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BELGIUM

Selected Issues

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Approved by the European Department

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I. History of Fiscal Consolidation in Belgium: Lessons from the Past[1]

A. Introduction: A Long and Successful History of Fiscal Consolidation

1. **Belgium's impressive past fiscal consolidation is an example for other countries that need to bring down their public debt and also provides insights on how best to address its own current fiscal challenges.** After Belgium's public debt-to-GDP reached a peak of about 135 percent in 1993, it was steadily reduced to about 84 percent by 2007. On the heels of the recent financial crisis and recession, the public debt ratio increased again to about 97 percent in 2010. In view of mounting aging costs and modest growth prospects, resuming fiscal consolidation efforts is needed to avoid hurting long-term growth and prevent unsustainable debt dynamics from setting in. The design of the forthcoming fiscal adjustment will be crucial to bolster its durability. In examining Belgium's historical experience, this note intends to identify the factors that have been helpful in achieving the large fiscal adjustment as well as those that hampered fiscal consolidation in recent years.

2. **Belgium has a unique history of a long and successful large fiscal consolidation.** The consolidation efforts, albeit modest in the beginning, started already in the early 1980s. Between the early 1990s and mid-2000s, as part of the EMU qualification process, Belgium staged an impressive reduction in public deficits and debt ratios. The country's track record of almost a quarter century-long history of sizeable primary surpluses is unique by advanced countries' standards. This fiscal consolidation was backed by a clearly defined long-term fiscal objective of reducing public debt and a strong political will to achieve this goal. The Maastricht criteria for EMU accession helped frame the fiscal deficit and debt objectives and implied the need to target a balanced budget.

3. **Belgium lived through various episodes of fiscal adjustment and each one of these contains important lessons for future consolidation.**

- The early and mid-1980s demonstrated that revenue-based consolidation in a difficult economic environment with high political uncertainty does not produce a tangible reduction in deficit and debt ratios; between 1985 and 1993 interest charges remained at or above 10 percent of GDP, fuelling further debt accumulation notwithstanding continuous primary surpluses.

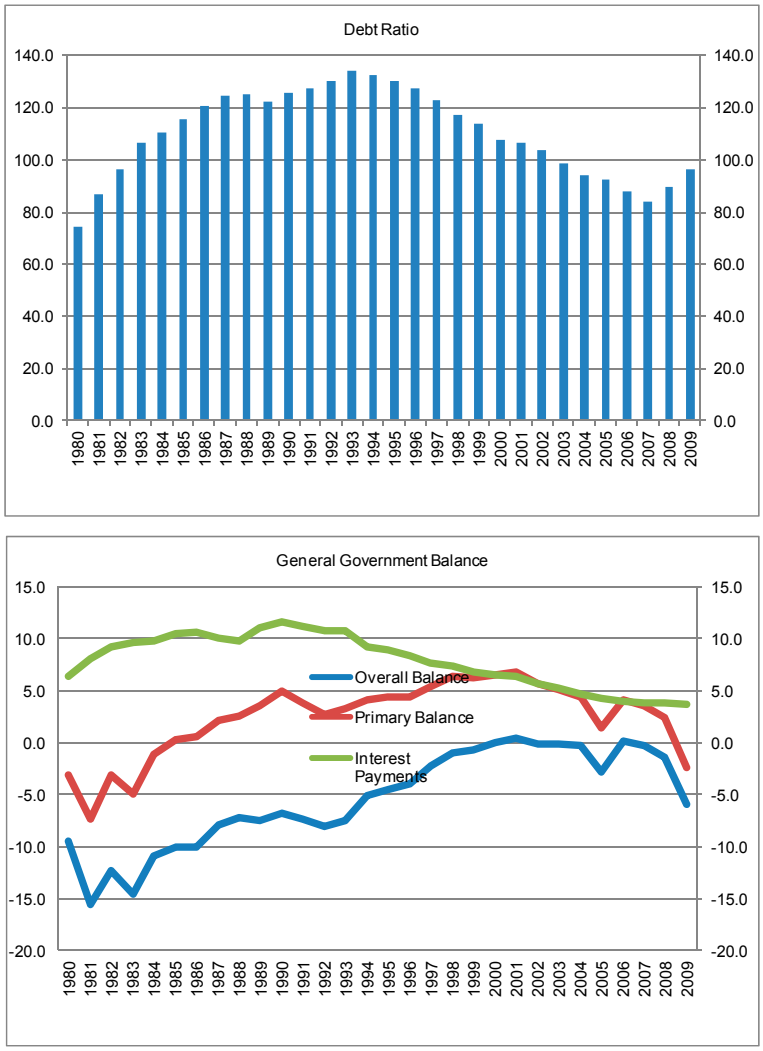
- Tax reform coupled with a major reform of fiscal federalism arrangements and strengthened fiscal institutions proved crucial for the subsequent consolidation success during the mid-1990s to early 2000s. Over the "glorious consolidation decade" of 1994–03, primary surpluses averaged as high as 5.5 percent of GDP, and

[1] Prepared by Irina Yakadina.

allowed to wipe off almost 40 percent of GDP of the public debt and to bring interest charges back to their pre-1979 levels. Political consensus over the medium-term fiscal objectives, as documented by the NBB Annual Reports, played a key role. Solid economic growth and declining interest rates, in part endogenous to the fiscal consolidation, helped and did not disrupt the planned spending and revenue effort of the federal government. Additional taxes and social security contributions earmarked for consolidation purposes also proved helpful.

- From the mid-2000s there was a lessening of fiscal efforts, in part reflecting a significant expansion of spending by sub-national governments which was masked by a growing reliance on temporary and one-off revenue measures. It appears that the regionalization of Belgian politics and the absence of a stable federal government since 2007 produced a nontrivial adverse effect on the state of public finances.

Figure 1. General Government Fiscal Position and Gross Debt, 1980–09
(In percent of GDP)



Source: National Bank of Belgium.

B. Timeline of the Past Fiscal Consolidations

Mounting Debt: 1980–84

4. **Consolidation efforts in the early 1980s came in response to a large debt buildup that started in the late 1970s.** Belgium shared what other OECD countries also experienced: a secular expansion of the size of government that took place between the 1960s and the late 1980s. Total outlays of the general government continuously grew from below 33 percent of GDP in 1965 to 44.5 percent in 1975 and peaked at 55.3 percent in 1982, after the second oil shock. Total government spending started to crawl back to about 50 percent of GDP only after the public debt ratio exceeded 125 percent of GDP in 1988. Modest deficits in the first half of 1970s quickly gave way to mounting financing needs of 5 percent and then 10 percent of GDP. Triggered by the deficit-debt spiral, interest payments steadily rose from 3.5 percent of GDP in 1970 to over 10 percent by 1988, raising serious concerns about public sector solvency and setting off the first wave of consolidation attempts.

5. **The worsening public finances reflected in part the policy response to the recession in the early 1980s.** The recession that followed the 1979 oil shock created a surge in unemployment that weighed heavily on social security outlays. In an attempt to curb the layoffs and restore competitiveness, the federal government boosted subsidies to the private sector. High unemployment prompted a swelling of public sector employment without much action to restrain other type of expenditures. Political instability resulted in mounting tax pressures that were nevertheless insufficient to curb the worsening deficit-debt spiral.

Major Reforms: 1985–93

6. **Key tax and fiscal federalism reforms were aligned with the fiscal consolidation goal and went hand in hand with a significant strengthening of fiscal institutions.** The mid-1980s tax reform[2] and the 1988–89 fiscal federalism reform that devolved about 40 percent of public spending to regions and communities were accompanied by substantial primary spending constraint at the federal and, to a lesser extent, at the regional level. While independent macroeconomic budgetary forecasts have been undertaken by the Federal Planning Bureau from the mid-1990s, the High Finance Council[3] (HFC) was restructured and

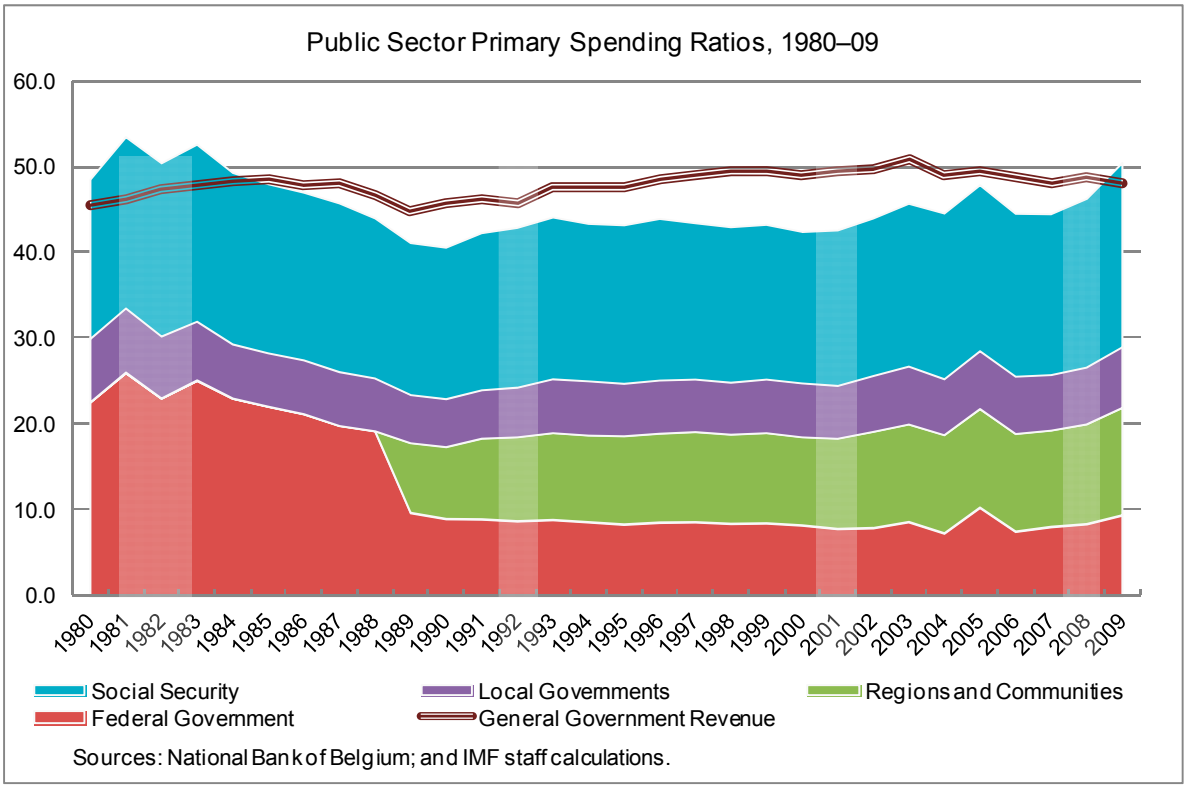
[2] This reform aimed at enlarging the tax base, introducing joint tax declaration for spouses, and lowering top marginal income tax rates while increasing top marginal social security contribution rates.

[3] Each year, the HFC publishes two reports on public sector borrowing requirements. In March, an assessment of the implementation of the Stability Program in Belgium during the previous year, and the recommendations for the next Stability Program update. In June, the annual report, which analyzes (as required by the special Law of June 16, 1989) the borrowing requirement of each level of government as well as the budgetary policy to be adopted. In addition, the HFC may give its opinion on restricting the borrowing requirement of one or more levels of government.

given a clear mandate of monitoring and coordinating fiscal policies at the federal and regional levels. In addition, stringent medium-term fiscal frameworks were established for regions and communities, with a possibility for the HFC to make recommendations in order to correct slippages from the medium-term objectives.

7. **Between 1985 and 2008, primary spending of the general government remained below total revenues**. In Figure 2, vertical shaded areas mark periods of low or negative growth, which are unsurprisingly accompanied by increases in social security primary spending. The figure also illustrates the spending discipline at the federal government level: all three historical downturn episodes prior to the 2008 financial crisis and recession exhibit procyclical cuts in or near-stability of primary spending at the federal level, which were not matched by the sub-national governments.

Figure 2. Belgium: Primary Spending by Level of Government, 1980–09



Successful Intergovernmental Agreements: 1994–02

8. **The Belgian national fiscal adjustment effort during 1994–02 was built on medium-term cooperation agreements between all levels of government.** The first such agreement took place in 1994, and stipulated the contribution to the overall consolidation effort by the different layers of government while setting their respective deficit targets in a manner that was compatible with the overall fiscal objectives under the 1992 Convergence Program. Since then, subsequent multiyear agreements were negotiated in 1996, for the

period 1996–99; in 1999, for the years 1999–02; and in 2000, upon Belgium entering the final stage of the EMU accession, the first five-year "Internal Stability Pact" for 2001–05. These intergovernmental cooperation agreements proved crucial in cementing the concerted efforts needed to achieve the Maastricht Treaty fiscal objectives.

9. **The resulting performance of Belgium under both Convergence Programs (1992–98) and Stability Programs (1998–02) has been, on average, better than expected.** Figure 3 illustrates the fiscal objectives set under the annual Stability Programs during 1998–06 and shows that, during 1999–01, the fiscal outcomes outperformed these targets. This outcome was entirely due to the success of the Internal Stability Pact that set and implemented ambitious targets for the regions, communities, and local governments with a combined budget surplus of 0.6 percent of GDP for 2001.

