimate of real exchange rate misalignment by applying the elasticity of the current account with respect to the real exchange rate.

6.   **Adjusting Latvia's headline current account surplus of 9.4 percent of GDP at end-2009 for temporary factors yields an underlying current account deficit of 2.7 percent of GDP (Table 1).** The official estimate of the headline current account is reduced to exclude banking sector losses due to write-offs of bad debts by parent banks to reflect the methodology in the IMF's Balance of Payments Manual (Sixth Edition). This yields a revised current account balance of 3.1 percent of GDP. Using the methodology in Isard (2007), the underlying current account is then computed by adjusting the revised

headline current account in 2009 for: (i) the temporary boost to the current account surplus from the decline in imports associated with a negative output gap in Latvia (lowering the underlying current account by 5½ percent of GDP); (ii) the temporary deterioration in the current account due to the decline in exports associated with a negative output gap in the rest of the world (increasing the underlying current account by 2.4 percent of GDP); and (iii) the lagged effect of past real exchange rate appreciation on the current account (lowering the underlying current account by 2.7 percent of GDP).

7.   **The current account norm in Latvia is estimated at a deficit of 3.4 percent of GDP using the approach in Lee et al. (2008) (Table 2).** The determinants of the current account norm in Latvia include:

- A slightly higher projected fiscal balance in Latvia relative to trading partners (staff projections suggest that Latvia's fiscal deficit will fall to 1.6 percent of GDP in 2014 compared to 2 percent of GDP in trading partners), which increases national saving and increases the current account norm by 0.1 percent of GDP.

- Relatively slow population growth (projected by the United Nations (2009) at between -0.4 and -0.5 percent per year in Latvia compared to 0.1 percent in trading partners) and a low old-age dependency ratio (the share of people in Latvia older than 64 years of age relative to the population in the 16-64 age group is projected to reach 36 percent by 2035 compared to 38 percent in trading partners). Both factors increase national saving and increase the current account norm by a total of 0.7 percent of GDP. On the other hand, higher than anticipated migration would reduce national savings and reduce the current account norm.

- A negative net foreign asset (NFA) position—Latvia's NFA position reached -78 percent of GDP in 2008 as a result of successive current account deficits—which tends to lead to outflows from the income account, thereby reducing the current account norm by an estimated 1.6 percent of GDP.

- A reliance on oil imports—the oil balance was -3.8 percent of GDP in 2009 and is projected to worsen to -4.2 percent of GDP in 2014—which is estimated to reduce the current account norm by 1 percent of GDP.

- A relatively low income level (Latvia's PPP-adjusted income level is approximately ⅓ of that in the United States) coupled with a relatively high projected per capita GDP growth rate (per capita GDP is expected to grow by approximately 4 percent in 2014 compared to 3 percent in trading partners), both of which tend to increase the amount of investment financed by external borrowing, thereby reducing the current account norm by a total of 1.7 percent of GDP.

8.   **The MB approach yields a wide range of estimates, ranging from slight undervaluation to a competitiveness gap of approximately 30 percent.** Applying an elasticity of the current account with respect to the real exchange of -0.26 (Lee et al., 2008) to the difference between the underlying current account and the current account norm translates into a 3 percent real exchange rate undervaluation. This is significantly different from the pre-crisis estimates which suggested an overvaluation around 20 percent. The difference can be explained partly by a sharp downward revision in staff's estimate of potential growth in the years prior to the crisis. As a result, the estimate of the extent to which output in 2008 was above potential has increased significantly, and thus the estimate of overvaluation has declined. In addition, 2009 saw an unprecedented turnaround in the headline current account, which dramatically reduces the estimate of the underlying current account deficit and lowers the amount of overvaluation. However, this simple application of the MB approach is subject to a number of caveats and more realistic assumptions result in a significant competitiveness gap:

- The underlying current account assumes an output gap of around -9 percent of GDP in 2009, reflecting a substantial downward revision to potential output. But if instead the path for potential output is kept unchanged from the 2008 estimate, the 2009 output gap would be around -23 percent, leading to a underlying current account of close to -12 percent and a competitiveness gap of 32 percent. Though this calculation is only meant to be illustrative, it shows the sensitivity of the competitiveness gap to assumptions about potential output.

