IMF Country Reports 16/172

Republic Of Latvia: Selected Issues Paper

INTERNATIONAL MONETARY FUND

INTERNATIONAL MONETARY FUND

IMF Country Report No. 16/172

REPUBLIC OF LATVIA

SELECTED ISSUES PAPER

June 2016

This Selected Issues paper on Republic of Latvia was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on May 17, 2016.

Copies of this report are available to the public from

International Monetary Fund • Publication Services
PO Box 92780 • Washington, D.C. 20090
Telephone: (202) 623-7430 • Fax: (202) 623-7201
E-mail: publications@imf.org Web: http://www.imf.org
Price: $18.00 per printed copy

International Monetary Fund
Washington, D.C.

INTERNATIONAL MONETARY FUND

REPUBLIC OF LATVIA

SELECTED ISSUES

May 17, 2016

Approved By
European Department

Prepared By Pragyan Deb and Maral Shamloo.

CONTENTS

POST-CRISIS ADJUSTMENT IN LATVIA: EVIDENCE FROM FIRM LEVEL DATA 3
A. The Macroeconomic Adjustment 3
B. Sector and Firm Level Data 4
C. Was There a Sectoral Shift? 6
D. What Drove Firm Level Differences? 8
E. Did Export Oriented Firms Benefit Differentially? 11
F. Policy Implications 13

FIGURES
1. Macroeconomic Adjustment 4
2. Trends by Industry 7
3. Trends by Firm Size 8
4. Gains in X-Efficiency 11
5. Trends by Export Orientation 12
6. Increase in TFP and Employment by Export Orientation 12
7. TFP: Contribution and Drivers 13

TABLE
1. Orbis Data Coverage, 2005–14 5

ANNEXES
I. Data Coverage 17
II. Difference in Means Result 18

References 19

ELUSIVE CREDIT GROWTH IN LATVIA: CAUSES AND REMEDIES **20**
A. Background 21
B. Why Has Credit Been Restrained? 25
C. Lessons and Policy Implications 30

BOXES
1. Institutional Responsibility for Supervisory and Macroprudential Policy in the Nordic-Baltic Area 32
2. Policy Measures Intended to Encourage Credit Growth: Examples from Various Jurisdictions 33

FIGURES
1. The Two Segments of the Banking Sector 22
2. The Financial Sector Repair Process is Coming to Completion 23
3. Latvia Through the Credit Cycle 24
4. Financial Condition 25
5. Latvia's Creditless Recovery 28
6. Cross-Sectional Developments in Credit 30

References 34

POST-CRISIS ADJUSTMENT IN LATVIA: EVIDENCE FROM FIRM LEVEL DATA[1]

Latvia experienced a large macroeconomic adjustment in the aftermath of the crisis in 2007. The adjustment was characterized by internal devaluation via a combination of wage restraint and productivity gains. Shifts in sectoral composition or size distribution explain only a small portion of the observed productivity gains, which were driven mainly by "catch-up" of the relatively less productive firms. In addition, there were significant gains in "x-efficiency", whereby firms were able to maintain output with a smaller workforce. The internal devaluation did not benefit export oriented firms differentially. Maintaining productivity growth in future will not be simple as easy gains have likely been exhausted and firms are approaching the domestic technology frontier. Nevertheless, given the significant productivity gap relative to the EU15, there is scope for further improvement. But closing this gap would require a strong push towards structural reforms.

A. The Macroeconomic Adjustment

1. Real GDP in Latvia fell by more than 20 percent in the aftermath of the crisis. From its peak in 2007Q3, both GDP and per-capita GDP declined precipitously for the next two years. Even now, after nearly 8 years since the start of the crisis, real GDP remains below the pre-crisis levels while it took per-capita GDP almost 7 years to surpass its pre-crisis level (in 2014Q2). The labor market mirrored these trends, with a sharp increase in the unemployment rate as well as in the long-term unemployed (Figure 1). Blanchard, Griffiths and Gruss (2013) provide a detailed overview of the adjustment.

2. This large macroeconomic adjustment was characterized by internal devaluation via a combination of wage restraint and productivity gains. Unit labor costs (ULC) declined by close to 25 percent in one year—from the peak at the end of 2008 to the end of 2009. While a decline in real wages played its part in the initial decline in ULCs, from 2010 to 2013, ULCs remained low through a combination of relative wage restraint and strong growth in labor productivity. The gains in productivity were in spite of a sharp falling in credit amid stress in the financial sector. Growth in credit to non-financial corporates continues to be negative owing to the ongoing deleveraging by the largely foreign owned banking sector.

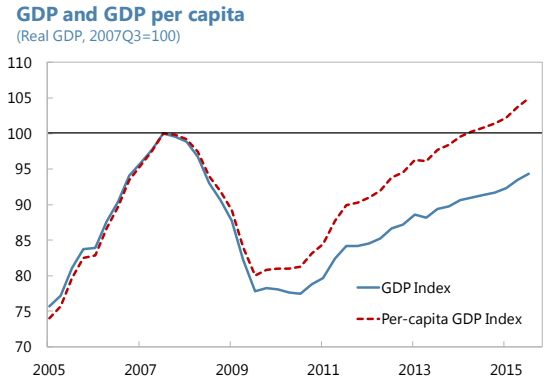
3. What explains the growth in productivity? One possible explanation is a structural shift in the economy. Such a shift could take place either across different sectors— with a shift in composition towards more productive sectors—or within a given sector—with firms exploiting economies of scale and becoming larger and more productive. The alternative hypothesis is that all firms across the economy became more efficient. In the case of the latter, the key question is what

[1] Prepared by Pragyan Deb.

drove the firm level gains in productivity and which type of firms benefitted the most. In particular, since the macroeconomic adjustment took place via internal devaluation and hence greater external competitiveness, did export oriented firms benefit differentially? Or was it a question of x-efficiency – namely that firms were able to produce the same output with a lower workforce by making better and more efficient use of resources?

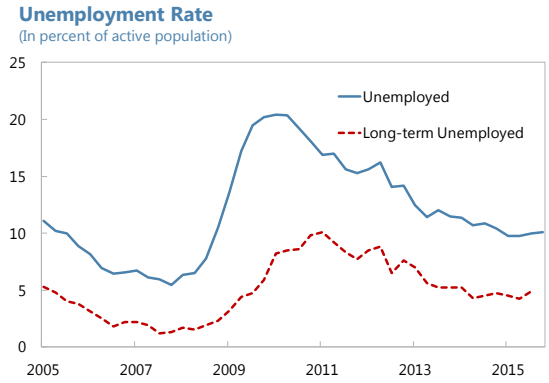
Figure 1. Macroeconomic Adjustment

GDP fell by more than 20 percent and is yet to recover to its pre-crisis peak…



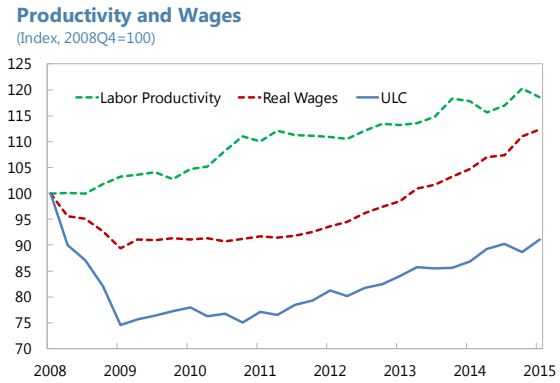
Sources: Haver and IMF staff estimates.

…while unemployment mirrored the trends in real GDP.



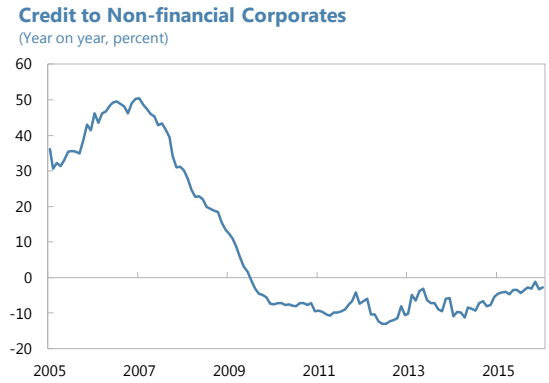
Sources: Haver and IMF staff estimates.