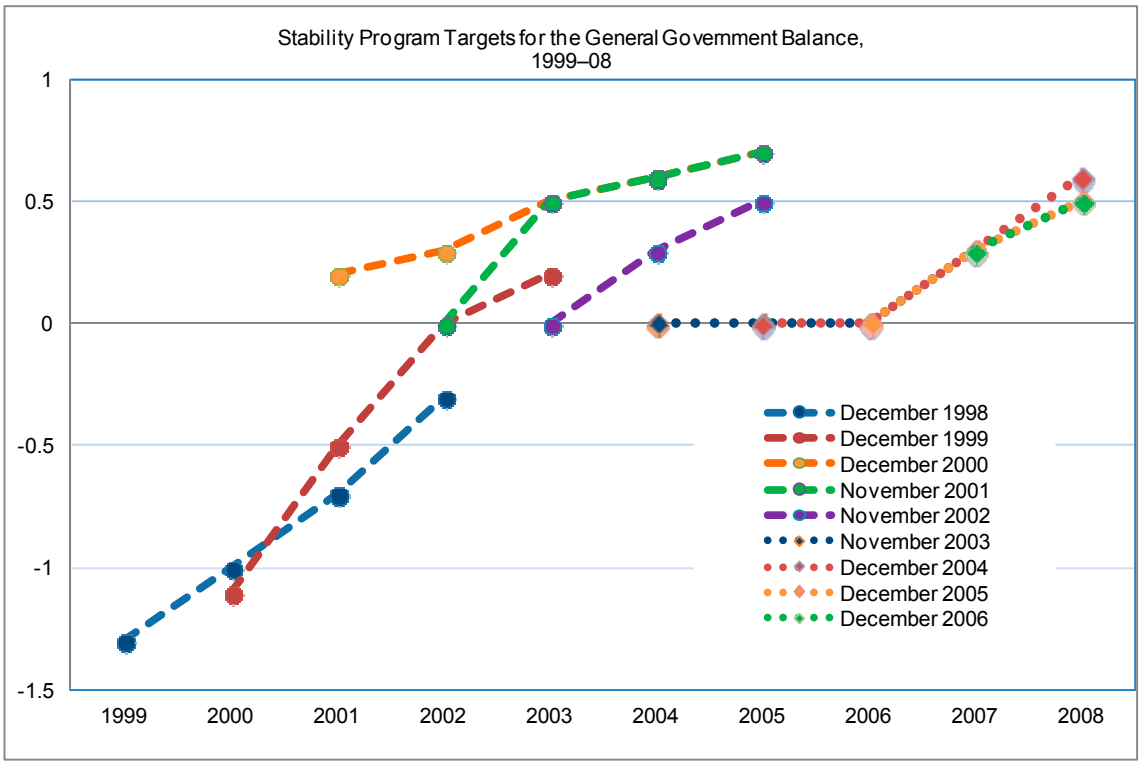
Moderate Success under Recent Stability Programs: 2003–06

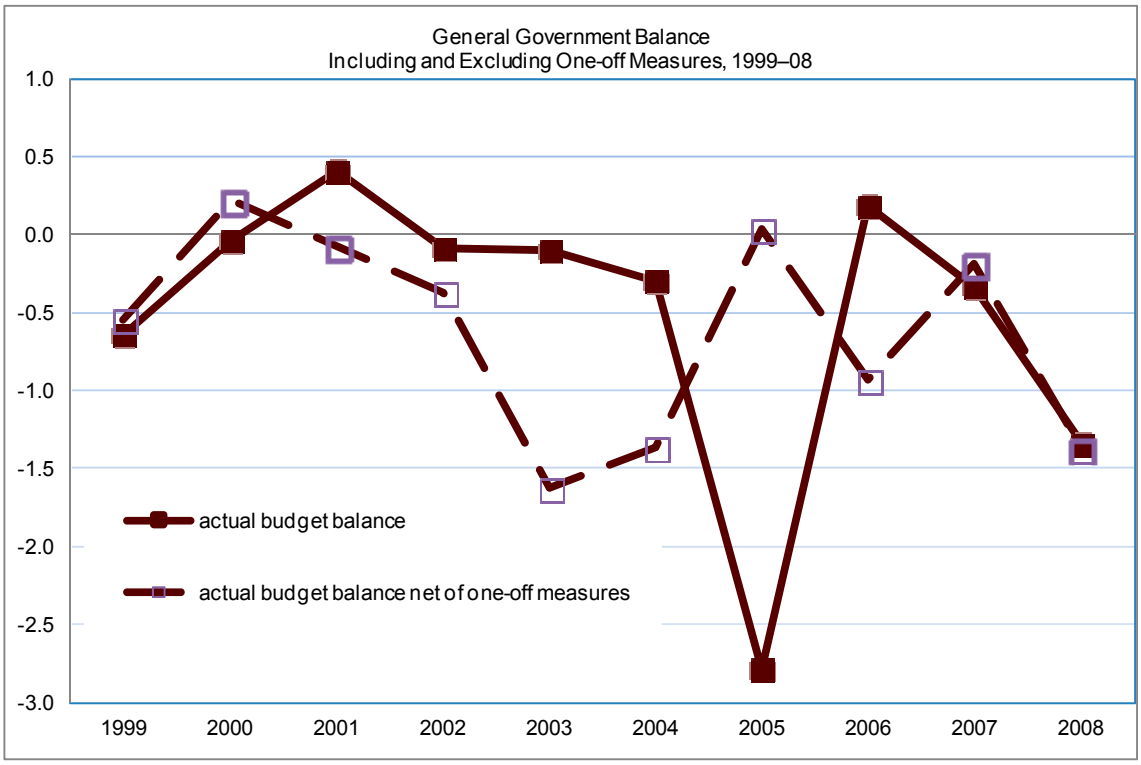
10. **Starting in 2003, Belgian performance under the Stability Programs showed an increasing reliance on one-off and temporary measures.**[4] After a balanced budget was achieved in the early 2000s, the Stability Program targets became much less ambitious. Earlier aspirations to achieve a fiscal surplus and faster public debt reduction were gradually abandoned and the underlying fiscal stance worsened again, except in 2005. The maintenance of broadly balanced budgets until 2007 was made possible in most years because of sizable one-off and temporary measures. It appears that Belgium was no exception to a more general relaxation of fiscal discipline during the years of booming global economy and falling interest rates. The rather mild application of the Excessive Deficit Procedure (EDP) sanctions to the largest euro area member countries may also have contributed to the weakening of fiscal discipline.

11. **During this period, spending of the regions and communities became more pronounced.** Before the 1989 fiscal federalism reform, regional entities already had some limited budgetary autonomy (about 3 percent of GDP by 1988) but their funding solely consisted of federal government allocations. From 1989 onwards, regions and communities received structural funding based on the 1989 Special Financing Act and became responsible for their own treasury management. According to the Federal Planning Bureau (2010), between 1995 and 2009 employment in the general government increased by 100,000 positions, 95 percent of which were created at the sub-national government level.

[4] Temporary revenue measures included a tax amnesty, a lump-sum compensation for the transfer of BELGACOM pension liabilities, and others; expenditure measures comprised license and real estate sales.

Figure 3. Belgium: General Government Balance: Stability Program Targets and Outcomes, 1999–08
(In percent of GDP)





Source: National Bank of Belgium and IMF staff calculations.

Running out of Consolidation Steam: 2006–08

12. **Growing tensions about the degree of fiscal devolution to the regions led to a prolonged political impasse and derailed the functioning of the internal stability pacts.** The 2007 political crisis and the long time (196 days) it took following the June elections to form a coalition government interrupted the implementation of the internal stability pact and compounded the effect of the economic downturn in the emergence of a sizable budget deficit in 2008. Moreover, the political impasse interrupted the practice of signing forward-looking intergovernmental cooperation agreements: the next cooperation agreement for 2009–10 was only signed in December 2009.

13. **The tables below illustrate how the late 2007-early 2008 episode without a federal government contributed to a loosening of fiscal discipline.** To facilitate the comparison with the current post-crisis situation, the analysis focuses on the fiscal consolidation plan set forth in the 2006 Stability Program. This program followed a spike in the overall deficit in 2005 (to 2.7 percent of GDP, though less pronounced when the one-off settlement with the national railway company is taken into account) that deviated from the previous low fiscal deficits or small surpluses. Comparing the fiscal objectives for 2006–08 to the actual outcomes shows a significant underperformance in 2007–08, with rising deficits instead of the planned surpluses. Further decomposition into cyclical and structural components for both revenues and expenditures shows that higher-than-expected revenues in 2008 could not prevent the structural deficit from exceeding the Stability Program target by 2 percent of GDP (even before the implementation of the 2009–10 fiscal stimulus).

C. Main Lessons from the Past Consolidation

14. **The main lessons from the past consolidation episodes in Belgium can be summarized as follows:**

a. Political agreement on the overall fiscal objectives was indispensable to develop broadly shared and well-defined medium-term adjustment plans and specific targets as well as to achieve the consensus needed for effective and continuous burden sharing between the different layers of government;

b. The lack of fiscal space at the general government level imposed a strict restraint on the behavior of the federal government: to honor the large amortization and interest obligations, the federal government was forced into procyclical spending cuts in downturns, in order to offset any expansionary policy stance at other levels of government;

c. Existing and newly created independent institutions that provided inputs, analyses and recommendations in the area of fiscal policy were of great help.

Belgium: 2006 Stability Program Targets vs. Actual Performance
(Percent of GDP)

	2005 t-1	2006 t	2007 t+1	2008 t+2
i. Convergence Plan published 2006	Outturn 1/	Prel. Est	Proj	Proj
Revenues	50.0	49.1	48.9	48.9
Cyclical	-0.4	-0.1	-0.1	-0.1
Structural	50.4	49.2	49.0	49.0
Expenditures	49.9	49.1	48.6	48.4
Primary	45.6	45.0	44.7	44.8
Interest	4.2	4.1	3.9	3.6
Overall balance	0.1	0.0	0.3	0.5
Primary balance	4.3	4.1	4.2	4.1
Structural primary balance	4.8	4.2	4.3	4.2
Output gap (%) - WEO vintage Sep 2006	-0.8	-0.1	-0.1	-0.2
ii. Final actual from current WEO vintage	Actual	Actual	Actual	Actual
Revenues	49.3	48.7	48.1	48.9
Cyclical	0.1	0.5	0.9	0.7
Structural	49.2	48.2	47.2	48.1
Expenditures	52.0	48.4	48.3	50.0
Primary	47.5	44.2	44.3	46.1
Interest	4.5	4.3	4.1	4.0
Overall balance	-2.7	0.3	-0.2	-1.2
Primary balance	1.8	4.5	3.9	2.8
Structural primary balance	1.7	4.0	2.9	2.1
Output gap (%)	0.2	1.1	2.0	1.5

	Plan(p)			Actual(a)			Overperformance (actual relative to plan)		
								Of which:	
	2006p	2008p	Δp	2006a	2008a	Δa	2008a-2008p = 2008 actual minus 2008 planned 2/	Δa-Δp = Actual improvement *minus* planned improvement	2006a-2006p = 2006 actual minus 2006 preliminary estimate from plan ("base effect")
Revenues	49.1	48.9	-0.2	48.7	48.9	0.2	0.0	0.4	-0.4
Cyclical	-0.1	-0.1	0.0	0.5	0.7	0.2	0.8	0.2	0.6
Structural	49.2	49.0	-0.2	48.2	48.1	0.0	-0.9	0.1	-1.0
Expenditures	49.1	48.4	-0.7	48.4	50.0	1.6	-1.6	2.3	0.7
Primary	45.0	44.8	-0.2	44.2	46.1	1.9	-1.3	2.1	0.8
Interest	4.1	3.6	-0.5	4.3	4.0	-0.3	-0.4	0.2	-0.2
Overall balance	0.0	0.5	0.5	0.3	-1.2	-1.4	-1.7	-1.9	0.3
Primary balance	4.1	4.1	0.0	4.5	2.8	-1.8	-1.3	-1.8	0.4
Structural primary balance	4.2	4.2	0.0	4.0	2.1	-1.9	-2.1	-2.0	-0.1

1/ The "2005 preliminary out-turn" reported in the 2006 plan is not to be confused with the "2005 final actual" sourced from a database such as the WEO.
2/ For expenditures outperformance is defined as savings (negative of the actual minus planned).

D. Concluding Remarks

15. **Drawing on Belgium's strong past track record in succeeding a large fiscal consolidation, it would be helpful to improve the following areas in order to meet the adjustment challenge in the coming years**:

a. *Numerical fiscal rules.* The past practice of stipulating fiscal effort in terms of deficits is not sufficient; strict expenditure and revenue rules should be added, including at the local government level.

b. *Medium-term budgetary framework.* There is scope for strengthening multiyear fiscal planning, coordinated between all layers of government, and incorporating a clear vision of the exogenous spending pressures coming from population aging and potentially higher interest rates.

c. *Fiscal coordination across government layers.* Given the size of the fiscal challenge ahead, it is important to resuscitate the internal stability pacts amended by binding expenditure ceilings. Consolidation efforts will have to be scaled to the fiscal space available at each level of government: in case of more revenue devolution to the regions, the consolidation effort over the coming years should be devolved accordingly.

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II. Belgium's Public Debt: Profile, Dynamics, and Vulnerabilities[1]

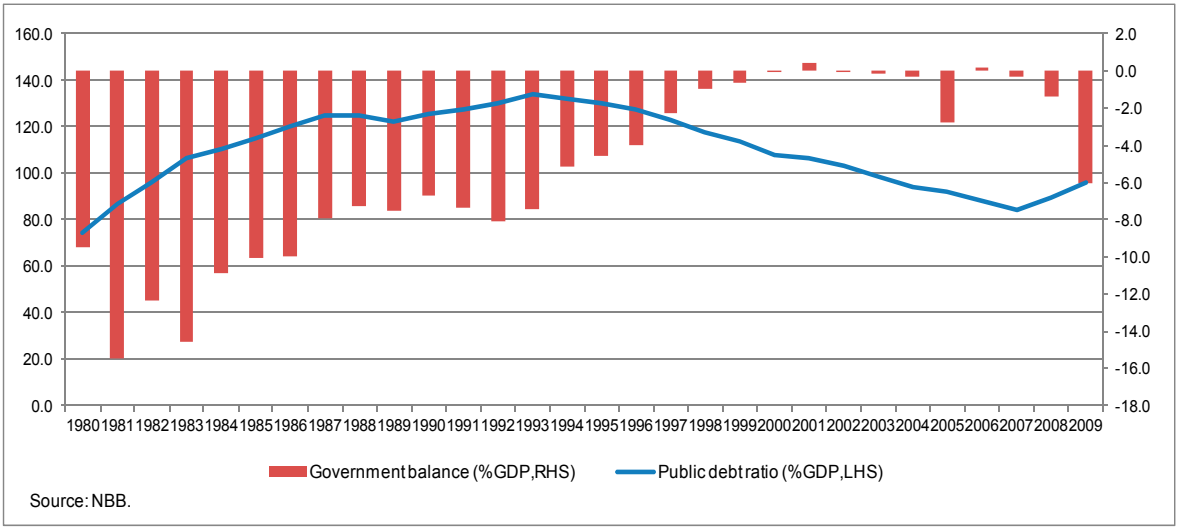
A. Introduction

1. **This note examines the profile and dynamics of the public debt of Belgium, and discusses the challenges of achieving public debt sustainability.** Despite a large reduction in its public debt ratio during 1993–07, Belgium still has the third highest public debt-to-GDP ratio in the euro area, after Greece and Italy. With the European sovereign debt crisis still unfolding, European countries with a high public deficit or debt are now more closely scrutinized by investors. Belgium has one of the largest government bond markets in the euro area, accounting for about 5 percent of the total euro area government bond market.