- Okun's Law—which relates the output gap to the deviation of unemployment from its natural rate—suggests that the baseline estimate of the output gap implies a natural rate of unemployment around 15 percent. This may neither be desirable or sustainable. Assuming a natural rate of unemployment around 8 percent would imply an output gap of around 19 percent, leading to an underlying current account deficit of approximately 9 percent and a competitiveness gap of 22 percent.

- Lee et al. (2008) argues that a financial crisis tends to be associated with a temporary improvement in the current account due to the sharp contraction in demand and the reduced availability of financing. This effect was evident during the Asia crisis and may have been even stronger during this crisis as world trade—in particular trade in durable consumer and investment goods—experienced the most severe collapse since World War II (Baldwin, 2009). Adjusting for these temporary effects could increase the underlying current account deficit to as much as 9.7 percent of GDP, leading to a competitiveness gap of 24 percent.

- On the other hand, the current assessment ignores staff's projections of 3 percent of GDP in capital transfers from the EU over the medium-term. Including this in the assessment would lower the estimate of the current account norm by an equivalent

amount, thereby *increasing* the amount of undervaluation by around 12 percentage points.

- The parameter estimates used by Isard (2007) to quantify the impact of temporary factors on the current account are calibrated for the United States and may not be appropriate for Latvia. Similarly, the coefficient estimates used to quality the impact of fundamentals on the current account norm are average correlations across a large set of countries, while projections of the medium-term fundamentals used to calculate the current account norm in Latvia are subject to larger than usual uncertainty.

The External Sustainability Approach

9.   **The ES approach focuses on the relation between Latvia's NFA position, the current account, and the real exchange rate.** It estimates the amount of real exchange rate adjustment necessary to close the gap between the NFA-stabilizing current account and underlying current account from the MB approach, using assumptions about medium-term growth, inflation, and the rate of return on NFA.

10.   **The ES approach yields estimates ranging from a real exchange rate broadly in line with equilibrium to a significant competitiveness gap.** In 2009 the NFA to GDP ratio exceeded -80 percent of GDP, reflecting the significant build-up in liabilities in the run-up to the crisis. Stabilizing the NFA to GDP ratio at its 2005 level of -60 percent yields an NFA-stabilizing current account of -3 percent of GDP, close to the baseline underlying current account of -2.7 percent of GDP. However, there is little consensus regarding what level of NFA is sustainable while the estimates of medium-term growth and inflation are inherently uncertain. IMF (2002) argues that the risk of debt distress increases once external debt rises above 40 percent of GDP, while Reinhart et al. (2003) presents results which suggest that the threshold for debt intolerance should be even lower. Moreover, the ES approach only requires that the NFA to GDP converge to its sustainable level in the long-run. Achieving this target over a shorter time-horizon would significantly increase the amount of real exchange rate adjustment. Finally, as in the MB approach the size of the underlying current account depends on assumptions regarding the output gap and unemployment.

The Equilibrium Real Exchange Rate Approach

11.   **The ERER approach uses a single equation approach to directly estimate an equilibrium real exchange rate and compares it with the actual real exchange rate (Table 3).** The equilibrium real exchange rate is calculated by applying CGER coefficients from Lee et al. (2008) to a number of economic fundamentals. In Latvia most of these fundamentals have worsened (Figure 2): (i) the deteriorating terms of trade—which is now 7 percent below its 1995 level—has weakened the equilibrium real exchange rate by 1.7 percent since 1995 through real income or wealth effects; (ii) lower productivity growth in the tradables versus the non-tradables sector relative to trading partners has weakened the

equilibrium real exchange rate by nearly 10 percent through the standard Balassa-Samuelson effect; (iii) a negative NFA position, which requires a more depreciated real exchange rate to generate the trade surpluses necessary to service the external liabilities, has weakened the equilibrium real exchange rate by about 5 percent; and (iv) lower government consumption than in trading partners, which because government consumption is expected to fall more on non-tradables, has depreciated the equilibrium real exchange rate by nearly 8 percent.