The post-crisis period was characterized by growth in labor productivity, coupled with wage restraint and hence a sharp decline in unit labor costs.



Sources: Haver and IMF staff estimates.

Credit fell sharply amid stress in the financial sector and growth in credit to non-financial corporate continues to be negative.



Sources: Haver and IMF staff estimates.

B. Sector and Firm Level Data

4. Sector and firm level data is used to explore the factors driving aggregate productivity trends. Aggregate trends mask divergent productivity developments amongst sectors and may be driven by a change in the importance of different sectors. For example, all things being equal, an increase in the share of a more productive sector in the economy is recorded as an improvement in aggregate productivity, even if individual firms do not witness any improvements in productivity. While such a shift is desirable in its own right, it has very different policy implications from a

scenario where aggregate productivity is driven by individual firms becoming more productive. Data available from Latvia's Central Statistical Bureau is used to assess such sectoral productivity trends. The data is aggregated across 6 broad sectors—agriculture and mining, manufacturing, construction, trade, market services and basic services. Basic services covers public administration, education and health services and other administrative and support services while market services include transportation, accommodation, professional, ICT, financial and real estate services.

5. Firm level data provide additional insights into within-sector and firm specific drivers of productivity. Earlier studies using aggregate data have documented the overall developments in output, productivity and costs, but by design, these studies do not shed light on the firm level drivers that underly the aggregate trends. Orbis, a worldwide database of primarily private company information, provides firm level data for about 70 percent of firms (in terms of persons employed) over the period 2010-2014 (see Annex I). Coverage varies across sectors, but even after dropping observations with missing values[2] for key variables such as value added, there is sufficient data from 2010 onwards, with over ten-thousand firm-year observations, for an analysis of the post-crisis period (Table 1). Since Orbis data is in nominal terms, real values are obtained using industry level value added and investment deflators available from Eurostat. The deflators were de-trended using Christiano-Fitzgerald time-series filter (at 2 years), but yielded very similar results.

Table 1. Orbis Data Coverage, 2005–14

(Number of Firms)

Industry	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
Agriculture	54	34	42	37	19	469	598	656	698	705
Manufacturing	44	54	54	39	38	150	173	191	211	220
Construction	23	26	29	18	16	112	123	142	150	158
Trade	42	46	56	37	34	341	418	403	438	443
Market Services	48	63	61	35	37	495	556	610	642	679
Basic Services	5	8	9	7	9	50	61	69	72	86
Total	**216**	**231**	**251**	**173**	**153**	**1,617**	**1,929**	**2,071**	**2,211**	**2,291**

6. Orbis data is used to estimate total factor productivity (TFP) at the firm level. Real capital stock is derived from the book value of tangible fixed assets and depreciation using the perpetual inventory method (see Gilhooly, 2009). Value added based TFP is calculated using two factor inputs – real capital stock and number of employees. The index number variant of TFP is used based on labor shares estimated at the two-digit NACE industry level. Other production function based variants, both using simple ordinary least squares and those based on control functions such as intermediate inputs (see Wooldridge, 2009) provide broadly similar results.

[2] Following Gal (2013) some of the variables are imputed when missing. Specifically, when data on value added is missing, it is imputed using EBITDA and cost of employees. In addition, total asset is used as a proxy when data on (tangible) fixed asset is not available.

C. Was There a Sectoral Shift?

7. Industry share of value added and employment was largely stable, with some increase in market services and construction and an offsetting decline in agriculture, trade and basic services (Figure 2). The share of value added increased the most in construction (by close to 2 percent) followed by market services (around 0.5 percent). In terms of employment, the share of construction increased by 1.5 percent while market services increased by close to 3 percent. The share of manufacturing was largely stable at around 13 percent of value added and employment, declining somewhat in terms of value added, but increasing in the share of employment. The share of agriculture and mining, trade and basic services declined both in value added and employment, with the decline more pronounced in terms of employment.

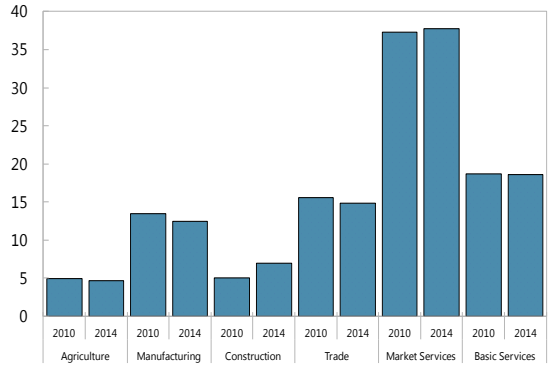
8. Labor Productivity and TFP increased to varying degrees across most industries. In cumulative terms, construction (25 percent), agriculture (20 percent), basic services (16 percent) and trade (12 percent) showed the largest increase in labor productivity, while manufacturing and market services were largely flat, but positive. The picture was a little different for TFP, which takes into account the use of capital resources. TFP increased the most in manufacturing (20 percent), followed closely by construction (19 percent), trade (16 percent) and market services (12 percent). TFP in agriculture and basic services was largely flat.

9. Shifts in sectoral composition had a small effect on the aggregate growth in labor productivity and TFP. Labor productivity increased by roughly 10 percent in the aggregate between 2010 and 2014. Using a hypothetical scenario in which the sectoral composition remains the same as in 2010, the growth in labor productivity is only marginally lower. The contribution of sectoral composition to the growth in labor productivity is estimated to be a little over 5 percent. A similar counterfactual exercise for TFP results in a somewhat larger figure of around 16 percent of the estimated growth.

Figure 2. Trends by Industry

Value added shares' were largely stable across industries with some increase in construction and market services…

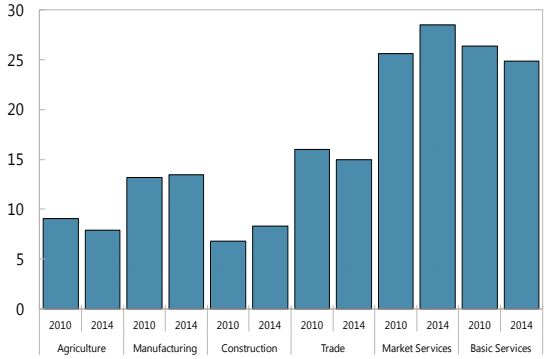
Value Added by Industry
(Share of total value added)



Sources: Central Statistical Bureau of Latvia; and IMF staff calculations.

…which were more pronounced in terms of employment.

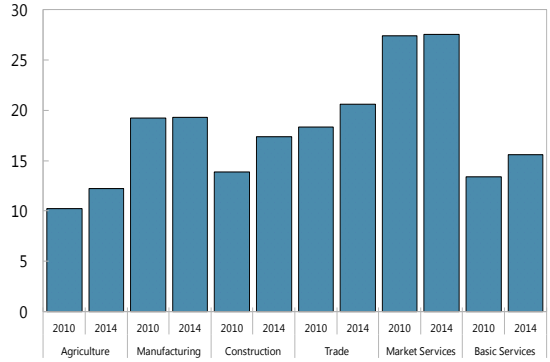
Employment by Industry
(Share of total employment)



Sources: Central Statistical Bureau of Latvia; and IMF staff calculations.

Labor productivity increased across all industries, but was largely flat for manufacturing and market services.

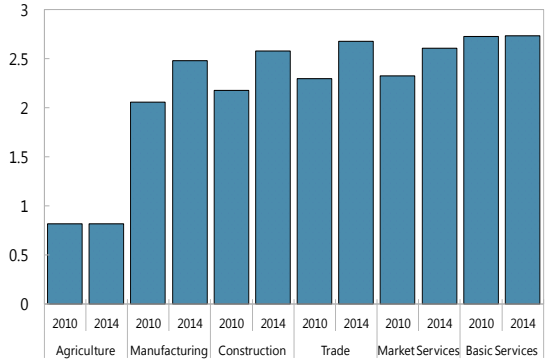
Labor Productivity by Industry
(Real value added per worker, thousand 2010 euros)



Sources: Central Statistical Bureau of Latvia; and IMF staff calculations.

TFP showed more variability, with manufacturing and market services also registering an increase, but agriculture and basic services flat.

Total Factor Productivity by Industry
(Log real total factor productivity)



Sources: Orbis; and IMF staff calculations.