B. Public Debt in Perspective

2. **Dealing with high public debt is not an unprecedented challenge in Belgium and the country has a strong track record of fiscal consolidation.** In 1993, the public debt had reached a peak level of 134 percent of GDP (Figure 1). As a result of the fiscal consolidation efforts achieved since then, especially those of about 5 percent of GDP in the run-up to euro adoption, the public debt ratio was brought down by an impressive 50 percentage points by the end of 2007. However, the dynamics of the public debt started to reverse when the 2008–09 financial crisis and recession took a toll on the economy. In addition to the full operation of the automatic stabilizers and a modest fiscal stimulus, public support of about 6 percent of GDP was provided to the financial sector. In 2010, public debt rose again to about 97 percent of GDP.

Figure 1. Belgium: Government Balance and Public Debt Ratio, 1980–09



[1] Prepared by Yingbin Xiao.

3. **Among similarly rated high-grade sovereigns, Belgium has a significantly higher debt stock and political uncertainty is larger**. Belgium is rated by the three rating agencies one notch below the highest triple-A rating. Belgium's performance is comparable or even better than similarly rated sovereigns on macroeconomic fundamentals and the fiscal deficit (Figure 2). However, its debt-to-GDP ratio is estimated to be close to 97 percent in 2010, which is much higher than the median public debt ratio of similarly rated sovereigns (below 40 percent of GDP). Of the 168 sovereigns assessed by rating agencies, the Belgian public debt burden ranks in the top deciles. Political uncertainty is also higher than for similarly rated sovereigns. Since the June 2010 parliamentary elections, political parties have not yet been able to agree on the formation of a new government, reflecting, *inter alia*, divergent views on further fiscal devolution. Standard & Poor's changed the sovereign outlook for Belgium from stable to negative on December 14, 2010 because of the political impasse, and warned out a rating downgrade is likely unless a new government is formed in the first half of 2011.

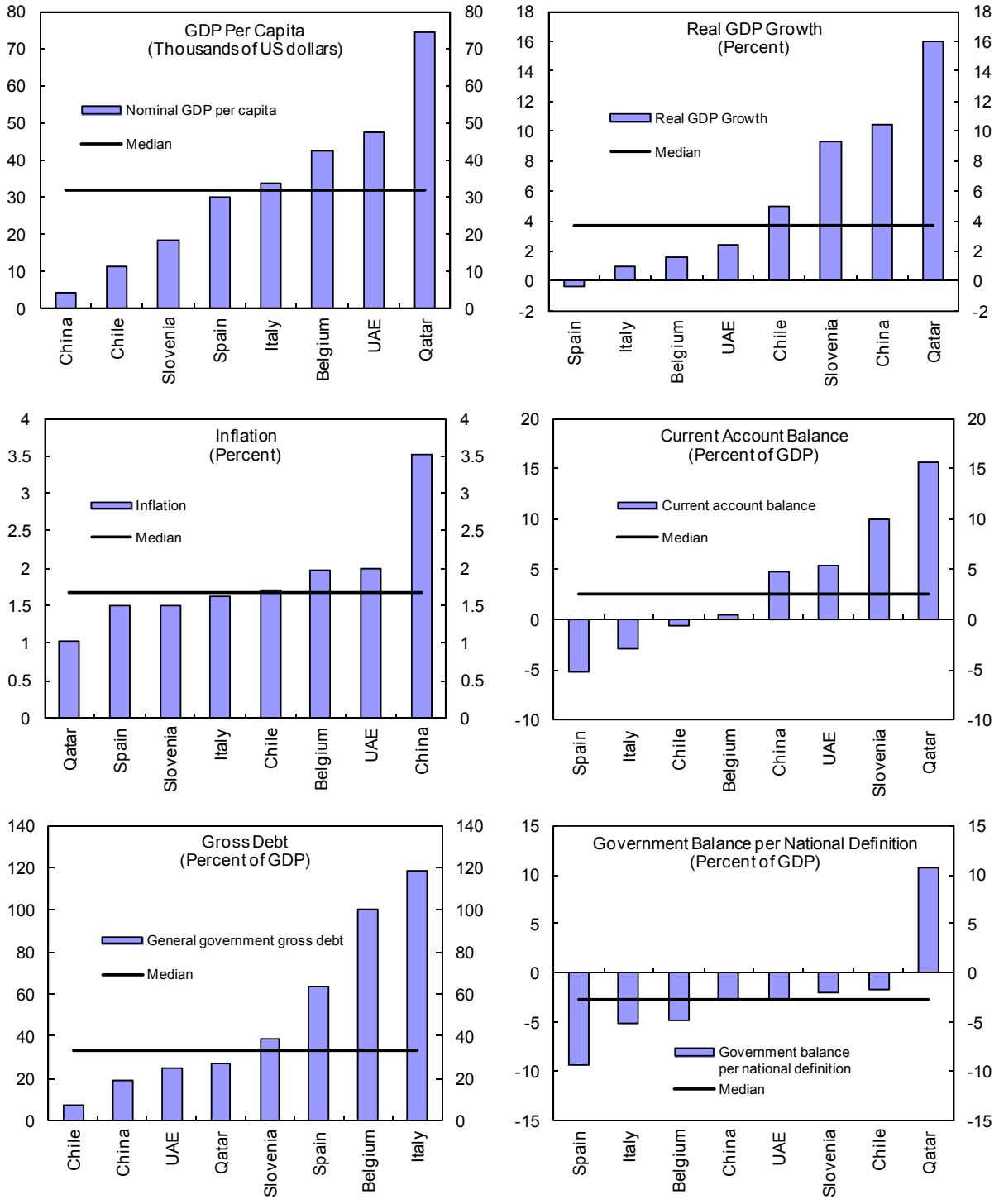
C. Investor Base and Debt Profile

4. **The government deploys a variety of debt instruments to meet its financing needs and these are mostly dominated in euro.** Belgium issues standardized products only in euro but also uses flexible products that are issued in OECD currencies. For short-term financing, the Belgian Debt Agency issues treasury certificates (TC) in euro and Belgian treasury bills (BTB) in OECD currencies. For medium- and long-term financing purposes, it issues government bonds (*obligations lineaires*, OLO) in euro and medium term notes (EMTN) in OECD currencies. Public debt denominated in foreign currency accounts for only about 3 percent of total debt issuance.

5. **The investor base of Belgian public debt is dominated by foreigners** who hold about 65 percent of the public debt stock. Foreign ownership has increased over the past six years and has become one of the highest in the euro area. According to the Belgian Debt Agency, for OLOs, about 56 percent is held outside Belgium, of which about one-quarter outside the euro area. For TCs, foreign ownership has been increasing recently. About 93 percent is held outside Belgium, of which about 80 percent outside of the euro area.

6. **Belgian debt is predominantly issued by the federal government and mostly long term, but the share of short-term external debt is one of the highest in the euro area.** The central government debt accounts for over 90 percent of total government debt, despite the recent rise in non-central government debt. The share of short-term debt in the total public debt increased from about 8 percent in 2003 to around 15 percent in 2009, and is now more or less at the average euro area level. However, compared to other euro area countries, Belgium has a high share of short-term external debt, representing about 12 percent of total external debt (Figure 3).

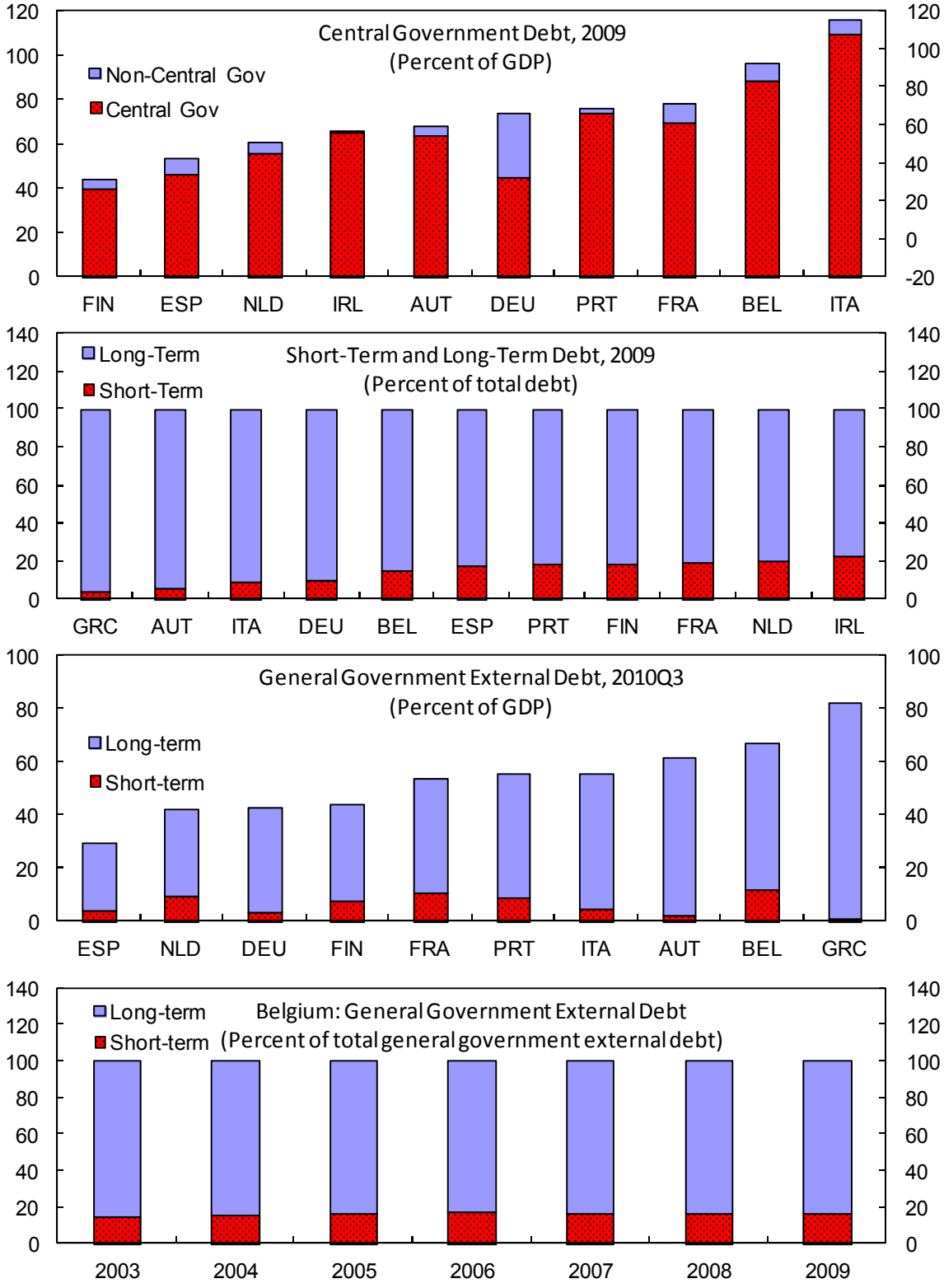
Figure 2. Comparison of Economic Fundamentals of Similarly Rate Sovereigns, 2010 1/



Sources: Bloomberg; World Economic Outlook; and IMF staff estimates.

1/ Countries rated double-A (local currency LT debt rating) as of February 10, 2011 by the three leading rating agencies (Fitch, S&P, and Moody's). Values of all variables shown are for 2010.

Figure 3. Belgium: Public Debt Profile



Sources: NBB; and Haver Analytics.

D. Debt Sustainability Analysis

7. **An examination of the actual debt ratios and baseline projections shows that the drivers of the debt dynamics change over time.** Between 2000 and 2008, the primary surplus was on average 4.5 percent of GDP and was the key driver in bringing down the debt ratio by a cumulative 18 percent of GDP. The increase in the debt ratio in 2009 was mostly due to high interest payments on a large debt stock and slower growth (Table 1). Starting from 2010, the contribution of interest payments is estimated to be largely offset by the impact of the recovery, and the debt ratio path is projected to be mostly driven by the primary balance.

8. **The public debt sustainability analysis demonstrates large financing needs under the baseline and the serious ramifications Belgium would face under commonly assumed adverse scenarios.** Figure 4 presents the financing requirements and the bound test results of the general government debt of Belgium in response to adverse shocks in the interest rate, growth, primary balance, and contingent liabilities. Between 2011 and 2015, the gross financing requirements would on average stand around 23 percent of GDP each year, about two-percentage-points higher than the period between 2006 and 2010. The debt-to-GDP ratio would reach above 102 percent, a three-and-half-percentage-point increase by 2015 in the case of a 75- basis-point rise of the interest rate relative to the baseline. If the GDP growth were to slow by 0.9 percentage point compared to the baseline, the debt ratio would experience an eleven-percentage-point increase relative to the baseline by 2015. If the primary balance were to fall short of the baseline by 1.4 percent of GDP, the debt ratio would cross the level of 105 percent by 2015. Under a combined shock scenario the debt ratio would exceed 105 percent by 2015; while under a contingent liabilities shock scenario the debt ratio would rise above 108 percent by 2015.

9. **The sensitivity tests applied to the baseline projection reveal that the public debt ratio is more sensitive to growth and primary balance shocks than to interest rate changes.** A two standard deviation interest rate shock (interest rate of 1.5 percent) would increase the public debt ratio by about 4 percentage points over a five-year period while a one-quarter standard deviation primary balance or growth shock would raise the public debt ratio by about 4 percentage points and 6 percentage points, respectively, over five years. The relatively low sensitivity of the debt ratio to interest rate hikes may be related to the high proportion of fixed-rate and long maturity instruments in the public debt. In addition, with the decline in interest rates, interest charges on the federal government debt have declined from around 5 percent of GDP in the beginning of the century to only slightly above 3 percent recently.