12.   **The ERER approach suggests a competitiveness gap of 32 percent, but here too results are sensitive to assumptions (Table 3).** The equilibrium real exchange rate has been depreciating over time while the actual real exchange rate has been appreciating, leading to a sizeable competitiveness gap. Implicitly this means that the equilibrium relationship does not fit Latvian data very well. While this may seem to undermine the credibility of the results, it does reflect the reality that Latvia's terms of trade and relative productivity has been deteriorating over time, while government consumption has been falling. However, the estimate of overvaluation is sensitive to the sample period given the assumption of zero average misalignment over the sample. For example, shortening the sample period by three years lowers the competitiveness gap by 10 percentage points. Moreover, the results do not reflect recent improvements in productivity and the actual real exchange rate may not yet capture the full effect of recent wage and price cuts, both of which would lower the competitiveness gap. Any future improvements in productivity—provided that they are concentrated in the traded goods sector—would also serve to reduce the competitiveness gap through the Balassa-Samuelson effect and help reorient the economy toward tradables. Finally, Latvia is not included in the panel of countries used to estimate the CGER coefficients, suggesting that caution is warranted in interpreting the misalignment estimates.

C. Non-Model-Based Approaches

13.   **Given the conflicting results from model-based approaches, it is useful to cross-check these with more qualitative approaches.** This is particularly important considering the structural shifts that have taken place in Latvia's economy, including the growth in the non-tradable sector during the boom years and the increasing integration with the European Union (EU). This section looks at developments in the real exchange rate, productivity, export shares, and relative price levels.

Moving-Average Real Exchange Rate

14.   **Five-year moving averages of the real exchange rate suggest that the competitiveness gap is declining and may be below 6 percent (Figure 3).** The CPI- and PPI-based real exchange rate suggested a competitiveness gap as high as 20 percent in early 2009, while the ULC-based real exchange rate suggested a competitiveness gap of 34 percent in the second quarter of 2008. Following the recent deprecation of the real exchange rate, the five-year moving averages suggest the competitiveness gap is now around 5½ percent. However, in the current volatile macroeconomic environment a moving average

may differ significantly from the actual equilibrium real exchange rate and should only be used as a rough check on any exchange rate assessment.

Relative Price Levels

15. **Purchasing power parity (PPP) comparisons suggests a competitiveness gap remains (Figure 3).**

- The PPP approach compares the price of the same basket of goods across countries. Eurostat suggests that prices in Latvia in 2008 were 71 percent of those in the EU27 and thus that the real exchange rate was undervalued.

- However, this ignores the fact that in developing countries non-tradable goods tend to be cheaper and the real exchange rate more depreciated. This is because of the well-known Balassa-Samuelson effect which hypothesizes that because workers in developed countries are more productive than their developing country counterparts, wages (and thus prices) in the non-tradable sector will be higher. Under the assumption that the price-level in the tradable sector is equalized across countries, this will imply a more appreciated real exchange rate in developed countries. To adjust for cross-country differences in income, we follow Rodrik (2008) and regress the price level on PPP-adjusted real GDP per capita in a panel of 12 countries. Based on this approach, the real exchange rate in Latvia was overvalued by 18 percent in 2008.

- Since then, PPP-adjusted GDP per capita is projected to have declined by a further 18 percent, while the relative price level is projected to have declined by only 1 percent. As a result, the estimate of the competitiveness gap has increased to around 30 percent. The actual competitiveness gap may be somewhat lower, however, as the decline in output in 2009 is partly cyclical, while the 2009 data may not yet capture the full effect of declining prices given delayed pass-through. Finally, an alternative approach to adjust for the Balassa-Samuelson effect would have been to regress the real exchange rate on productivity differentials. Given that labor productivity has recently been increasing, this may have resulted in a significantly lower estimate of the competitiveness gap.

Productivity and Unit Labor Cost

16. **The recent increase in labor productivity suggests Latvia's competitiveness is improving (Figure 3).** The number of employed workers aged 15-74 fell 14 percent year-on-year in the fourth quarter. There was also a switch from full-time to part-time work. Hence, although output per employed person has not yet shown any clear improvement, output per hour worked and output per full-time equivalent number of workers have increased by approximately 11½ percent since their troughs in the third and fourth quarters of 2008.