10. There was little change in the share of value added and employment by firm size (Figure 3). Eurostat's annual structural business statistics (SBS) provide a breakdown of enterprises by size class – micro enterprises with less than 10 persons employed; small enterprises with 10–49 persons employed; medium-sized enterprises with 50-249 persons employed; and large enterprises with 250 or more persons employed. Although a majority of the workforce was employed in micro and small enterprises, larger firms dominated in terms of value added. There was little change in this pattern between 2010 and 2014.

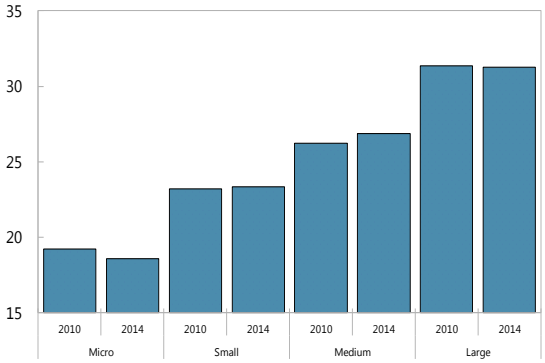
11. Labor productivity and TFP increased across all size classes with a few notable exceptions. Larger firms were more productive as expected. Labor productivity increased across all firm sizes, but was essentially flat for micro firms. TFP on the other hand increased the most in micro-firms and declined in the largest enterprises. Given the modest change in the structure of the

economy with respect to size distribution, unsurprisingly the contribution of changes in size distribution to aggregate labor productivity and TFP trends was negligible.

Figure 3. Trends by Firm Size

Larger firms are responsible for the bulk of value added…

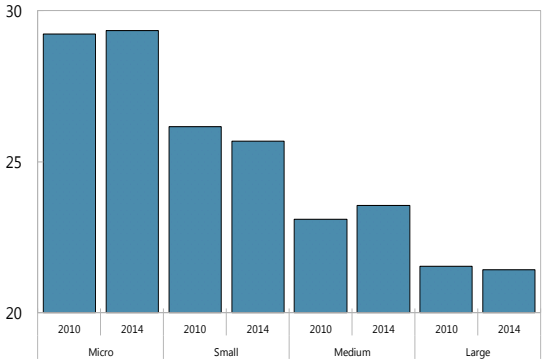
Value Added by Size
(Share of Total Value Added)



Sources: Eurostat Structural Business Statistics; and IMF staff calculations.

…but the majority of the workforce is employed in micro and small enterprises.

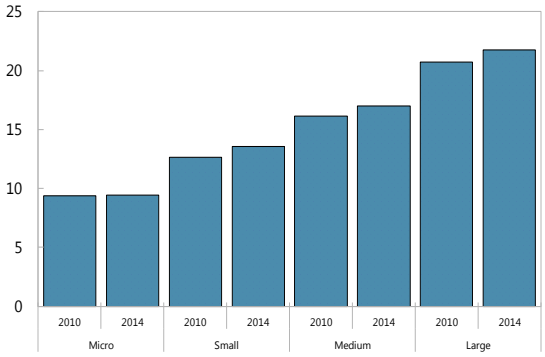
Employment by Size
(Share of Total Employement)



Sources: Eurostat Structural Business Statistics; and IMF staff calculations.

Labor productivity is higher in larger firms and increased across all size categories…

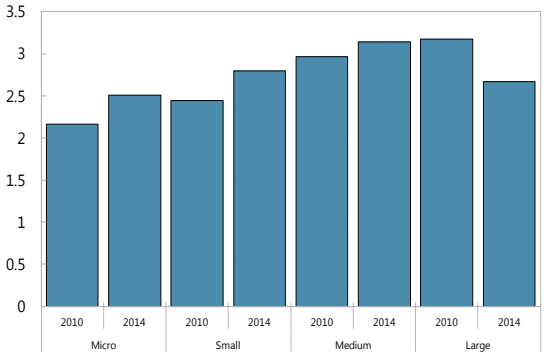
Labor Productivity by Size
(Real value added per worker, thousand 2010 euros)



Sources: Eurostat Structural Business Statistics; and IMF staff calculations.

…TFP is also higher in large firms, but TFP declined during the post-crisis period in the largest enterprises.

Total Factor Productivity by Size
(Log total factor productivity)

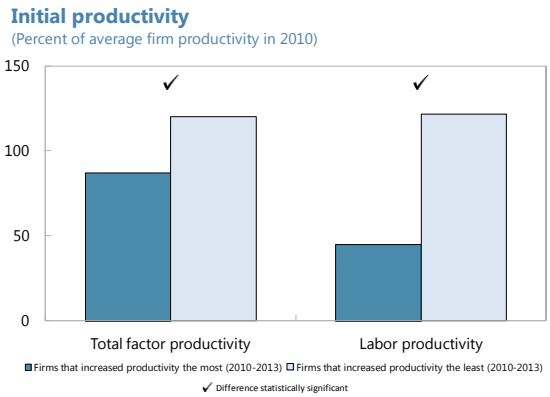


Sources: Orbis; and IMF staff calculations.

D. What Drove Firm Level Differences?

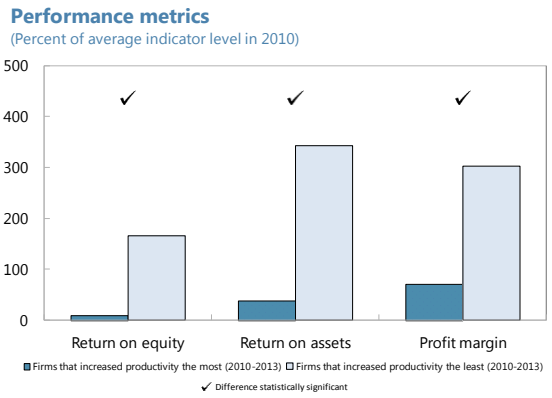
12. A difference-in-means approach is used to assess the relationship between the increase in TFP and firm characteristics. Firms can be ranked according to the growth in productivity between 2010 and 2013 and divided into three buckets. The averages of the top and bottom buckets are then used to explore the differences in firm characteristics for firms belonging to different groups, i.e. firms that saw the greatest increase in TFP vis-a-vis firms that saw the least (see Annex II). The results below are presented in terms of a percentage of the average value (across all firms) of the firm characteristic. The differences are also examined for statistical significance at the 5 percent level.

13. Less productive firms witnessed a greater increase in productivity during the adjustment period. The firms that increased productivity the most between 2010-2013 had on average 30 percent lower TFP in 2010 relative to the firms that saw a relatively smaller increase in productivity. The figure was even larger at over 60 percent in terms of labor productivity. The differences were statistically significant. This implies that there was an element of "catch-up", with relatively low productivity firms increasing their productivity faster and coming closer to the frontier (the relatively more productive firms).



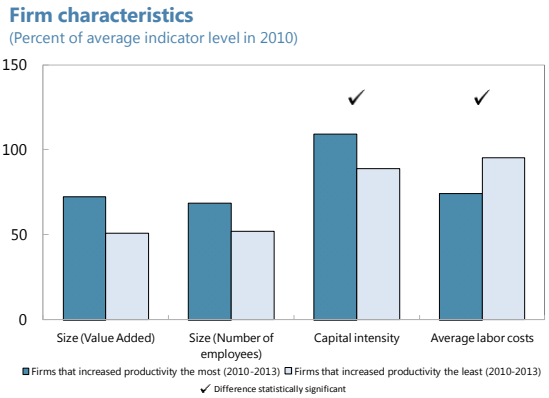
Sources: Orbis; and IMF staff calculations.

14. This catch-up hypothesis is also borne out by other performance metrics, with relatively "weaker" firms improving the most. Once again, firms that increased productivity the most during the post-crisis period had on average weaker performance metrics in 2010 and the differences were statistically significant. The return on equity of such firms was less than one-twentieth of the firms that showed the least increase in TFP; the return on assets was just above one-tenth and the profit margin was less than a quarter. This implies that once again it was the weakest firms that showed the greatest increase in productivity as opposed to the stronger firms pushing the productivity frontier. It must however be noted that this analysis is based on firms that survived the crisis and had data for both 2010 and 2013 – hence there exists an unavoidable survivorship bias in these results.