10. **Bringing Belgium's public debt down over time calls for strong and persistent fiscal consolidation efforts.** Under current policies, the overall fiscal deficit would continue

Table 1. Belgium: Public Sector Debt Sustainability Framework, 2006-15
(In percent of GDP, unless otherwise indicated)

	Actual				Projections					
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Baseline: Public sector debt 1/	88.0	84.2	89.8	96.3	97.2	97.4	97.4	97.7	98.2	98.3
o/w foreign-currency denominated	0.1	0.1	0.6	1.3	1.9	1.8	1.3	0.9	0.6	0.2
Change in public sector debt	-4.0	-3.8	5.6	6.5	0.9	0.2	0.0	0.3	0.4	0.2
Identified debt-creating flows (4+7+12)	-4.0	-3.8	5.6	6.4	1.3	0.2	0.0	0.3	0.4	0.2
Primary deficit	-4.1	-3.5	-2.5	2.4	1.1	0.3	0.2	0.1	0.0	-0.1
Revenue and grants	48.7	48.1	48.9	48.2	48.9	49.2	49.0	49.0	49.0	49.0
Primary (noninterest) expenditure	44.6	44.6	46.5	50.5	50.0	49.5	49.3	49.2	49.1	49.0
Automatic debt dynamics 2/	-0.5	-0.5	1.5	5.0	0.2	-0.1	-0.2	0.2	0.4	0.2
Contribution from interest rate/growth differential 3/	-0.5	-0.5	1.5	5.0	0.2	-0.1	-0.2	0.2	0.4	0.2
Of which contribution from real interest rate	1.9	1.8	2.2	2.6	2.1	1.5	1.6	1.9	2.2	2.2
Of which contribution from real GDP growth	-2.4	-2.3	-0.7	2.4	-1.8	-1.6	-1.8	-1.7	-1.8	-2.0
Contribution from exchange rate depreciation 4/	0.0	0.0	0.0	0.0	...	...	...	...	...	...
Other identified debt-creating flows	0.6	0.2	6.5	-1.0	0.0	0.0	0.0	0.0	0.0	0.0
Privatization receipts (negative)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recognition of implicit or contingent liabilities	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Other (specify, e.g. bank recapitalization)	0.6	0.2	6.5	-1.0	0.0	0.0	0.0	0.0	0.0	0.0
Residual, including asset changes (2-3) 5/	0.0	0.0	0.0	0.1	-0.4	0.0	0.0	0.0	0.0	0.0
Public sector debt-to-revenue ratio 1/	180.8	175.1	183.6	199.8	198.9	198.0	198.7	199.4	200.3	200.6
Gross financing need 6/	16.3	17.7	17.4	29.4	25.4	23.7	24.3	23.2	21.9	22.8
in billions of U.S. dollars	65.4	81.4	88.1	138.9	118.4	114.4	121.2	119.5	116.4	125.2
Scenario with key variables at their historical averages 7/					97.2	94.8	92.3	89.8	87.3	84.8
Scenario with no policy change (constant primary balance) in 2010-2015					97.2	98.2	99.0	100.3	101.8	103.1
Key Macroeconomic and Fiscal Assumptions Underlying Baseline										
Real GDP growth (in percent)	2.7	2.8	0.8	-2.7	2.0	1.7	1.9	1.9	1.9	2.1
Average nominal interest rate on public debt (in percent) 8/	4.5	4.6	4.6	4.0	3.7	3.9	4.1	4.2	4.3	4.3
Average real interest rate (nominal rate minus change in GDP deflator, in percent)	2.2	2.2	2.7	2.8	2.3	1.6	1.8	2.1	2.4	2.3
Nominal appreciation (increase in US dollar value of local currency, in percent)	11.4	10.3	-6.6	7.2	...	...	...	...	...	...
Inflation rate (GDP deflator, in percent)	2.3	2.3	1.9	1.1	1.5	2.3	2.3	2.1	1.9	2.0
Growth of real primary spending (deflated by GDP deflator, in percent)	-4.4	2.8	5.0	5.9	0.8	0.7	1.5	1.7	1.7	1.9
Primary deficit	-4.1	-3.5	-2.5	2.4	1.1	0.3	0.2	0.1	0.0	-0.1

1/ Indicate coverage of public sector, e.g., general government or nonfinancial public sector. Also whether net or gross debt is used.

2/ Derived as $[(r - \pi(1+g) - g + \alpha\varepsilon(1+r)]/(1+g+\pi+g\pi))$ times previous period debt ratio, with r = interest rate; π = growth rate of GDP deflator; g = real GDP growth rate; α = share of foreign-curren denominated debt; and ε = nominal exchange rate depreciation (measured by increase in local currency value of U.S. dollar).

3/ The real interest rate contribution is derived from the denominator in footnote 2/ as $r - \pi (1+g)$ and the real growth contribution as -g.

4/ The exchange rate contribution is derived from the numerator in footnote 2/ as $\alpha\varepsilon(1+r)$.

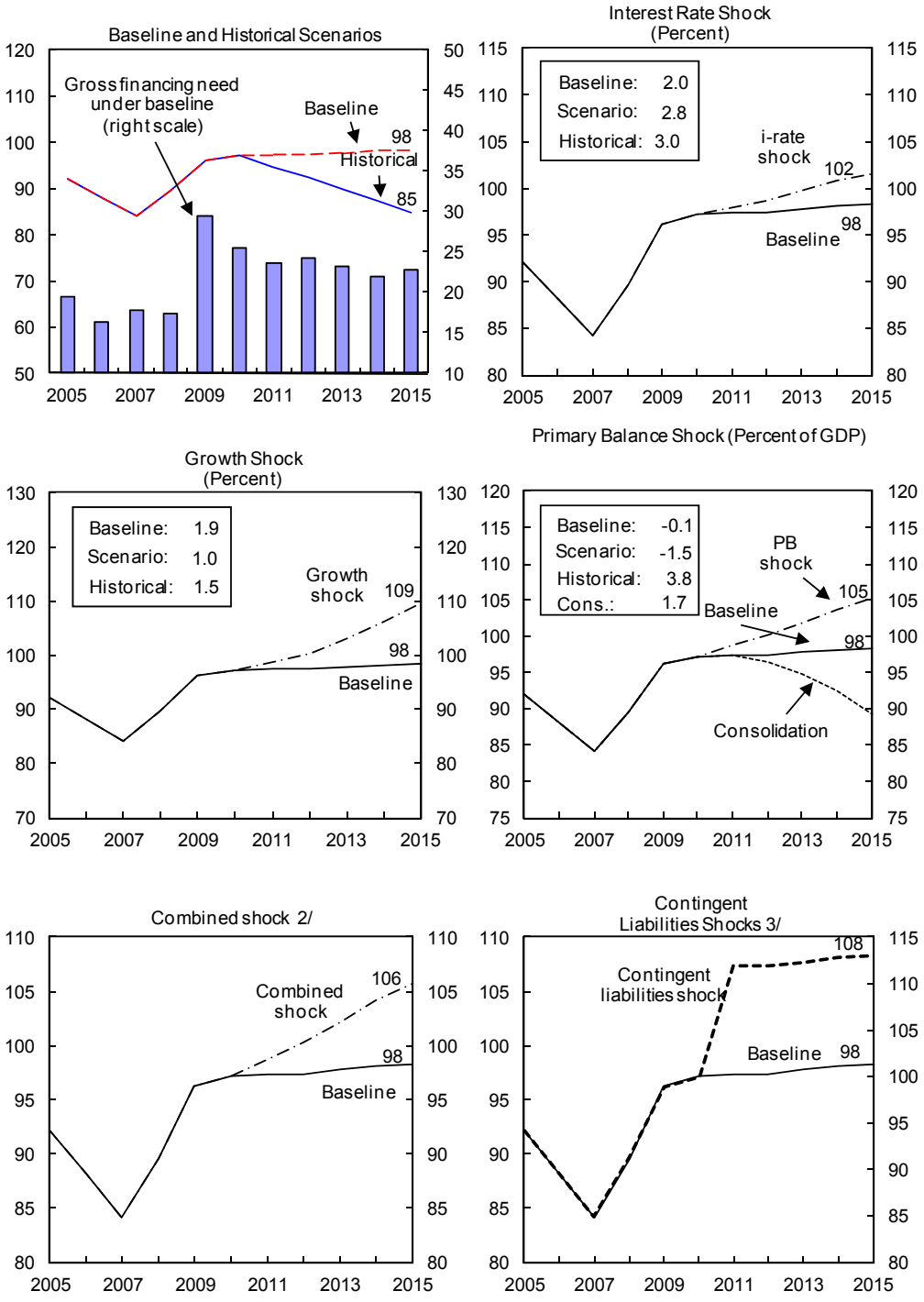
5/ For projections, this line includes exchange rate changes.

6/ Defined as public sector deficit, plus amortization of medium and long-term public sector debt, plus short-term debt at end of previous period.

7/ The key variables include real GDP growth; real interest rate; and primary balance in percent of GDP.

8/ Derived as nominal interest expenditure divided by previous period debt stock.

Figure 4. Belgium: Public Debt Sustainability: Bound Tests 1/
(Percent of GDP)



Sources: Belgian Debt Agency, International Monetary Fund, country desk data, and staff estimates.
1/ Shaded areas represent actual data. Individual shocks are permanent one-half standard deviation shocks except for interest rate shock (one standard deviation). Figures in the boxes represent average projections for the respective variables in the baseline and scenario being presented. Ten-year historical average for the variable is also shown.
2/ Permanent 1/2 standard deviation shocks applied to real interest rate while permanent 1/4 standard deviation shocks applied to growth rate, and primary balance.
3/ One-time 10 percent of GDP shock to contingent liabilities occur in 2011.

to hover around 4 percent of GDP and the public debt would stabilize at 99 percent of GDP by 2015. Under the fiscal consolidation scenario envisaged in Belgium's Stability Program, however, the overall deficit would be reduced to 3 percent of GDP in 2012 and a balanced budget would be achieved by 2015. As a result, the public debt-to-GDP ratio would start to decline already in 2012 and fall to less than 90 percent of GDP by 2015. This would be an important down-payment on reducing the public debt to the Stability and Growth Pact (SGP) limit of 60 percent of GDP. Specifically, maintaining a balanced budget after 2015 would reduce the public debt ratio to below the SGP limit by 2027.

E. Risks and Vulnerabilities

11. **With a high public debt ratio and large funding requirements, the Belgian sovereign is exposed to refinancing risk.** A worsening of investor confidence in Belgian sovereign debt could lead to a jump in financing costs and even complicate securing the required funding under extreme circumstances. With the retrenchment of risk appetite, the two-year yield has more than doubled compared to the level before the political uncertainty. The 10-year yield and CDS spread also surged to unprecedented levels before falling back recently.

12. **In Belgium, refinancing risk is managed by setting maximum guidelines for the percentage of debt maturing in 12 months and 60 months relative to total outstanding debt.** Specifically, since 2009, the maximum margin for debt maturing in 12 months has been 25 percent of the total public debt while the maximum margin for debt maturing in 60 months has been 62.5 percent. With the average life of OLOs falling from 6.7 years at end-2006 to 5.9 years at end-2009, the Belgian Debt Agency made efforts to extend their maturity. In 2010, as more over 10-year and 15-year OLOs were issued, the average OLO maturity climbed back to 6.5 years. As of 2010, debt maturing in 12 months stood at about 21 percent and debt maturing in 60 months stood at about 58 percent of total public debt, a slight decline compared to a year ago. However, with a high debt-to-GDP ratio and a sizable share of short-term debt, the refinancing risk warrants intensive monitoring. The high gross financing needs from both the government (about 24 percent of GDP) and banks (about 15 percent of GDP) would render Belgium vulnerable to liquidity shocks.

13. **The sizable public debt stock and the considerable debt service obligations expose Belgium to interest rate risk.** Interest payments on the public debt are projected under current policies to increase from 3½ percent of GDP in 2010 to above 4 percent by 2015. The government manages interest rate risk by setting maximum guidelines on refixing parameters, namely, the share of debt for which new interest rate conditions will be fixed. Since 2009, the maximum share in the total debt stock of debt subject to new interest rates over the next 12 months has been set at 32.5 percent and the maximum share for debt subject to new interest rates in 60 months at 70 percent. As of 2010, these guidelines were met with a margin, and debt to be refixed in 12 months stood at about 27 percent and debt to be refixed in 60 months stood at about 64 percent, a slight fall compared to a year ago. Although debt

management operations have limited the interest rate risk to some extent, once the interest rate cycles turns, the confluence of refinancing risk and refixing risk should be taken into consideration.

14. **The small share of Belgian public debt denominated in foreign exchange and the use made by the Belgian Debt Agency of currency swaps have minimized exchange rate risk.** The amount of unhedged foreign currency exposure has fallen significantly in recent years and accounts for only about 0.3 percent of debt outstanding. However, the use of currency swaps transforms the foreign exchange risk to counterparty risk. Belgian debt agency controls the resulting counterparty risk by weekly monitoring and posting of collaterals.