17.   **At the sectoral level, the tradable sector is benefitting from improvements in productivity.** Gross value added per full-time equivalent number of workers in the tradable manufacturing sector increased close to 30 percent year-on-year in the fourth quarter of 2009. On the other hand, productivity in the non-traded construction sector has declined by 8 percent from its peak in the second quarter of 2009, although it is still up 17 percent year-on-year. While this suggests the economy is gradually realigning toward the tradable sector, the economy remains heavily skewed toward the non-tradable sector with services accounting for a large and increasing share of the economy, while the importance of manufacturing is small and declining (Figure 4).

18.   **As a consequence of the increase in labor productivity, unit labor costs have decreased more than the average wage per worker during the past year.** While gross monthly wages fell 12 percent year-on-year in the fourth quarter of 2009, unit labor costs declined close to 20 percent. The sharp improvement in unit labor costs provides further evidence that competitiveness has started to improve.

Export Shares

19.   **The importance of the export sector in the Latvian economy has started to increase, suggesting some improvement in competitiveness (Figure 5)**. During the boom years and despite EU accession, exports as a share of GDP declined from 48 percent in 2005 to 42 percent in 2007. Imports, on the other hand, grew rapidly as domestic demand increased, expanding from 60 to 66 percent of GDP between 2004 and 2006. Since the beginning of 2009, however, exports have started to recover and increased by around 30 percent year-on-year in April. However, exports as a share of GDP remain well below that in Lithuania and Estonia, suggesting further scope for improvement.

20.   **Latvia's export market shares worsened until end-2008, but have recently started to improve (Figure 5).** Latvia's share of total world exports to Germany declined steadily from its peak in 2004 until 2008. This was partially offset, however, by increasing export market shares to neighboring countries reflecting improved trade integration in the Baltics coupled with an increase in Latvia's share of wood exports to Germany and the Baltics. Recent data suggest that export performance may be improving: Latvia increased its share of total exports to the EU in 2009 after a decline in 2008, while exports to non-EU destinations have also started to increase due in part to the depreciation of the euro in mid-2010.

D. Conclusion

21.   **Even though there has been substantial improvement, there is still evidence of a moderate competitiveness gap.** While it is hard to draw definitive conclusions from CGER estimates given the large range of estimates, simpler approaches suggest that Latvia's price level is still high, including for its level of per capita GDP. Also, the natural rate of unemployment implicit in the estimate of a lower competitiveness gap is undesirably high;

reducing it will require further competitiveness improvements to expand and redirect output towards tradables. That said, the profound structural changes in the Latvian economy render any numerical assessment of competitiveness uncertain. Arguably more important is the clear evidence that competitiveness has improved considerably, as evidenced by the fact that export growth continues to increase. In addition, the more than 14 percent depreciation in the euro against the U.S. dollar since end-2009 has resulted in about a 5 percent depreciation of Latvia's nominal effective exchange rate—approximately 50 percent of Latvia's exports are to countries pegged to the euro—boosting competitiveness. Moreover, further wage and price adjustment, together with structural reforms, have the potential to close the remaining competitiveness gap. The recent record of rising exports, sustained current account surpluses, and reserve inflows have all improved confidence in the authorities' strategy of internal devaluation, though many challenges remain. Whether this strategy can be emulated by larger economies remains an open question.

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Figure 1. Latvia: Erosion in Competitiveness in the Run-up to the Crisis

Nominal wages increased sharply...

Nominal wages and Salaries: Business Economy, seasonally adjusted, 2005Q1 = 100

- - - Latvia
—— Lithuania
- - - Estonia
······ Germany

...resulting in a large increase in unit labor costs.

Unit labor costs: total economy, seasonally adjusted, 2005Q1 = 100

- - - Latvia
—— Lithuania
- - - Estonia
······ Germany

Consumer prices rose rapidly...

HICP, seasonally adjusted, 2005Q1 = 100

- - - Latvia
—— Lithuania
- - - Estonia
······ Germany

...resulting in a sharp appreciation of the real exchange rate.