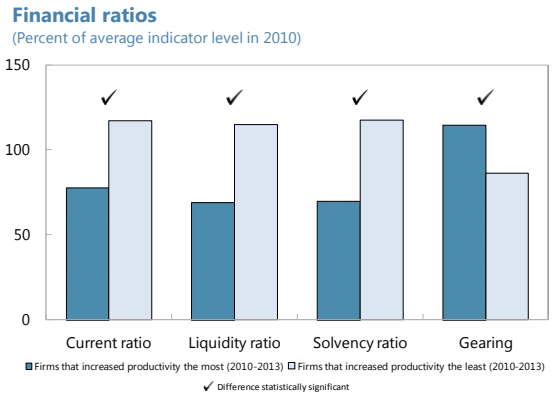
Sources: Orbis; and IMF staff calculations.

15. Firm characteristics played a limited role. While larger firms, both in terms of value added and number of employees, improved their TFP relatively more, the differences were not statistically significant. However, more capital intensive (greater share of capital stock to value added) firms and firms with a lower average cost of employees improved productivity relatively more. The average cost of employees can be considered a proxy for worker skill level, which suggests that firms employing relatively lower skilled workers saw greater improvements in TFP.



Sources: Orbis; and IMF staff calculations.

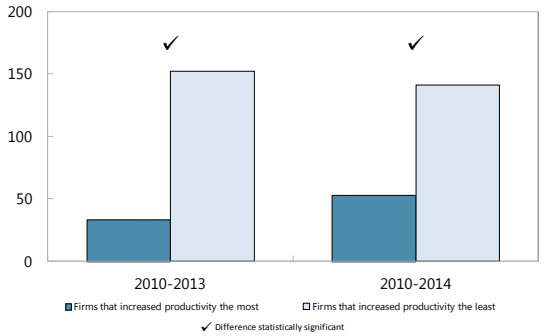
16. Financial constraints do not appear to have hampered productivity improvements. Firms with greater TFP growth during the post-crisis period on average had significantly worse current ratio, liquidity ratio and solvency ratio on one hand and greater gearing on the other. Given that credit conditions were extremely tight, with overall credit to the corporate sector declining over the entire period; it is conceivable that firms were cut off from the credit market irrespective of their financial ratios. However, it is somewhat surprising that financially constrained firms were able to make the necessary investments to improve TFP, unless there was considerable slack and sub-optimal use of resources in such firms.



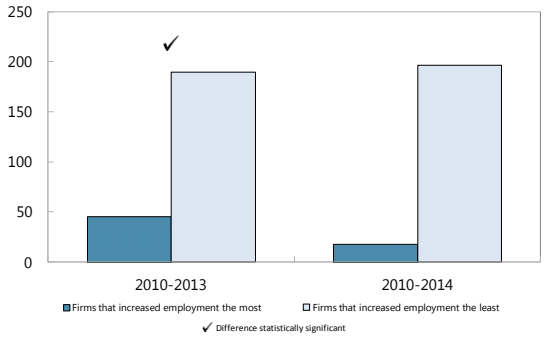
Sources: Orbis; and IMF staff calculations.

17. Overall, there were significant gains in "x-efficiency", whereby firms were able to maintain output with a smaller workforce (Figure 4). This hypothesis can be investigated from two angles. First, following the same difference-in-mean methodology as before, the group of firms that increased productivity relatively more increased employment less. This result holds both for the 2010-2013 period as well as a slightly longer period of 2010-2014. In other words, these firms were able to use their labor resources more efficiently and did not need to increase their workforce. Conversely, ranking firms by new employment generated; the results show that firms that increased employment relatively more saw lower gains in TFP compared with firms that did not aggressively increase the size of their labor force. Thus, firms that improved TFP the most were the ones that were able to better utilize their available resources and not the ones that were expanding and hiring more workers.

Figure 4. Gains in X-Efficiency



Sources: Orbis; and IMF staff calculations.



Sources: Orbis; and IMF staff calculations.

E. Did Export Oriented Firms Benefit Differentially?

18. Trade theory posits that adjustment through internal devaluation should benefit export oriented firms differentially. Internal devaluation in Latvia occurred through a combination of wage restraint and productivity gains, whereby unit labor costs fell relative to other trade competitors during the adjustment. This should in principle differentially benefit export oriented firms and industries, leading to an increase in share of such industries and a reallocation of resources towards them. Data on share of exports for the manufacturing sector at 2-digit NACE industry level, available from the Central Statistical Bureau, is used to test this hypothesis.

19. Contrary to expectations, export orientation did not play a major role (Figure 5). Manufacturing industries are divided into three groups, with increasing levels of export orientation – the share of foreign to total turnover. Contrary to expectations, the value added share of manufacturing firms with least exposure to the non-domestic market increased, while those of medium and high export orientation decreased. While this might partly be on account of lower prices in the international markets, even for share of employment, the share of the most export oriented firms decreased marginally, albeit the share of firms with medium export orientation increased. Labor productivity only increased for low export oriented manufacturing firms and decreased for firms with medium and high export orientation. TFP however increased for all categories of manufacturing firms, irrespective of their export orientation. It must however be noted that due to data constraints, this analysis uses two-digit industry export shares as a proxy for firm export orientation. Therefore, it does not pick up differences in export orientation within a particular (two-digit) industrial sector. Furthermore, the measure captures direct exports by manufacturing firms and does not take into account exports via intermediaries such as wholesale warehouses.

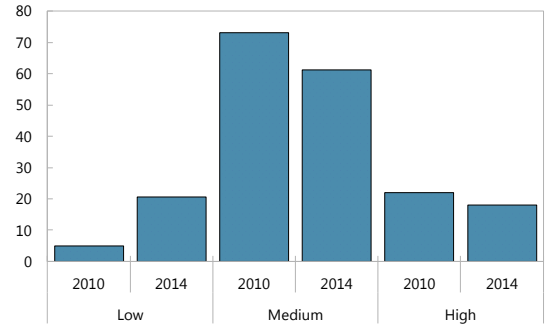
20. Difference-in-means analysis using export orientation also finds no evidence of differential benefits for export oriented firms (Figure 6). Although firms that increased productivity the most were relatively more export oriented (both in 2010–2013 as well as 2010–2014 periods), the difference was not statistically significant. Furthermore, there is no evidence of a shift in

labor resources towards relatively more export oriented firms, as the export orientation of firms that increased employment the most was almost the same as firms that increased employment the least.

Figure 5. Trends by Export Orientation

Value added shares of medium and high export oriented firms fell…

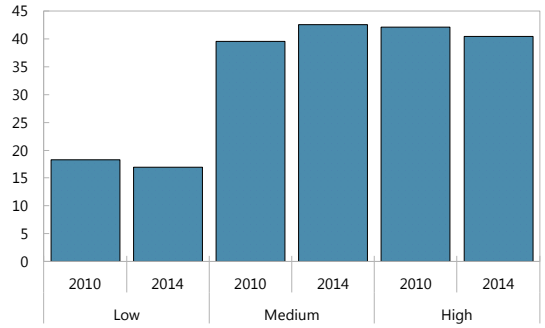
Value Added by Export Orientation
(Share of Total Value Added)



Sources: Orbis; and IMF staff calculations.

….although medium export oriented firms increased their share in total employment.

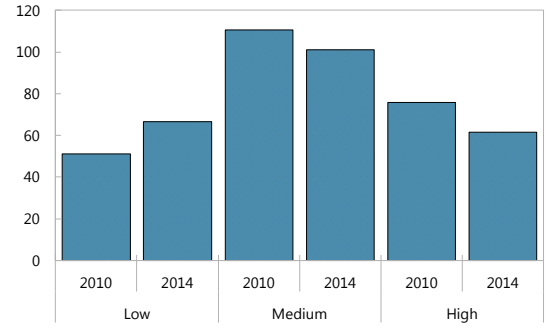
Employment by Export Orientation
(Share of total employment, percent)



Sources: Orbis; and IMF staff calculations.