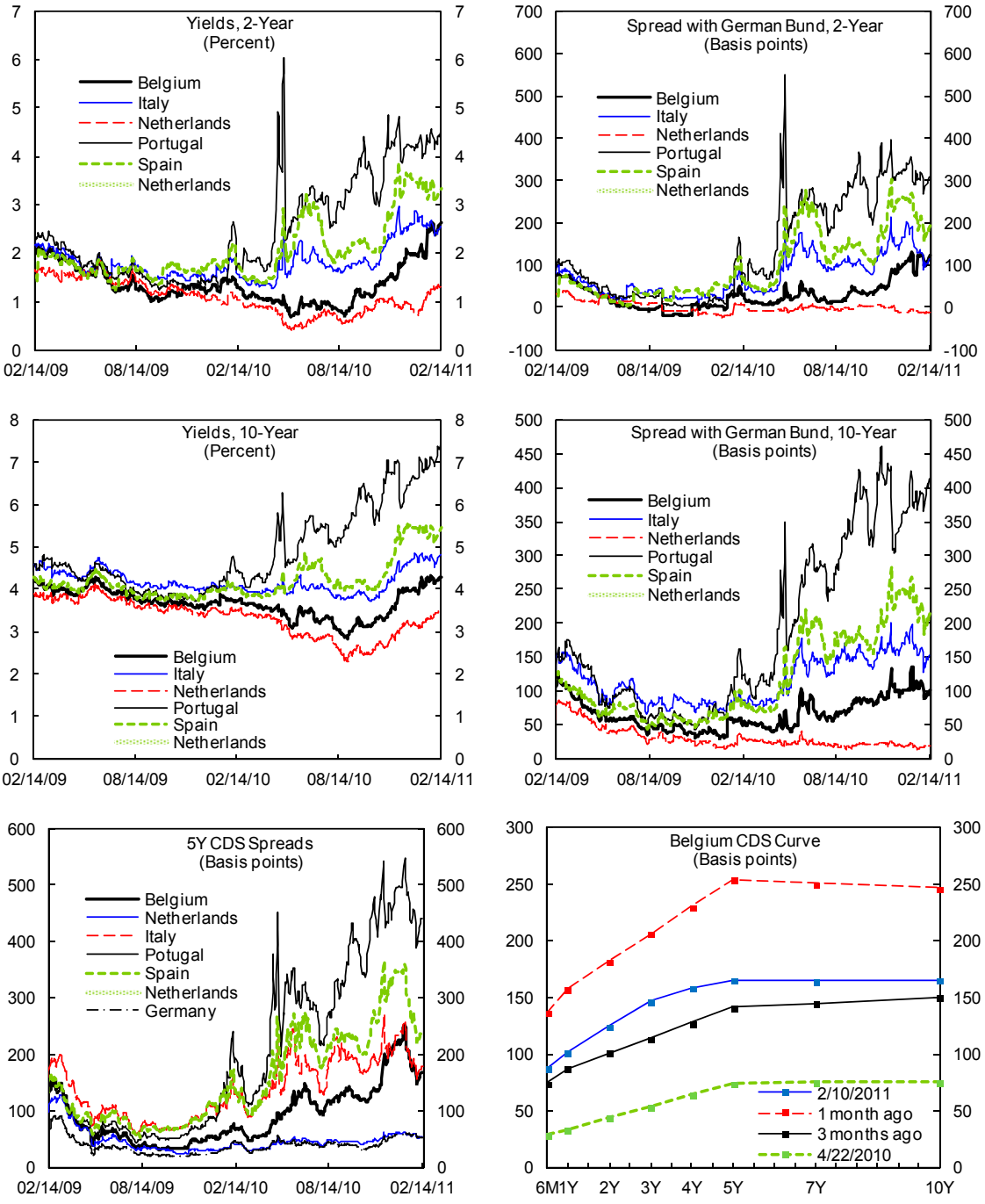
15. **The lack of a significant domestic investor base could pose a risk to funding stability.** Investor-base diversification could offer more attractive borrowing terms under normal circumstances, but this comes at the expense of the funding stability that is generally associated with "home bias" under stress as a result of the information asymmetry between domestic and foreign investors, as several studies tend to find. Given Belgium's heavy reliance on foreign investors, especially for short-term funding, the country is vulnerable to market sentiment swings and faces a risk of adverse shifts in both credit and liquidity premia.

16. **Market indicators have shown a considerable repricing of risk since the first part of 2010.** The beginning of 2011saw record widening of the two-year spread *vis-a-vis* German Bunds by over 100 basis points and that of the 10-year spread *vis-a-vis* German Bunds by over 90 basis points compared to the beginning of 2010. The five-year CDS spread shot up by over 190 basis points to an unprecedented level relative to the beginning of 2010. The overall improvement in the European debt markets and some positive Belgian announcement have helped eased the situation (Figure 5). Despite the pullback from the peak, the CDS term structure indicates a significant upward shift since the beginning of the political stalemate, especially on the short to medium end, indicating that the market's concerns are focused on the near future.

F. Conclusions

17. **The analysis of the public debt profile and dynamics demonstrates the pressing challenge Belgium faces in restoring public finance soundness and underlies the urgent need to achieve credible and successful fiscal consolidation**. Notwithstanding the effective debt management operations and investor relations management, significant residual risk remains. The high debt burden, the maturity profile, and the reliance on short-term foreign funding expose the country to sudden shifts of market sentiment as well as credit and liquidity risk. Restoring fiscal sustainability will require reducing the overall deficit to 3 percent of GDP by 2012, and achieving a balanced budget by 2015 as per Belgium's Stability Program.

Figure 5. Sovereign Risk Indicators, 2009-11



Source: Bloomberg.

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III. Domestic and International Linkages of the Belgian Banking Sector[1]

This note examines domestic and international linkages of the Belgian banking sector by studying how banks' equity prices, CDS spreads, and the likelihood of default have co-moved over time. There are three major findings: first, the banking sector in Belgium ranks among the most concentrated ones in developed countries, thereby increasing the potential risks of contagion within the banking sector; second, domestic linkages within the Belgian banking system have been relatively limited compared with those of other countries, but have increased after the crisis; and third, Belgian banks' linkages with foreign banks have tended to be higher during stress time than during calm periods. These findings call for enhanced banking supervision and macro-prudential regulation.

A. Introduction

1. **The heightened sovereign and financial risks in the Euro Area have renewed concerns over potential negative spillovers to Belgium's banking sector**. This underlines the importance of assessing financial systemic linkages. Globalization, increased trading activities, accumulation of financial wealth and financial innovation have all increased the complexity of the financial system, making it more vulnerable to contagion.

2. **This note identifies the linkages of the banking sector in Belgium, both domestically among Belgian banks and internationally with respect to foreign banks.** A high interconnectedness within the banking sector means that shocks to one bank can be more easily transmitted and amplified throughout the system. Assessing and quantifying bank linkages is a first step to diagnose potential systemic risks. This note assesses systemic linkages by examining the connectedness of banks' share prices, CDS spreads, and distance to default, and is organized as follows: Section B discusses the linkages within the Belgian banking system and gauges how they have changed over the past two decades; Section C focuses on international linkages; and finally, Section D concludes with some policy implications.

B. Domestic Linkages

3. **Belgium's banking sector is large relative to the country's GDP.** During 2000–07, the size of banking sector assets increased from 238 percent to 333 percent of GDP, before declining somewhat during the crisis to below 300 percent of GDP by 2009 (Figure 1). This ratio is similar to that in the Netherlands, but higher than those in France and Germany. Such a large size of banking sector makes the rest of the economy more vulnerable to shocks to the banking system.

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[1] Prepared by Kevin Cheng and Sumit Aneja.

4. **In addition, Belgium's banking sector has one of the highest concentration ratios among developed countries.** The top three banks in Belgium hold around 80 percent of banking assets as compared to an average of 38 percent among other advanced countries in our sample (Figure 2). Using the Herfindahl-Hirschman Index (HHI) to quantify market concentration,[2] Belgium's HHI is 0.27, the highest among the group, indicating high concentration (Table 1). Belgium's high concentration within the banking sector increases the vulnerability to spillovers from one bank to the entire system.

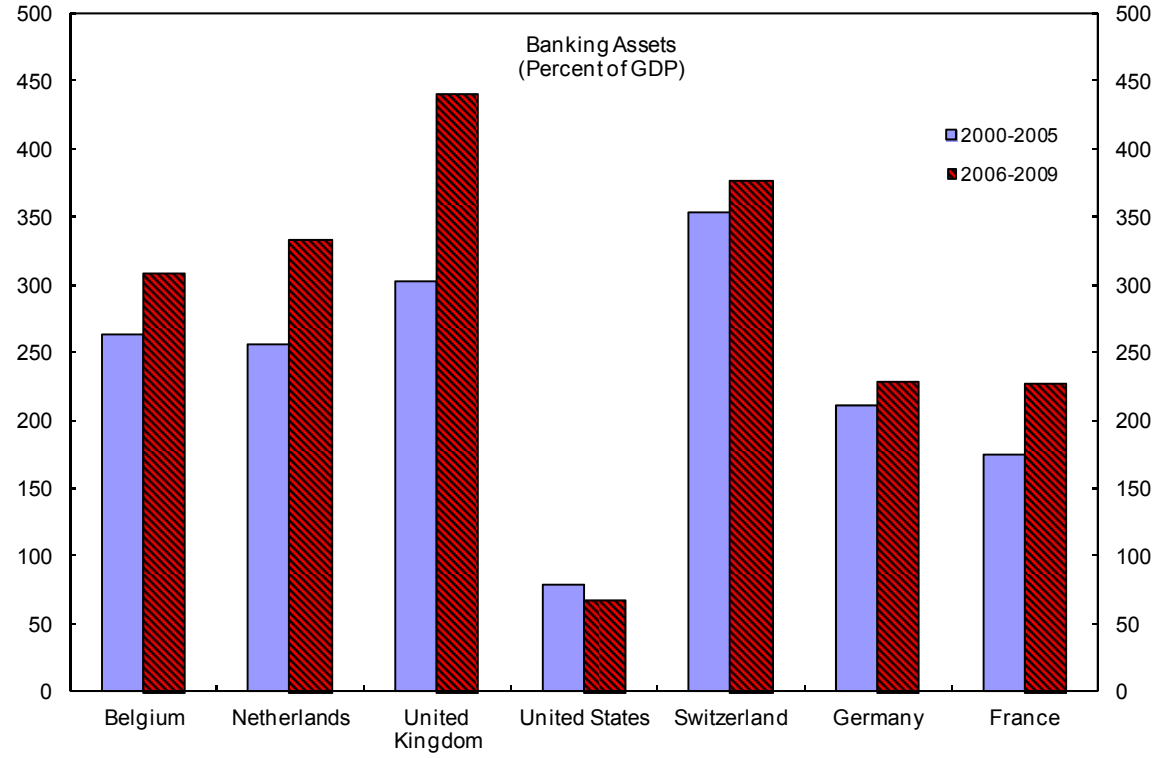
Table 1. Herfindahl-Hirschman Index (HHI)

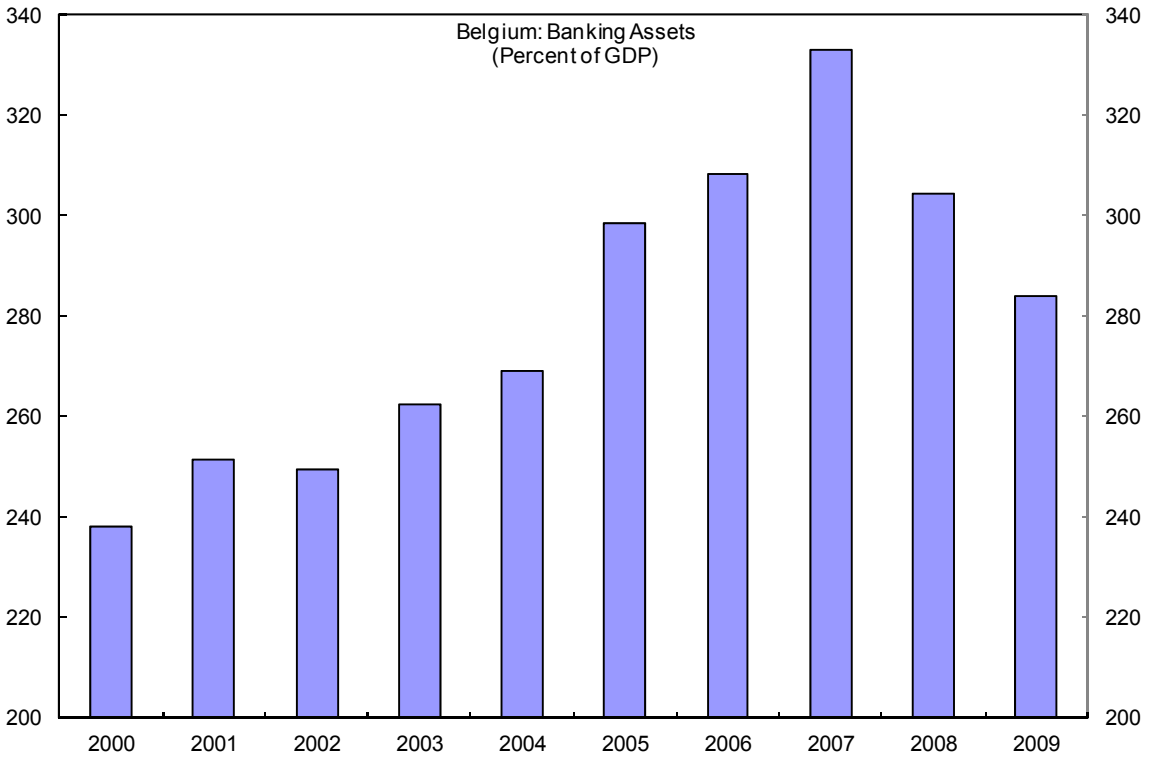
Herfindahl-Hirschman Index (HHI)	
Belgium	0.27
France	0.13
Germany	0.04
Netherlands	0.18
UK	0.06
USA	0.04

5. **Domestic linkages can first be gauged through the co-movement of the banks' share prices**. Specifically, the co-movement is measured by the R-squared from the bi-variate regression between share prices of a pair of banks. Figure 3 shows the average R-squared for such regressions among the largest three banks for Belgium and for selected advanced countries. The results indicate that—as in other countries—interconnectedness among Belgian banks has increased significantly after the crisis. Furthermore, before the crisis, the correlation among Belgian banks was somewhat lower than those in other major developed markets—with the notable exception of the Netherlands—but has caught up since then.