Real effective exchange rates (2005 = 100)

—— CPI-based
- - - PPI-based
- - - ULC-based

Source: Latvia Central Statistical Bureau, Eurostat, and IMF staff calculations.

Figure 2. Latvia: Determinants of the Equilibrium Real Exchange Rate (ERER Approach)
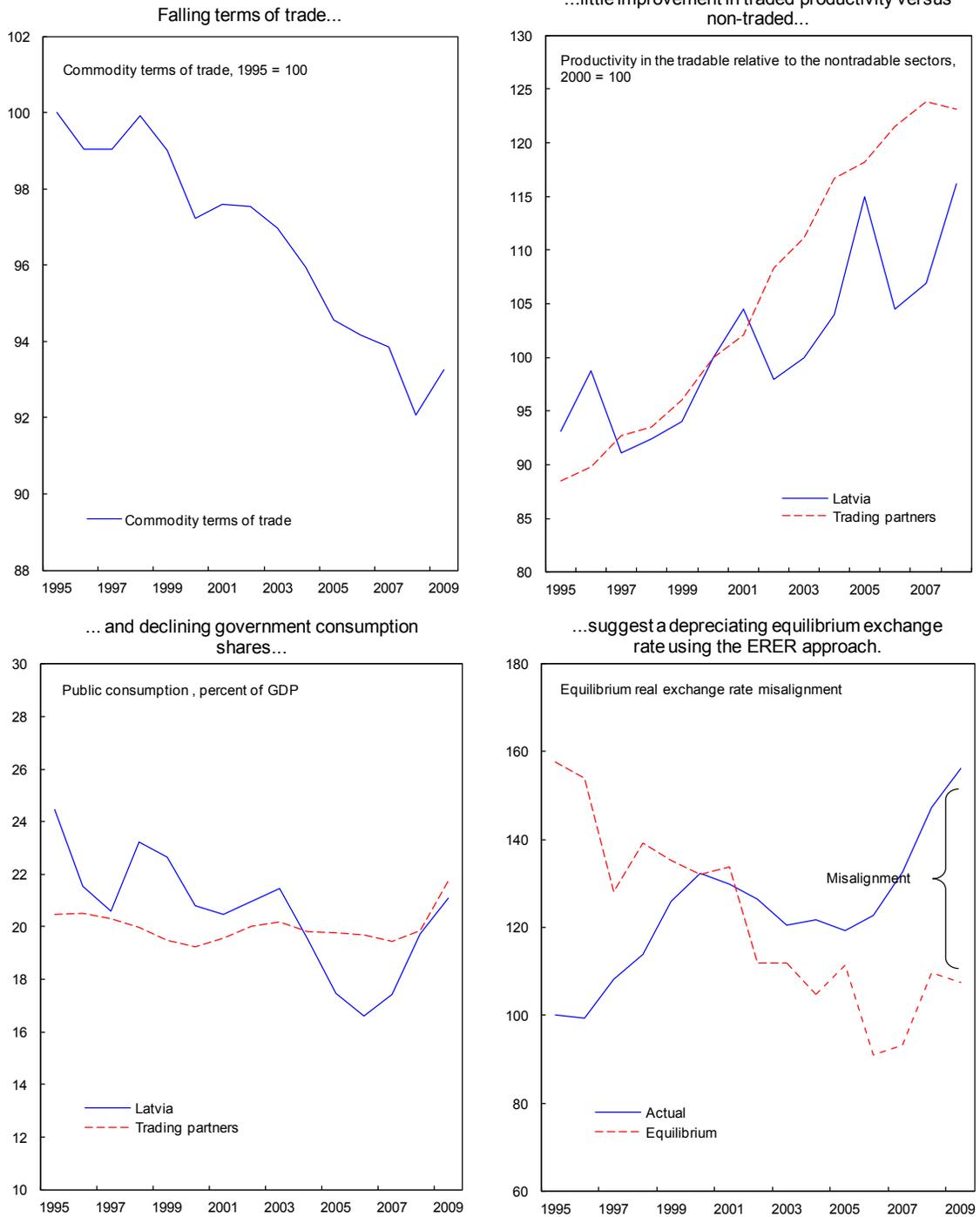
Source: Comtrade, ILO, Eurostat, United Nations, Latvia Central Statistical Bureau, Bank of Latvia, World Economic Outlook, and IMF staff calculations.