Labor productivity increased for low export oriented firms…

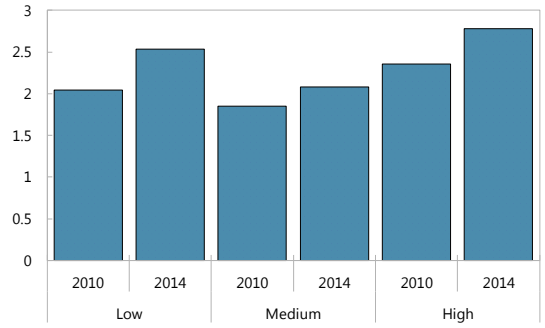
Labor Productivity by Export Orientation
(Real value added per worker, thousand 2010 euros)



Sources: Orbis; and IMF staff calculations.

…and TFP increased most for those with least export orientation.

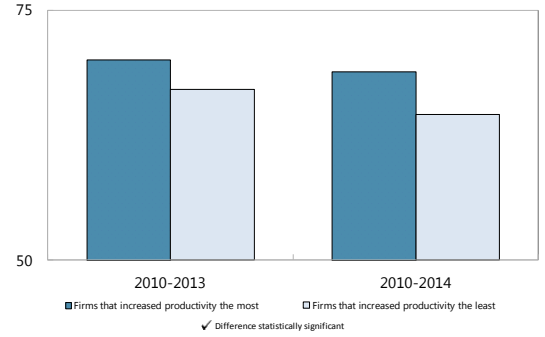
Total Factor Productivity by Export Orientation
(Log total factor productivity)



Sources: Orbis; and IMF staff calculations.

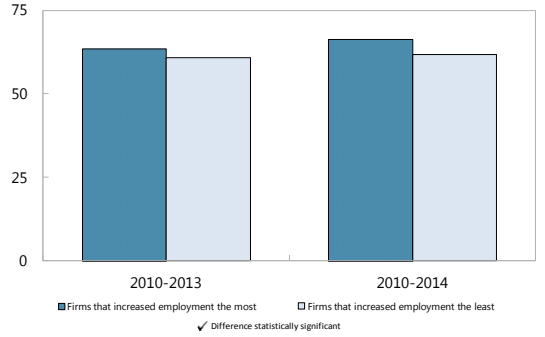
Figure 6. Increase in TFP and Employment by Export Orientation

Export orientation
(Export share in 2010)



Sources: Orbis; and IMF staff calculations.

Export orientation
(Export share in 2010)



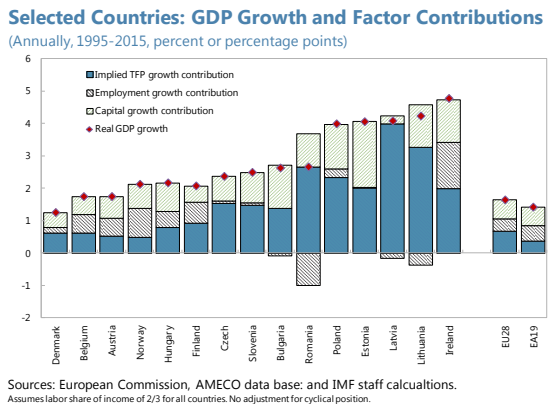
Sources: Orbis; and IMF staff calculations.

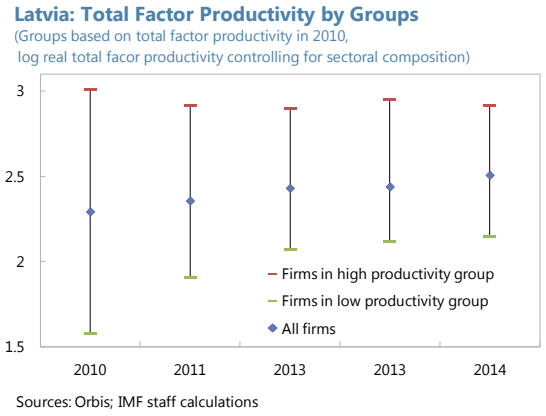
F. Policy Implications

21. Growth in Latvia has been underpinned by strong gains in TFP, but maintaining this may be challenging. Economic growth since 1995 has averaged 4.1 percent per year. Simple growth accounting, using data available from the European Commissions' AMECO database, suggests that the bulk of this growth was driven by TFP growth of about 4 percent, much higher than the other Baltics and the CEE average. Even during the post crisis period, TFP grew at an average of 3.2 percent while growth averaged around 3.6 percent.

22. Productivity gains during the post-crisis period were driven by "catch-up" of the relatively less productive firms (Figure 7). Real total factor productivity (in logs) increased by around 10 percent for an average firm between 2010 and 2014, after controlling for sectoral composition.[3] However, this increase was driven by the relatively less productive firms. Dividing the sample of firms into high and low productivity groups, based on the firms TFP in 2010, the TFP of firms belonging to the low productivity group increased by over 35 percent, while those belonging to the high productivity group declined marginally by around 3 percent. The dispersion between the productivity of the two groups also declined – while in 2010, the average firm belonging to the low productivity group was only half as productive as the firm belonging to the high productivity group, the difference was less than one-fourth in 2014. This suggests that the observed growth in aggregate TFP was driven by the relatively less productive firms that were able to able to "catch-up" of with their more productive peers and move closer to the domestic technology frontier.

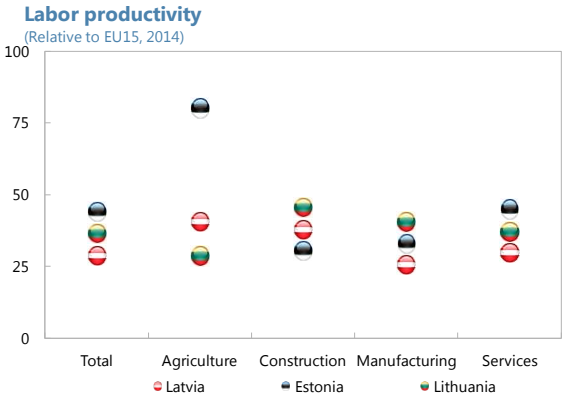
Figure 7. TFP: Contribution and Drivers





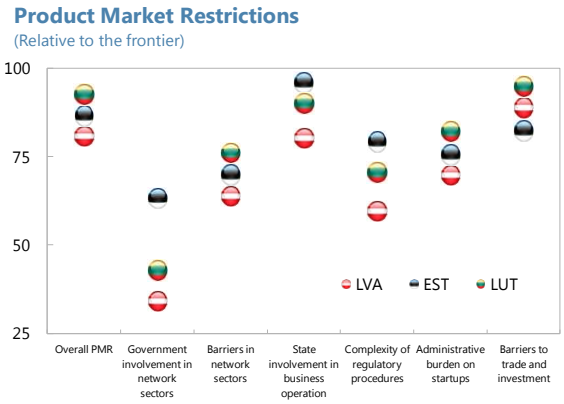
[3] Firm level log real total factor productivity is regressed on a set of sector dummies to control differences in productivity across sectors.

23. Still, Latvia has ample scope to raise productivity by pushing out the technology frontier. Latvia's labor productivity is only a third of the EU15 average, with agriculture doing relatively better while labor in manufacturing only a forth as productive. But closing this gap would require a strong push towards structural reforms by strengthening business environment and decreasing regulatory burden, improving state-owned enterprise (SOE) governance, upgrading the legal system, improving public infrastructure and attracting FDI. Sustaining growth in the longer term will require structural transformation, with an enhanced emphasis on innovation and R&D and more efficient use of labor resources by incentivize human capital accumulation through improved vocational education and training and lifelong learning.



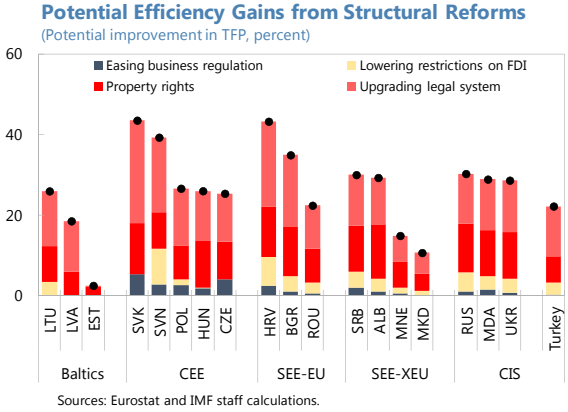
Sources: Eurostat; and IMF staff calculatons.