[2] HHI is a commonly accepted measure of market concentration. It is calculated by squaring the market share of each firm competing in the market and then summing the resulting numbers. A HHI index below 0.1 indicates an unconcentrated index. A HHI index between 0.1 and 0.18 indicates moderate concentration. A HHI index above 0.18 (above 1,800) indicates high concentration

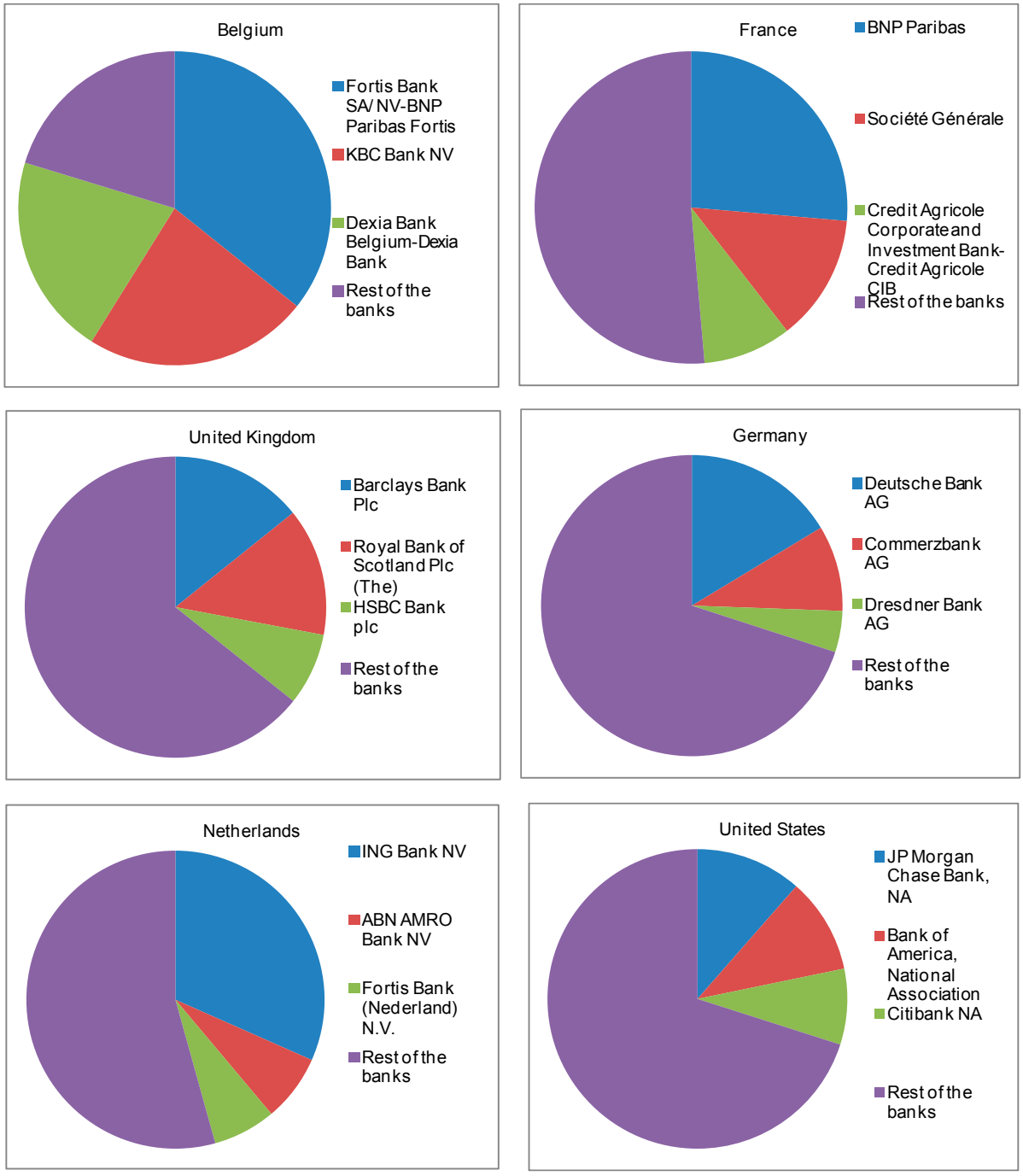
Figure 1. Belgium and Other Advanced Economies: The Size of the Banking Sector





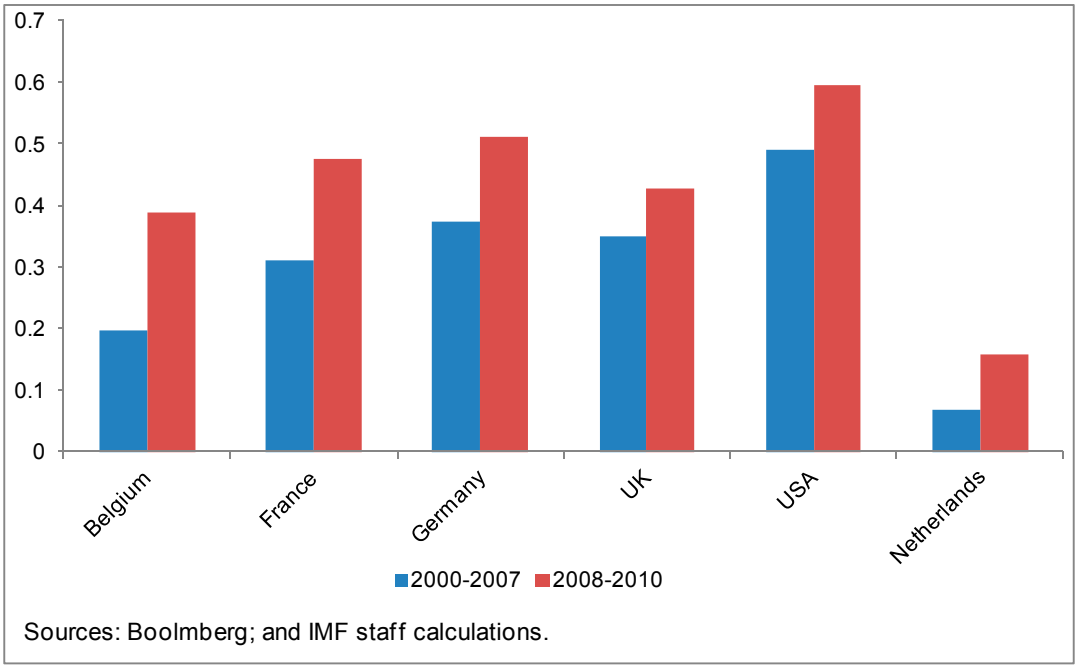
Sources:WEO; IFS; and IMF staff calculations.

Figure 2. Assets of Top Three Banks
(Percent of total assets)



Sources: BIS,BankScope and IMF staff calculations.

Figure 3. Average R-Squared—Belgian Banks' Share Prices and Other Advanced Countries' Share Prices



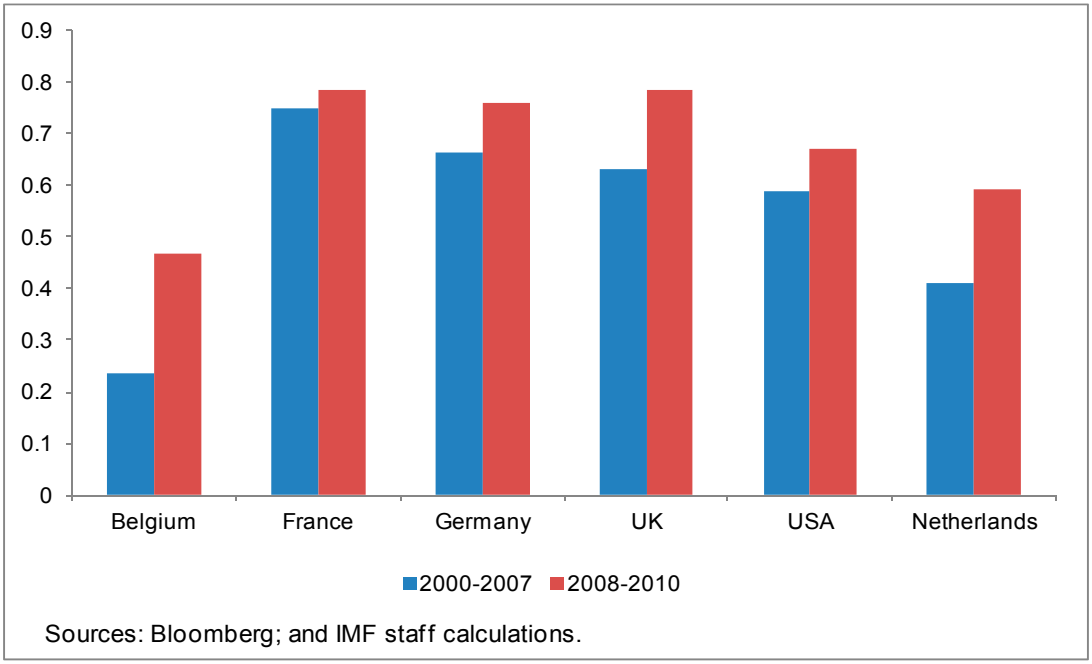
Sources: Boolmberg; and IMF staff calculations.

6. **A second way of gauging linkages is through examining the co-movement of the banks' CDS spreads**. Figure 4 shows the average R-squared from bi-variate regressions of CDS spreads among the three largest Belgian banks and those from similar regressions for selected advanced countries. The findings suggest a similar pattern as we found for share prices. Specifically, connectedness among the largest banks has increased after 2007 for Belgium as for every other selected advanced country. Furthermore, the results indicate that while connectedness among Belgian banks remains low compared to other euro area countries, it has increased more after the crisis.

7. **Another interesting aspect to examine is the extent to which sensitivity to shocks, as reflected in the likelihood of default, is correlated among Belgian banks.** Specifically, distance-to-default (DTD)[3] measures how much the asset value of a bank would need to fall in the upcoming year for it to default given its current balance sheet position. Independently of the level of DTD of individual banks, the correlation between DTD of two banks provides

[3] The distance-to-default is a measure of credit risk, based on Merton (1974), who models the equity of a firm as a call option on the value of its assets (V) with time to expiration equal to T. The exercise price is equal to the value of the liabilities because the firm defaults when its asset value falls below the face value of its debt (D). $\mathrm{DTD} = \ln\left(\frac{V}{D}\right) + \left(\mu - \frac{1}{2\sigma^2}\right) T/\sigma\sqrt{T}$. where μ is the growth rate of the asset value of the firm and σ is the asset volatility.

Figure 4. Average R-Squared—Belgian Banks' CDS Spreads and Other Advanced Countries' CDS Spreads



Sources: Bloomberg; and IMF staff calculations.

a measure of the likelihood that a bank defaults given that another bank does. As suggested by the correlation of the DTD—using annual data during the past two decades—the correlation between the likelihood of defaults for ING and KBC is higher than that between Dexia and ING, with the correlation between the likelihood of defaults for Dexia and KBC being the lowest (Table 2).

Table 2. Correlation Between Distance to Default of Belgian Banks (1992–09)

	Dexia	ING	KBC
Dexia	1		
ING	0.63	1	
KBC	0.35	0.84	1

Sources: IMF staff calculations

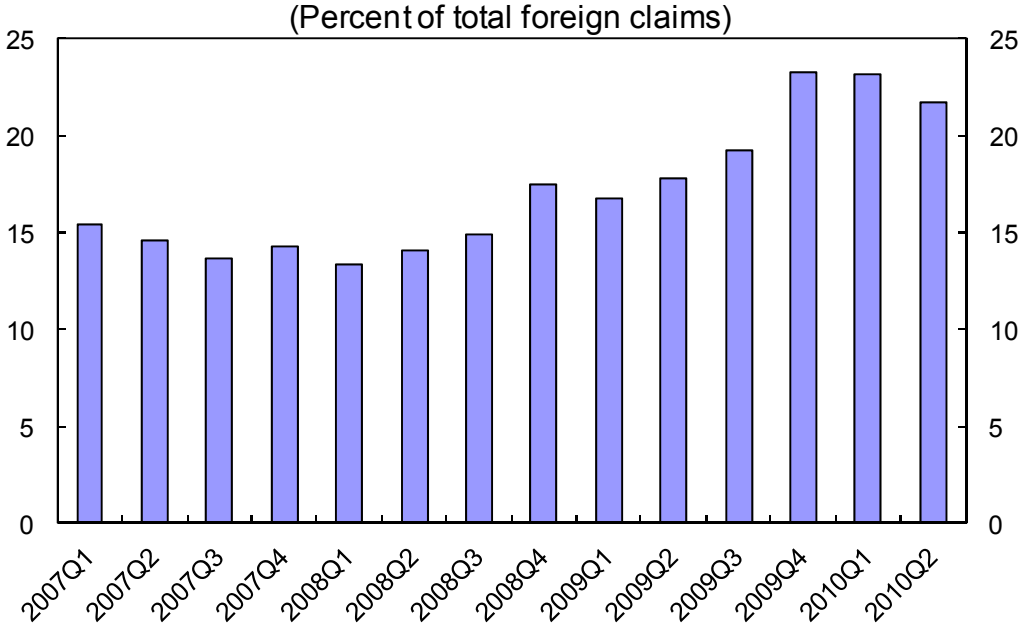
C. International Linkages

8. **The financial crisis has heightened the risks associated with transmission of cross-border financial shocks.** The analysis of bank level data along with foreign claims analysis has revealed how default exposure and funding risks have spread internationally. Vulnerabilities can be classified into: upstream and downstream. Specifically, the upstream risk arises from potential rollover risks from creditor countries, which remains low for Belgium because most of its creditors—including France, Germany, the United Kingdom,

and the United States—are in better financial shape. Downstream risk, which quantifies a country's exposure to its debtors, appears to be more elevated given Belgium's high exposure to peripheral European economies.