Figure 3. Latvia: Competitiveness Indicators

Five year moving averages...

..and productivity improvements in the tradable
sector, suggest competitiveness is improving.

But Latvia's price level appears high relative to
its per capital GDP...

...suggesting there is still a modest
competitiveness gap
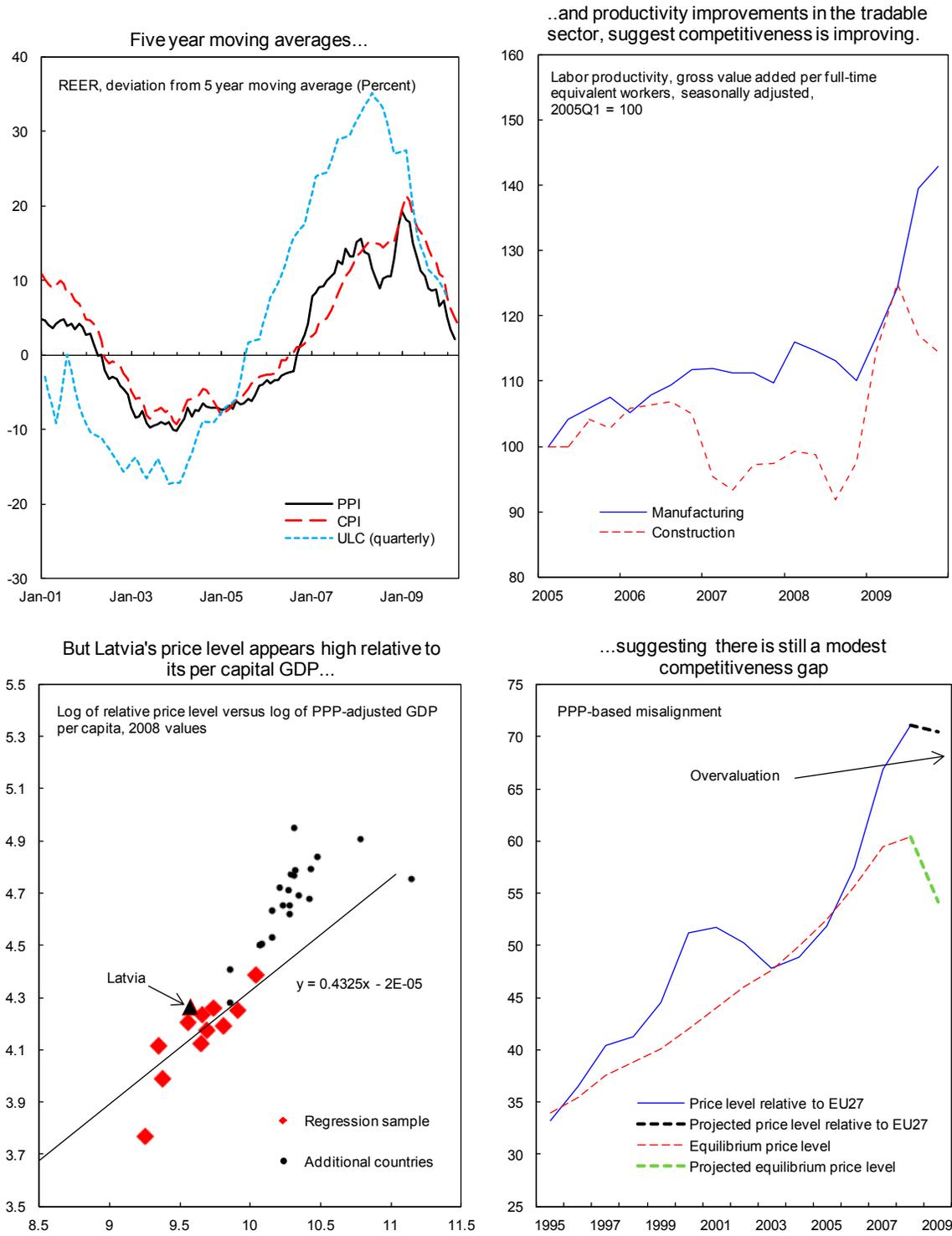
Source: Bank of Latvia; Eurostat; and IMF staff calculations.