- **Strengthening the business environment and enhancing state-owned enterprise (SoE) governance are important elements of the reform agenda.** SoEs are dominant in a variety of network sectors, such as electricity, postal services, airlines, railways and telecom, potentially creating barrier to entry and hurting business environment. Given Latvia's size, many of these represent natural monopolies, but initiatives to foster competition by unbundling services such as generation, transmission and distribution in the energy markets are welcome. Furthermore, the OECD has identified many shortcomings to the SoE frameworks (OECD, 2015a) with non-transparent accountability and shareholder power and a widespread public perception that SoEs do not operate effectively and efficiently relative to private enterprises. Further simplification of license and permit systems, removal of compulsory chamber membership of professional services and reduction in the complexity of regulatory procedure can also strengthen business environment (OECD, 2015b).



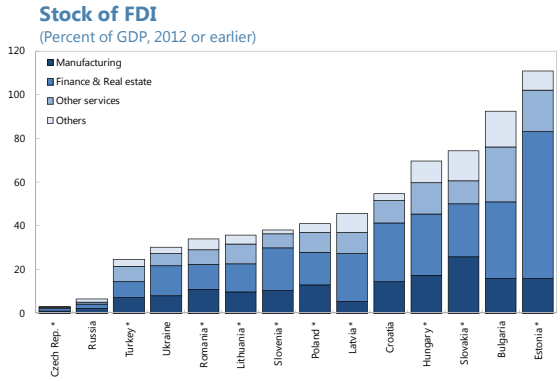
Sources: OECD; and IMF staff calculations.

- **Improving the effectiveness and efficiency of the insolvency regime can bring significant gains.** Estimates suggest that better property rights and upgrading the legal system has the potential to improve Latvia's TFP by close to 20 percent (IMF, 2016). In this context, the recent steps to strengthen the insolvency regime, including the increase in the number of courts; better specialization and allocation of judges; subjecting insolvency administrators to greater income disclosure; and stricter supervision are a step in the right direction. The length of proceedings and the backlog of pending cases have fallen, while clearance rates have risen. Nevertheless, banks continue to report that insolvency procedures can be lengthy and insolvency administrators obstructive. Further progress in implementation is necessary to fully realize potential efficiency gains, along with continued efforts to refine the framework further, strengthen the mechanism for out-of-court settlement of disputes and arbitration and a general improvement in public perception of the system. Efforts to combat the grey economy will also strengthen property rights.



Sources: Eurostat and IMF staff calculations.

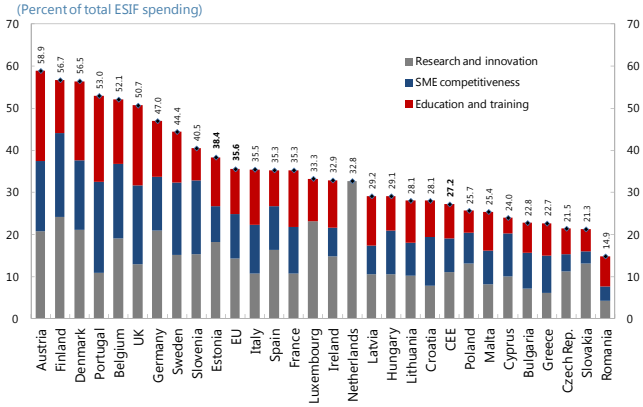
- **Better public infrastructure could help attract FDI and associated technological knowhow.** FDI and the presence of multinational firms can boost technology diffusion and increase productivity through through demonstration effects, increased competition, worker mobility, and information sharing about export markets (Javorcik, 2010). Latvia has considerable scope to increase FDI, but the lack of necessary infrastructure in ares such as roads, railways, ports and energy can constrain FDI inflows. Rail connectivity, both cargo and passenger, is limited and the infrastructure is outdated and incompatible with European neighbours. While major roads are well maintained and have improved in quality due to EU financed investement, the majority of regional and local roads – that constitute over 90 percent of the road network – are in a poor condition with limited funding for maintainance. Data from the Ministry of Tansport suggests only a quarter of roads (in terms of km) can be catergorized to be in good condition. Energy costs, particularly those related to transmission and distribution are relatively high and links to the wider European gas and energy markets are still being developed.



Sources: WEIW, and IMF Staff Calculations.
*Denotes countries without 2012 data; Latvia (2011); Hungary, Lithuania, Slovakia (2010); Czech Republic, Poland, Estonia (2009); Romania (2008) and Slovenia (2007)

- **Sustained growth in the long term will require structural transformation and innovation.** Latvia's share of high-technology exports is small (9.2% in 2014) and R&D intensity remains well below the EU average. The commercialization potential of research is low and there is insufficient cooperation between research, education and industry sectors, including a lack of knowledge and technology transfer and commercialization capacity in scientific institutions. The New Industrial Policy and Smart Specialization Strategy seek to address these deficiencies but are in the initial stages of implementation. Authorities have ambitious goals of doubling R&D spending, from current 0.6 percent of GDP to 1.5 percent by 2020, largely through enhanced private sector spending supported by innovation and R&D support schemes.

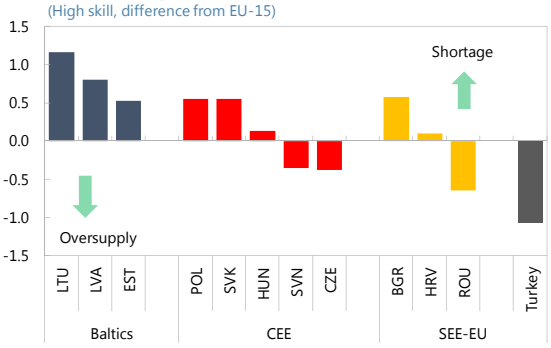
EU Countries: Pro-growth ESIF Spending, 2014-20[1/]
(Percent of total ESIF spending)



1/ Spending on thematic objectives 1 (research and innovation), 3 (SME competitiveness), and 10 (eductaion and training).
Sources: European Commission (https://cohesiondata.ec.europa.eu/); and IMF staff calculations.

- **Finally, efficient use of labor resources and matching skill with the needs of the labor market are critical for such structural transformation.** Latvia already experiences significant skill shortages and without concerted reforms, this is likely to get worse as the labor force dwindles, due to a low birth rate and emigration. The authorities have developed an ambitious reform agenda to build a more skilled workforce, with a focus on science, technology, engineering, and mathematics. Mechanism for the reallocation of resources to serve the ongoing and changing needs of the labor market will be important along with policy initiatives to stem emigration of skilled workers and encourage skilled migrants to return to Latvia.

Skill Shortage Index, 2000-14
(High skill, difference from EU-15)



Sources: Eurostat and IMF staff calculations.

Annex I. Data Coverage

Sector	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*
					Firms with data on Number of Employees					
Agriculture	2,883	3,455	4,290	4,244	4,389	16,997	6,783	7,341	7,705	7,816
Manufacturing	5,342	6,091	6,918	6,491	6,440	6,753	6,732	7,189	7,895	7,889
Construction	4,403	5,722	7,902	7,234	6,660	6,052	6,248	6,821	7,818	7,913
Trade	17,590	20,394	23,382	21,478	21,300	22,353	20,249	20,856	22,678	22,299
Market Services	18,849	23,202	28,800	27,270	28,635	31,641	30,845	33,673	37,638	38,208
Basic Services	1,620	1,992	2,588	2,571	2,657	2,724	3,339	3,740	4,273	4,471
Total	**50,687**	**60,856**	**73,880**	**69,288**	**70,081**	**86,520**	**74,196**	**79,620**	**88,007**	**88,596**
					Firms with data on Value Added and Labor Productivity					
Agriculture	54	34	42	37	19	469	598	656	698	705
Manufacturing	44	54	54	39	38	150	173	191	211	220
Construction	23	26	29	18	16	112	123	142	150	158
Trade	42	46	56	37	34	341	418	403	438	443
Market Services	48	63	61	35	37	495	556	610	642	679
Basic Services	5	8	9	7	9	50	61	69	72	86
Total	**216**	**231**	**251**	**173**	**153**	**1,617**	**1,929**	**2,071**	**2,211**	**2,291**
					Firms with data on Total Factor Productivity					
Agriculture	52	32	40	36	19	443	562	606	625	636
Manufacturing	42	52	52	37	35	126	143	164	188	193
Construction	21	25	28	17	11	88	102	128	135	139
Trade	42	45	52	32	25	263	330	328	353	358
Market Services	45	59	60	30	31	412	463	526	560	601
Basic Services	5	7	8	7	9	45	52	62	65	74
Total	**207**	**220**	**240**	**159**	**130**	**1,377**	**1,652**	**1,814**	**1,926**	**2,001**