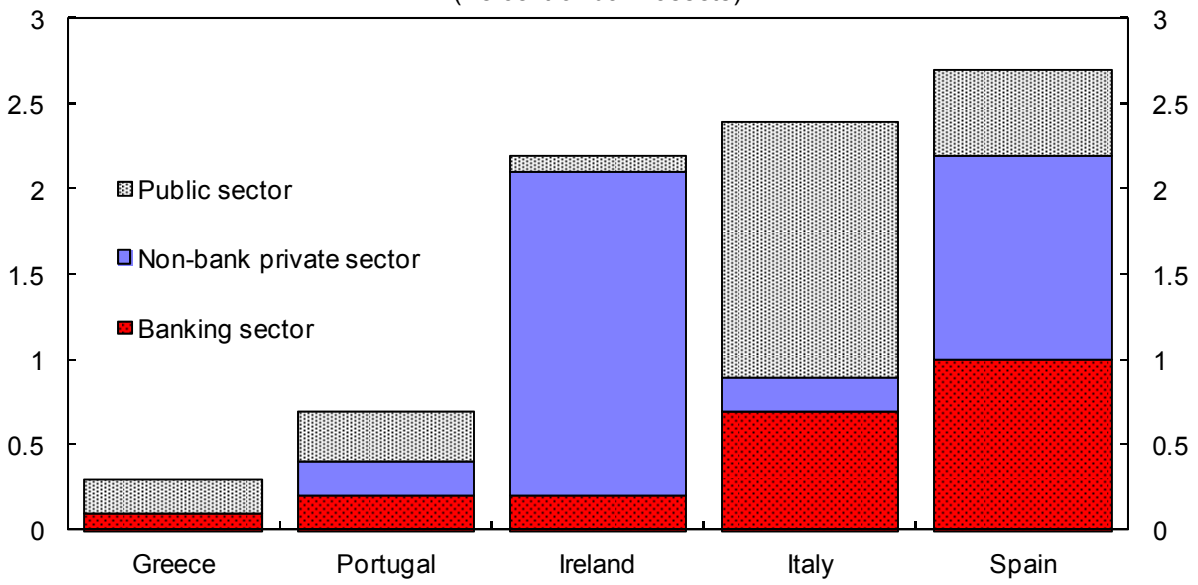
9. **Belgian banks are increasingly exposed to foreign shocks, particularly from Greece, Ireland, Italy, Portugal, and Spain (EA5).** Indeed, exposure of Belgian banks to EA5 has increased during the past decade from less than 15 percent of total foreign claims to about 22 percent (Figure 5). Based on the latest BIS data, Belgian bank foreign exposures account for about 10 percent of bank assets. Of the Belgian bank exposures to EA5, 33 percent are to Greece, Ireland, and Portugal while 67 percent are to Italy and Spain. The sector breakdown shows that more than half of the exposures to Greece and Italy are accounted for by claims on the public sector while most of exposure to Ireland is accounted for by claims on the nonbank private sector (Figure 6).

Figure 5: Principal Foreign Exposures to EA5 1/
(Percent of total foreign claims)



Sources: BIS Consolidated Banking Statistics; and IMF staff calculations.
1/ Based on consolidated foreign claims of reporting banks on an ultimate-risk

Figure 6: Belgian Banks' Exposure to EA5 by Sector, End September 2010
(Percent of bank assets)



Source: National Bank of Belgium.

10. **The correlation of DTD of Belgian banks with those in other countries is relatively high, reflecting the significant international linkages** (Table 3)**.** With respect to mature advanced economies, the likelihood of default of Belgian banks is most highly correlated with those in Germany, the United States followed by the United Kingdom and France, likely reflecting the systemic importance of banks in these economies. With respect to the EA5, the likelihood of default of Belgian banks is highly correlated with those in Greece and Ireland, while exhibiting low co-movement with the rest.

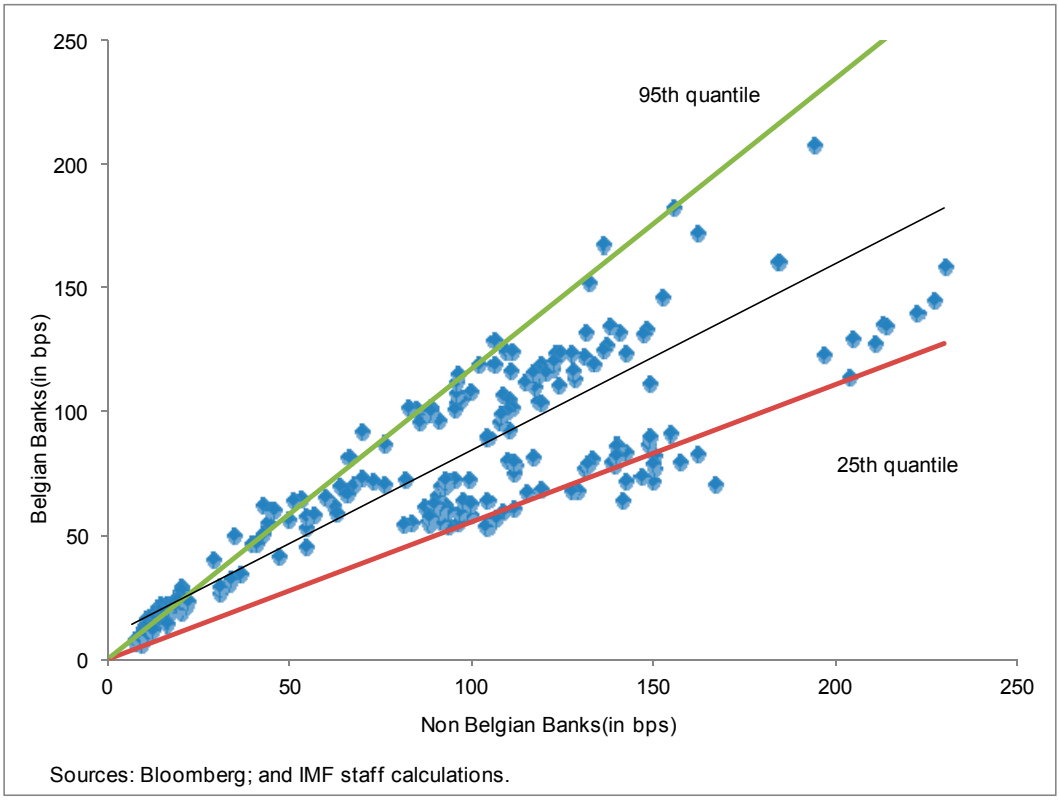
Table 3: Correlation Between Distance to Default of Belgium with Other Countries

France	0.47
Germany	0.76
Ireland	0.7
Greece	0.62
Italy	0.38
Netherlands	0.34
Portugal	0.06
Spain	0.09
U.K.	0.66
U.S.A.	0.76

11. **A scatter plot of CDS spreads suggests that co-movement is higher during bad times**. As indicated in Figure 7, when CDS spreads are in the low quantile (i.e. during calm periods), the linkage is low given that the scatter plot is more spread out between the twenty-

fifth quantile and the mean. Conversely, when the CDS are in high quantile (i.e. during bad times), the linkage is high given that the scatter plot is more dense and clustered between the mean and the 95-quantile. This is consistent with other studies for other countries that show higher inter-linkages during stress time. (Xiao, 2008).

Figure 7. CDS Scatter Plot—Belgium vs. Others



Sources: Bloomberg; and IMF staff calculations.

D. Conclusions

12. **Domestic linkages among Belgian banks have increased after the crisis, with international linkages with foreign banks significant and tending to be higher during stress time, thereby calling for enhanced vigilance and proactive policies**. The considerable interconnectedness of Belgian banks underlines one of lessons learned from the current global financial crisis is importance of systemic lens in regulation, identification of Systemically Important Financial Institutions would be of great help in developing any hedging measures, namely the importance of a systemic approach in banking regulation and supervision. Therefore, efforts to reinforce macro-prudential regulation and strengthen banking supervision are crucial to a comprehensive financial sector risk management plan.

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IV. BELGIUM'S EXPORT PERFORMANCE: HOW DID IT PLAY OUT DURING THE RECESSION AND RECOVERY?[1]

This note reviews recent developments in Belgium's external competitiveness and discusses the evolution of its export performance, including after the 2008 financial crisis. The note finds that Belgium has been losing export market shares since the 1990s; in particular, Belgium has been outperformed by Germany and the Netherlands. The evolution of Belgium's exports during the crisis and recovery has largely reflected demand factors of its trading partners. Over the longer run, price factors have played a bigger role in its loss of competitiveness.

A. Introduction

1. **Belgium's exports, like those of many other European countries, are on a long-term declining trend and more recently, they tumbled after the 2008 financial crisis**. Total Belgian exports lost over one third of its value in 2009:Q1 relative to the peak levels in 2008 before strongly rebounding subsequently. At the same time, over a longer horizon—as indicated in many previous studies such as Dresse (2009), Kegels (2009), and Biatour and Kegels (2010)—Belgium is losing competitiveness and export market share.

2. **This note examines Belgium's long-term export performance and discusses the short-term evolution of Belgium's export performance during the financial crisis and the subsequent recovery**. It has two parts. In the first part, the note compares the country's competitiveness with its European peers as well as emerging and developing economies over a longer time horizon. In the second part, the note focuses on the short term by econometrically assessing the contributions of the traditional determinants of trade to the short-term evolution of exports in the aftermath of the financial crisis.

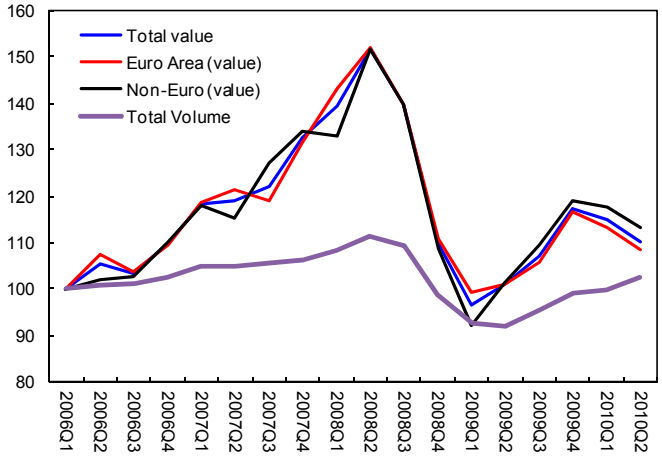
3. **The rest of the note proceeds as follows**: Section B presents some stylized facts in relation to Belgium's recent export performance; Section C examines changes in Belgium's export market share, aiming to shed light on developments in Belgium's competitiveness against the backdrop of the crisis and recovery; Section D quantifies the dynamic contributions of foreign demand and price competitiveness to exports using an error-correction model; finally, Section E concludes with some policy implications.

[1] Prepared by Kevin C. Cheng.

B. Stylized Facts

4. **After peaking in the second quarter of 2008, Belgian exports sharply declined following the financial crisis and then gradually recovered after bottoming out in 2009:Q1**. From the peak to the trough, Belgian exports lost over one third of its value in US dollar terms, with the decline in exports to euro Area and non-euro area roughly of equal magnitude (Figure 1). The decline in volume, however, is much less pronounced, partly reflecting the impact of euro-dollar exchange rate movements on export valuation as the depreciation of the Euro in the aftermath of the crisis exacerbated the decline in export values. Despite the strong recovery, exports are still below the pre-crisis peak level.

Figure 1. Belgium: Export Value (in USD) and Volume (2006:Q1=100)



Sources: WEO; IMF Staff Calculations.

5. **The impact of exports on GDP growth in Belgium has been more significant than in many other European economies** (Table 1). This partly reflects Belgium's higher degree of trade openness. In fact, the contribution of exports to GDP growth has been relatively large, averaging to around 3½ percent per annum during 2000–07, higher than that in Germany and the euro area average, albeit smaller than that in the Netherlands. Consequently, the impact of the drop in international trade associated with the financial crisis took a higher toll on the overall economy compared to its European peers, with the impact culminating to above 10 percent of GDP during the worst time of the crisis. Conversely, the subsequent normalization of world trade also played a relatively larger role in Belgium's recovery.

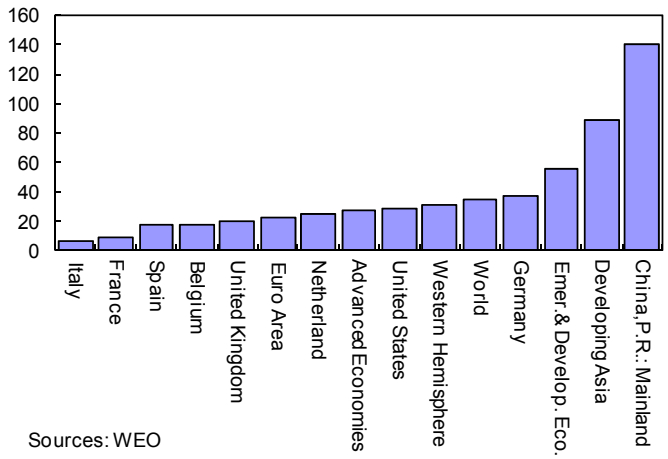
Table 1. Contributions of Exports to Real GDP Growth
(year-on-year growth, in percent)

	2000–07	2008:Q1	2008:Q2	2008:Q3	2008:Q4	2009:Q1	2009:Q2	2009:Q3	2009:Q4	2010:Q1	2010:Q2	2010:Q3	2010:Q4
Belgium	3.6	2.8	5.1	3.0	-5.9	-12.5	-15.3	-11.2	0.2	6.0	8.7	6.5	4.1
France	1.0	1.5	0.0	-0.3	-2.1	-4.8	-4.2	-3.7	-1.7	1.6	2.6	2.5	2.6
Germany	3.1	3.4	2.5	1.4	-3.2	-8.7	-9.3	-7.9	-3.0	3.6	8.1	8.6	8.5
Netherlands	4.1	6.6	5.2	2.7	-1.6	-6.8	-8.2	-6.8	-4.2	0.8	4.7	4.1	3.5
Italy	0.9	0.3	-0.2	-1.1	-3.4	-6.8	-6.5	-5.2	-2.9	0.9	2.2	1.8	2.0
Spain	1.5	1.3	0.8	-1.1	-2.4	-5.3	-5.0	-3.4	-0.6	2.4	2.9	2.5	2.0
Euro Area	2.3	2.4	1.6	0.4	-3.3	-7.4	-7.7	-6.1	-2.0	2.4	4.8	4.7	4.6

Sources: WEO

6. **Over a longer time span, the growth of Belgium exports has lagged behind those of the country's European peers and has been much below those in emerging economies** (Figure 2). Between 2000–04 and 2005–09, Belgian exports of goods and services grew by 3.3 percent on an annualized basis, compared with 6.6 percent for Germany and 4.2 percent for the euro area during the same time frame, although the growth rate was higher than those of France and Italy. The lag is even more pronounced when comparing Belgium's export performance to that of emerging and developing economies, whose growth rate was almost three times that of Belgium.

Figure 2. Real Export Growth—Average of 2005–09 to Average 2000–04



Sources: WEO

7. **The composition of Belgium's export destinations has been relatively stable over the past two decades, although there is some sign of a shift towards emerging economies after the crisis**. Belgium's exports have been primarily geared towards advanced economies, which account for over three quarters of the Belgium exports during 2000–09. Among advanced economies, the euro area is Belgium's principal export destination, with two-thirds of the Belgian exports designated for its euro partners. Exports to emerging and developing economies have gained importance gradually towards the end of the 2000s, although these continue to account for a relatively small share of total Belgian exports.