Figure 4. Latvia: Structure of the Economy

Latvia's economy remains heavily skewed toward the non-tradable sector…

Latvia: Composition of GDP (Percent)

…although the recent decline in employment in construction suggests some realignment.

Employment in the private sector (percent of total employment, SA)

The importance of the tradable manufacturing sector in Latvia is small compared to other Baltic countries while the non-tradable services sector is more significant.

The Baltics: Composition of GDP in 2009 (Percent)

Source: Haver, Latvia Central Statistical Bureau, and IMF staff calculations.

Figure 5. Latvia: Competitiveness Indicators

Export growth is increasing...

Exports (Yoy, percent change)

...the export sector is becoming more important...

Exports in percent of GDP, seasonally adjusted

Latvia

Lithuania

Estonia

...Latvia's share in world exports is rising...

Latvia's export share in the world

Wood exports (RHS)

Total exports

...and the recent depreciation of the euro is improving competitiveness.

Daily nominal effective exchange rate
(January 1, 2007 = 100)

Daily

BoL monthly

EUR/USD nominal rate

Source: Latvia Central Statistical Bureau, Eurostat, and IMF staff calculations.

Table 1. Latvia: The Underlying Current Account

	2008	2009
(Current account balance in percent of GDP)		
Headline current account balance 1/	-13.0	3.1
(a) Latvia's output gap	11.2	-8.8
(b) Latvia's imports (share of GDP)	0.6	0.4
(c) Coefficient	1.5	1.5
(i) Temporary Impact of Latvia's output gap (a × b × c)	9.3	-5.5
(d) Trading partners' output gap	2.7	-3.9
(e) Latvia's exports (share of GDP)	0.4	0.4
(f) Coefficient	1.5	1.5
(ii) Temporary Impact of output gaps in trading partners (d × e × f)	-1.7	2.4
(iii) Lagged effects of past changes in competitiveness	-4.3	-2.7
Adjustment for temporary factors (i) + (ii) + (iii)	3.2	-5.8
Underlying current account balance	-9.8	-2.7

Sources: Latvian authorities and IMF staff calculations.
1/ Adjusted for banking sector losses.

Table 2. Latvia: The Current Account Norm

Variables	Coefficients 1/	Latvia data	Trading partner data	Final variable	Contribution to norm
	(a)	(b)	(c)	(d)	(e)
				= (b) - (c)	= (a) × (d)
Constant	-0.11	1.0		1.0	-0.1
Fiscal balance (percent of GDP)	0.20	-1.6	-2.0	0.3	0.1
Old-age dependency 2/	-0.14	36.0	37.7	-1.7	0.2
Population growth (percent)	-1.21	-0.3	0.1	-0.4	0.5
Initial NFA (percent of GDP)	0.02	-78.2		-78.2	-1.6
Oil balance (percent of GDP)	0.23	-4.2		-4.2	-1.0
Per capita output growth (percent)	-0.21	4.2	3.0	1.2	-0.3
Income relative to the U.S. (Latvia/USA-1)	0.02	-67.6		-67.6	-1.4
CA norm (in percent of GDP)					-3.4

Source: Fund Staff Calculations.
1/ Based on coefficients in Lee et al. (2008).
2/ The share of people older than 64 years relative to the population in the 16-64 age group.

Table 3. Latvia: The equilibrium real exchange rate

	Coefficient 1/	Contribution to the percentage change in the ERER 2/
Constant	3.1	0.0
Terms of trade	0.4	-1.7
Relative productivity	1.4	-9.7
Net foreign assets	0.0	-4.9
Government consumption	2.7	-7.7
Trade restrictions	0.1	0.0
Price controls	0.0	0.0
Percentage change in the ERER		-24.1

Sources: Lee et al. (2008), and IMF staff estimates.

1/ Allows for separate productivity effects in CEE countries.

2/ From 1995 to 2009.