Annex II. Difference in Means Result

Firm Characteristic (as percent of average)	Top third	Bottom third	Difference	t-stat
		Change in Total Factor Productivity, 2010-2013		
Total factor productivity	0.87	1.20	-0.33	-4.51
Labor productivity	0.45	1.22	-0.77	-6.47
Return on assets	-0.62	2.42	-3.04	-11.68
Return on equity	0.08	1.66	-1.58	-5.44
Profit rargin	-0.30	2.02	-2.32	-11.44
Size (Value Added)	0.72	0.51	0.21	0.58
Size (Number of employees)	0.69	0.52	0.17	0.75
Capital intensity	1.09	0.89	0.20	5.72
Average labor costs	0.74	0.95	-0.21	-1.87
Long term debt to total assets	2.95	0.01	2.94	1.01
Current ratio	0.78	1.17	-0.39	-2.12
Liquidity ratio	0.69	1.15	-0.46	-2.52
Solvency ratio	0.70	1.18	-0.48	-5.81
Gearing	1.14	0.86	0.28	1.82
Change in employment	0.33	1.52	-1.19	-2.50
Share of exports	1.07	1.03	0.05	0.52
		Change in Employment, 2010-2013		
Change in productivity, 2010-2013	-0.05	1.39	-1.44	-2.06
		Change in Total Factor Productivity, 2010-2014		
Total factor productivity	0.87	1.13	-0.26	-3.38
Labor productivity	0.52	1.50	-0.97	-5.76
Return on assets	-0.35	2.16	-2.51	-10.20
Return on equity	-0.02	1.64	-1.66	-5.34
Profit rargin	-0.15	1.96	-2.11	-10.80
Size (Value Added)	0.70	0.55	0.16	0.73
Size (Number of employees)	0.98	0.51	0.47	1.72
Capital intensity	1.09	0.92	0.17	5.06
Average labor costs	0.87	1.05	-0.18	-1.53
Long term debt to total assets	2.78	0.22	2.56	0.93
Current ratio	0.82	1.23	-0.41	-2.10
Liquidity ratio	0.68	1.49	-0.81	-3.37
Solvency ratio	0.78	1.16	-0.38	-4.69
Gearing	1.12	0.92	0.20	1.16
Change in employment	0.53	1.41	-0.89	-2.12
Share of exports	1.04	0.98	0.06	0.65
		Change in Employment, 2010-2014		
Change in productivity, 2010-2014	-0.32	1.46	-1.78	-1.44

References

Blanchard, Olivier, Griffiths, Mark, Gruss, Bertrand (2013) – Boom, Bust, Recovery: Forensics of the Latvia Crisis. Brookings Papers on Economic Activity, Economic Studies Program, The Brookings Institution, vol. 47, issue 2 (Fall), pp. 325–388

Gal, Peter N. (2013), "Measuring Total Factor Productivity at the Firm Level using OECD-ORBIS.", No. 1049 OECD Publishing.

Gilhooly, Bob, (2009), Firm-level estimates of capital stock and productivity. Economic and Labour Market Review, 3(5), 36–41.

IMF (2016), CESEE Convergence: How to Get Back on the Fast Track, European Regional Economic Issues Report, April 2015

Javorcik, B., 2010, "Foreign Direct Investment and International Technology Transfer," Encyclopedia of Financial Globalization.

OECD (2015a), "Review of Latvia's position relative to the OECD guidelines on corporate governance of state-owned enterprises," OECD Publishing.

OECD (2015b), "Policy areas for increasing productivity in Latvia economics," OECD Economics Department Working Papers, No 1255.

Wooldridge, Jeffrey M. (2009) "On estimating firm-level production functions using proxy variables to control for unobservables." Economics Letters 104.3: 112–114.

ELUSIVE CREDIT GROWTH IN LATVIA: CAUSES AND REMEDIES[1]

Latvia's creditless recovery has taken unusually long to turn compared to international experience. Although lack of credit has not undermined recovery so far, support from the financial sector will be crucial for its continuation going forward. This is particularly the case given the model for growth, which is based on investment-driven improvements in productivity. While demand factors explain subdued lending activity to larger, cash rich firms, supply factors are likely more important for SMEs and households. The crisis continues to cast a shadow, with banks cautious given past losses and bad experiences trying to recover collateral. Further, for smaller firms and households lack of collateral or documentable income is a major obstacle for access to credit. Firm implementation of the recent reforms to the courts and to insolvency procedures is vital. Although lessons learned from the crisis should guide bank business models and supervisory practices, it is important that excessive risk-aversion does not become embedded either. Further, in a foreign-dominated banking sector, the business cycle of the home country should not become an impediment to lending in the host country.

1. **While the pre-crisis boom was supported by excessive bank credit, the recovery has evolved despite its absence.** In contrast to the period leading up to the crisis, the contribution of the financial sector to economic growth remains weak. The credit-fueled domestic demand boom prior to the crisis in Latvia ended in a severe recession, and a collapse in credit and domestic demand. Although the economy has seen a strong turnaround, and a long period of financial sector repair, resulting in a well-capitalized banking sector with access to liquidity, credit continues to decline 5 years after economic growth has turned positive.

2. **The absence of financial sector support to the economy raises concerns about its sustainability.** The recovery so far has been driven mainly by consumption rather than investment. While companies have been able to self-finance investment in recent years, rising wage pressures could start to limit this channel in future. Given this, growth in bank credit will be needed to fund the investment necessary to support growth in the short run, and also to lay the ground for future growth, including through productivity enhancing investments.

3. **The aim of this paper is to examine possible factors contributing to lackluster credit developments in Latvia.** The Baltic Cluster Report (2014) examined possible causes for the creditless recovery observed in the Baltic countries.[2] Since then, credit flows have resumed in Estonia and Lithuania, albeit meagerly, whereas credit continues to shrink in Latvia. We revisit the factors analyzed in that report and how their contribution have evolved, focusing on the case of Latvia.

[1] Prepared by Maral Shamloo

[2] See Baltic Cluster Report, 2014, IMF Country Report No. ISCR/14/116.

We consider the position of Latvia in its credit cycle and the role of its financial sector landscape in the post-crisis financial conditions outturn.

A. Background

4. The financial sector in Latvia is dominated by commercial banks, with strong cross border linkages to Nordic countries. Commercial banks' assets accounted for almost 130 percent of GDP at end-2015. Alternative sources of funding for corporates, such as access to debt and equity capital markets are limited. Total stock market capitalization is close to 4 percent of GDP. The bond market is dominated by government securities and corporate bond market remains small: outstanding non-financial corporate debt is less than 1 percent of GDP, compared to government securities which are close to 5 percent of GDP. Institutional investors are also scant. Thus, bank lending is the main channel for access to credit for the majority of firms and households.

5. Latvia has a bifurcated banking sector, with the two segments following different business models. The foreign bank presence in Latvia is strong. Out of the 27 commercial banks, around half are foreign: 3 are subsidiaries from the Nordic region, and 10 are branches of foreign banks. Foreign banks mainly deal with domestic clients and own the lion's share of domestic lending (around 81 percent). Domestic banks, on the other hand, rely mostly on non-resident deposits (NRDs) and their assets are composed of highly liquid foreign assets (Figure 1).

6. The structure of the banking system gives rise to two sources of financial stability concerns:

- **Deposit outflows from the NRD sector**. NRD banks do not have a significant share of domestic loan portfolio (around 13 percent as of February 2016) and enjoy higher liquidity ratios than is typically associated with balance sheets characterized by retail and corporate loans (close to 60 percent liquid assets). Nevertheless, deposit outflows remain a risk as NRDs are covered by the state deposit guarantee scheme and thus represent a contingent fiscal liability. For instance, they suffered a 30 percent outflow during 2008. Furthermore, since the financial crisis even the most liquid advanced economy bond markets have seen episodes of liquidity flight, for instance the taper tantrum (May 2013) or the bund tantrum (May 2015) and thus liquidity risk remains even in the presence of more liquid securities on the asset side of the balance sheet. As a result of these liquidity risks, and in line with staff recommendation, NRD banks face larger capital (up to an additional 9.5 percent) and liquidity hurdles (up to 60 percent). Currently, non-resident deposits form more than half of the deposit base in Latvia (Figure 1).