Table 2. Belgium's Main Export Destinations
(In percent of Belgium's total exports of goods and services)

	1997–03	2004–07	2008	2009
Exports to Advanced Economies	89	87	84	84
Exports to Euro Area (aggreg.)	63	63	63	63
France	17	17	17	18
Germany	18	20	20	20
Italy	6	5	5	5
Spain	4	4	3	3
United Kingdom	10	8	7	7
United States	6	6	5	5
Emering & Developing Economies	11	12	14	15
Africa	2	2	2	2
Developing Asia	3	3	3	4
Emerging Europe	3	5	6	5
Middle East	1	2	2	2
Western Hemisphere	1	1	1	1

Source: IMF staff calculations.

C. Is Belgium Losing Competitiveness?

8. **Like other advanced economies, Belgian exports have been gradually losing market shares over the past few decades, but the losses have decelerated during 2000s.** Compared with the past decade, Belgium has lost around ½ percentage points of its world export market share. But the decline in export market share is not unique to Belgium, and appears to have been a negative shock common to most advanced economies, which has been documented in other studies.[2] Nevertheless, the relative extent of Belgium's loss in market share appears to have been more severe than for its most competitive peers in the euro area—namely Germany and the Netherlands. At the same time, Belgian exporters fared better than those in France and Italy. During the 2000s, the decline in market shares has somewhat decelerated and shares held steady recently.

Table 3. Belgium's Export Market Shares
(As a percent of total world imports, in value)

	1980–89	1990–99	2000–09	2006	2007	2008	2009
Belgium	2.9	3.0	2.5	2.3	2.4	2.4	2.5
France	6.0	5.8	4.4	4.2	4.1	4.0	4.1
Germany	9.8	9.5	9.0	9.1	9.4	8.9	8.8
Italy	5.9	5.0	3.6	3.5	3.6	3.4	3.3
Netherlands	3.7	3.7	3.3	3.3	3.3	3.3	3.4
Spain	1.6	2.2	2.3	2.2	2.3	2.2	2.3
Euro Area	33.1	33.5	30.2	29.7	30.4	29.2	29.5
United Kingdom	5.6	5.5	4.6	4.8	4.4	4.0	4.0
Advanced Economies	76.0	80.3	70.6	69.3	68.7	66.4	67.5
Emer.& Develop. Eco.	23.5	20.6	30.8	32.6	33.7	35.7	34.9

Source: IMF staff estimates.

9. **One plausible explanation for the loss of market share could be Belgium's inability to capture new fast-growing regional markets.** To gauge this effect, growth of Belgium's exports to a region is compared to the growth of the import demand of that market. The analysis suggests that:

- Between 2000–04 and 2005–09, the regions with fastest growth in import demand (in values) include Africa, Developing Asia, Emerging Europe, and the Middle East, with growth rates of around or over 20 percent (Table 4).

[2] For example, see Cheng (2010).

- However, Belgian exports to these fast-growing emerging economies appear to have lagged behind demand growth, although its exports to non-euro area advanced economies, emerging Europe, and Latin America have grown faster than demand growth, thereby offsetting some of the losses elsewhere.

Table 4. Export Growth and Import Demand Growth by Regions, 2000–09
(Per annum, in percent)

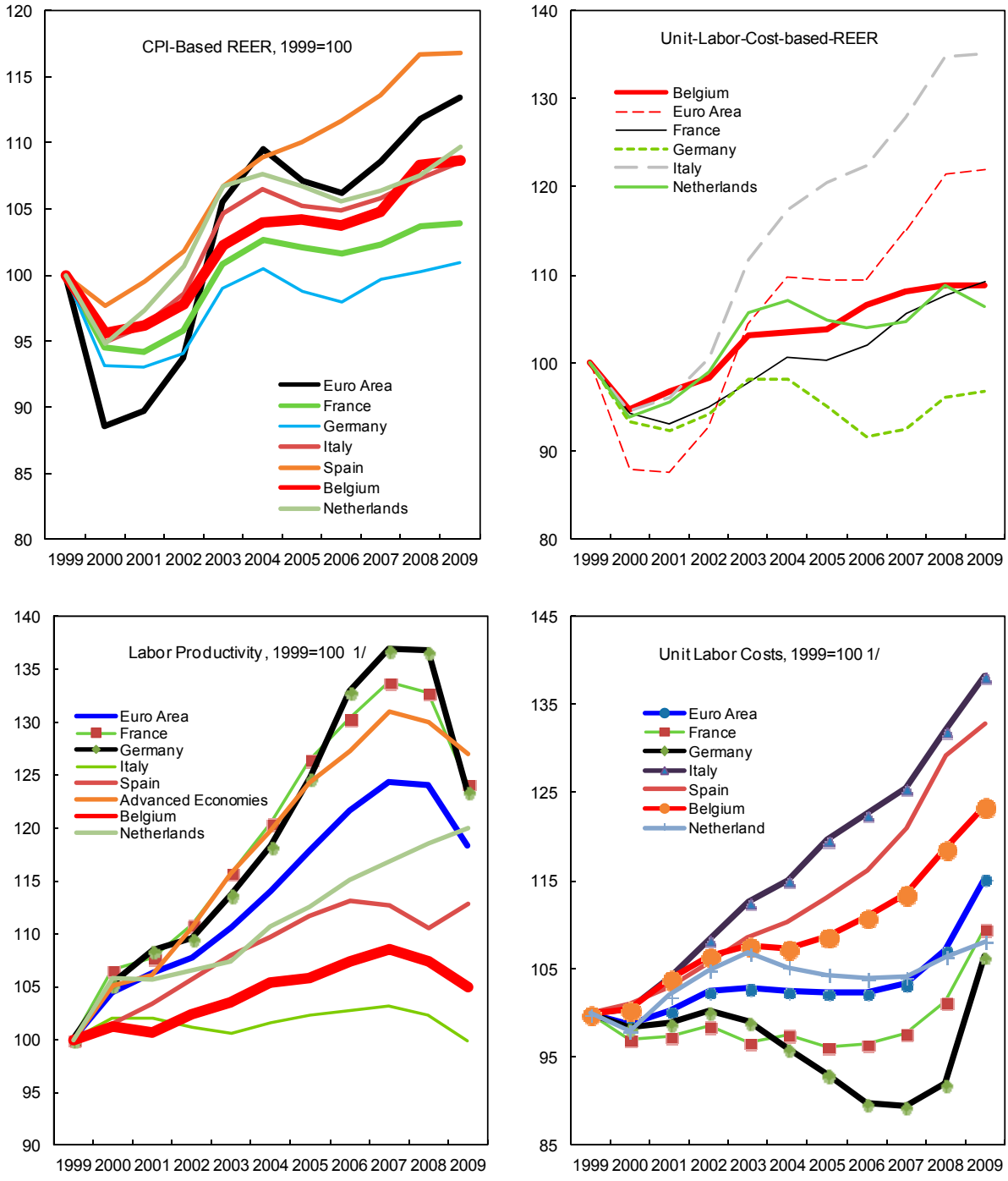
		Belgium		France		Germany		Netherlands		China		USA	
Export Destination	Total import demand growth 1/	export growth 2/	diff 3/	export growth 2/	diff 3/	export growth	diff	export growth	diff	export growth	diff	export growth	diff
World	12.6	11.5	-1.1	7.5	-5.1	12.0	-0.6	13.5	0.9	24.4	11.8	7.9	-4.7
Advanced econ ex Euro area	10.5	10.7	0.3	6.4	-4.1	10.5	0.1	12.5	2.0	22.1	11.6	6.1	-4.4
Euro area	11.9	11.5	-0.4	7.3	-4.6	11.4	-0.5	12.8	1.0	27.8	15.9	7.8	-4.1
Africa	19.3	16.2	-3.1	8.9	-10.4	12.6	-6.7	21.0	1.7	33.7	14.4	14.9	-4.4
Developing Asia	19.0	13.0	-6.0	16.1	-2.8	18.5	-0.5	19.2	0.3	30.0	11.0	14.1	-4.9
Emerging Europe	18.5	19.6	1.1	15.6	-2.9	18.9	0.4	22.9	4.4	38.8	20.3	18.7	0.2
Middle East	21.7	15.2	-6.5	9.4	-12.3	16.4	-5.3	18.7	-3.1	32.2	10.4	19.0	-2.7
Latin America	12.6	13.6	0.9	4.6	-8.0	12.3	-0.4	18.6	6.0	34.2	21.6	8.2	-4.4

Source: IMF staff estimates.

1/ Total demand refers to the imports to a region from the entire world, with growth calculated as the annualized growth rate from the average level of 2000-04 to the average level of 2005–09.
2/ Export growth is also calculated as the annualized growth rate from the average export levels of a country to a region during 2000-04 to the average levels during 2005–09.
3/ Difference refers to the difference between export growth and total demand growth (discussed above). For example, French exports to the world grew by around 7.5 percent, while world import demand grew by 12.6 percent, with the difference between the two growth rates being negative 5 percent. This suggests that French exports growth lagged behind total import growth by 5 percent.

10. **One aspect of the decline of Belgium's competitiveness relates to the fast growing unit labor costs relative to its trading partners and sluggish growth in productivity** (Figure 3). In terms of the real effective exchange rate—whether based on the CPI or unit labor costs—Belgium has clearly lost competitiveness to its main competitors, namely Germany, France, and the Netherlands, although it fared better than other European peers. More importantly, in terms of the unit labor cost and productivity, Belgium appears to have been the least competitive among its peers, with the exception of Italy and Spain.

Figure 3. Begium Price Competitveness, 1999–09



Source: IMF Staff Calculations
1/ Based on the manufacturing sector only.

D. Econometric Analysis

11. **This section seeks to explain the evolution of Belgian exports after the financial crisis with traditional determinants of trade, namely foreign demand and price competitiveness**. Using an error-correction model, reduced-form equations were estimated in two steps: first, a long-run cointegrating relation is estimated with variables in levels (in terms of logarithms). In the second step, short-run elasticities were estimated with variables estimated in first differences along with the error correction term from the cointegrating equation in the first step.

12. **The findings are consistent with economic intuition and the coefficients for foreign demand and the real effective exchange rate are of the right sign**. Using quarterly data during 1990–09, results of the estimation are presented in Table 5**.** Specifically, the results suggest:

- A 1 percent increase in Belgium's foreign demand—calculated as trade-weighted import demand of Belgium's main export recipients—is associated with an increase in exports of around 0.8–1.0 percent in both the short and the long run;

- A 1 percent increase (appreciation) in Belgium's real effective exchange rate (REER) is associated with a decrease in Belgian exports of around 0.2 percent in the long run. The short-run impact of REER on exports is insignificant.[3]

Table 5. Determinants of Real Exports in Belgium

Long-run elasticities		Short-run elasticities			
Foreign demand	REER	Foreign demand	REER	Adjustment coefficient	R-Squared
0.78**	-0.18*	1.01**	0.11	-0.35**	0.5

Source. IMF Staff estimates

Sample period=1991-2009

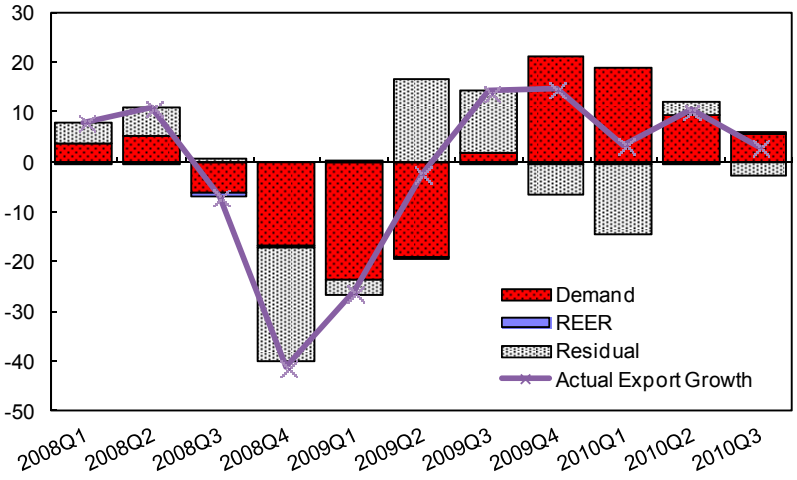
** denotes that a variable is significant at 1 percent significance level while * denotes that a variable is significant at 5 percent significance level.

13. **Using the estimated coefficients, one can decompose the evolution of exports into effects due to demand, price, and other factors by rewriting the error-correction model** (Figure 4). The result suggests that in the aftermath of the financial crisis, Belgium's sharp decline in exports was primarily due to a plunge in import demand from its trading partners. Conversely, during 2009:Q3–2010:Q3, Belgium's recovery of exports has largely reflected

[3] As discussed below, such small price elasticity might be due to "averaging." Indeed, using more granular industry data, one can obtain a larger effect as done in Kegels (2009).

the recovery of the global economy and therefore import demand of Belgium's trading partners.[4]

Figure 4. Contributions to Export Growth During Recession and Recovery



Sources: WEO; IMF Staff Calculations.

14. **Over a longer time horizon, there is evidence that Belgium's losses in competitiveness appear to have been due to its high unit labor costs.** Using granular industry-level data on the Belgian share in value-added in Europe and sector-specific labor costs, Kegels (2009) found that over 1970–05 relative prices movements were a significant determinant of the Belgian share of European value added for manufacturing and market services.

E. Concluding Remarks and Implications

15. **Belgium has been losing export market shares over the past decade, which points to a need for corrective policy measures to boost its competitiveness.** Further efforts are needed to strengthen the productivity of the Belgian economy by boosting innovation, investing in human capital, and containing costs. Labor costs need to be kept in line with those in trade partners in the context of the euro zone monetary union. Given Belgium's high labor costs, there is little room for wage increases. In order to increase the flexibility in wage negotiations to take account of varying circumstances in different sectors and avoid second-round effects of energy price volatility, the automatic wage indexation mechanism should be reconsidered, including in the public sector.

[4] Unlike results for other countries, the contributions to exports by unexplained factors (as captured by the residuals) did not have a definite pattern over time.

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