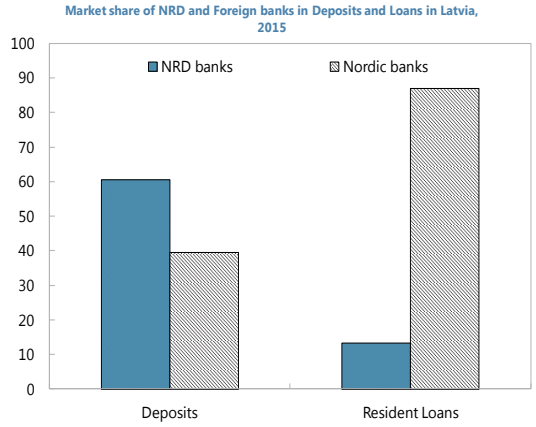
- **AML concerns.** The authorities have stepped-up their efforts to address money laundering. Specifically, they have widened their definition of Politically Exposed Persons (PEP) to address recommendations made by the OECD's Working Group on Bribery, and the Financial and Capital Markets Commission (FCMC), in charge of bank supervision, has adopted a risk-based supervision strategy. The FCMC has also employed external resources for in-depth audits of banks' procedures in order to impose minimum standards on risk monitoring systems of the

banks. Staff encouraged the authorities to continue their efforts and to ensure that sufficient resources are allocated to AML supervision.

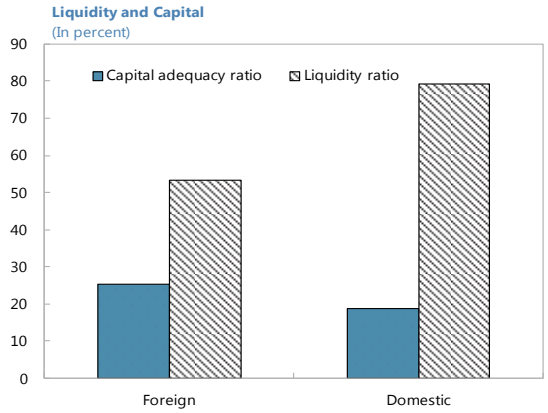
7. The financial sector repair process, following the damage inflicted by the crisis, is now largely complete. Latvia experienced an extraordinary credit boom in the period leading up to the global financial crisis. At its height in 2006 Q3, credit growth reached almost 70 percent, and was reflected in increasing household and corporate debt. The recession and the collapse in demand that ensued saddled the banks with NPLs, peaking at 20 percent. The authorities undertook restructuring of domestic banks, amended the legal framework for insolvency and made efforts to strengthen market-based debt resolution. Banks undertook significant write-offs of bad loans; as a result NPLs have decreased to 6 percent as of end 2015 (Figure 2).

Figure 1. The Two Segments of the Banking Sector

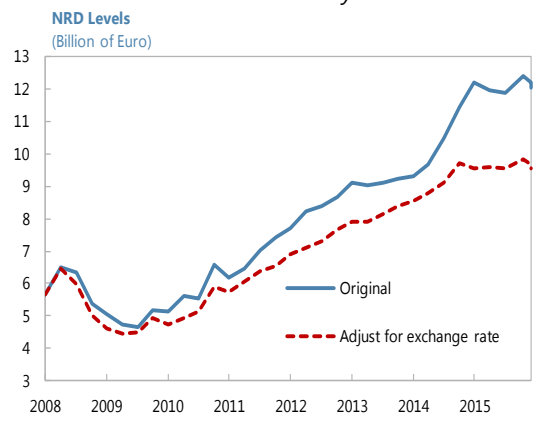
NRD banks preside over the majority of deposits, but a small fraction of the loan portfolio…



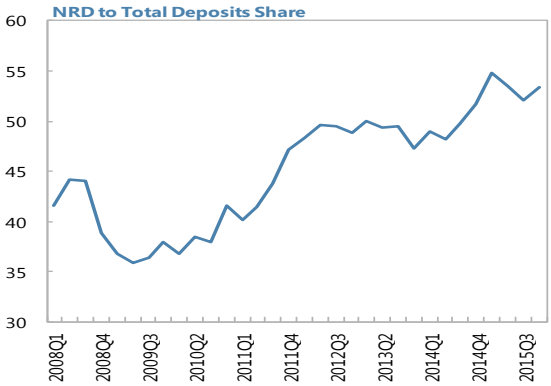
… and face higher capital and liquidity requirements



NRDs have returned strongly since the crisis, though some reversal is observed recently.



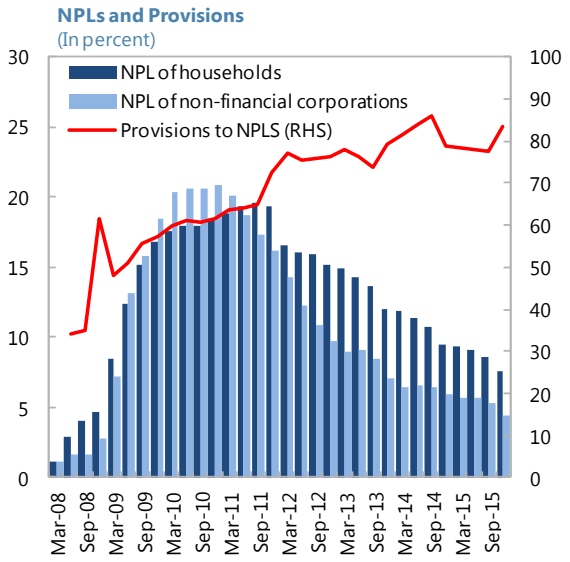
Nevertheless, on a nominal basis, they now form the majority of deposits in the banking sector.



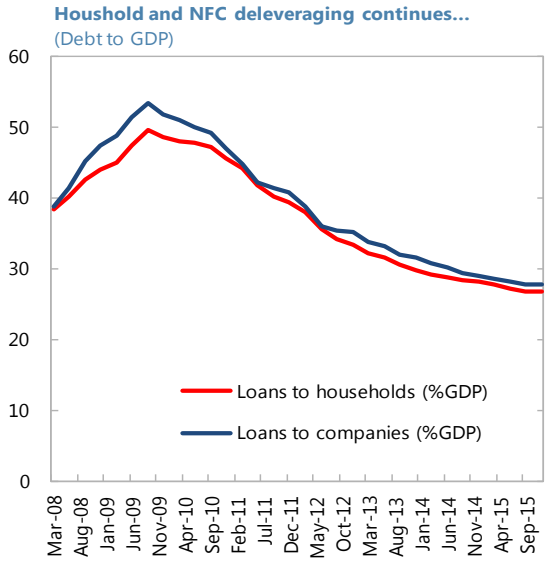
Sources: FKTK; Haver; IMF staff calculations.

Figure 2. The Financial Sector Repair Process is Coming to Completion

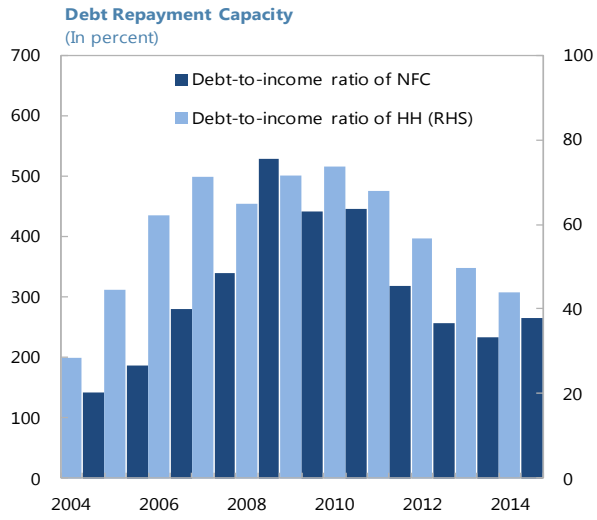
NPLs have fallen and the coverage ratio has soared



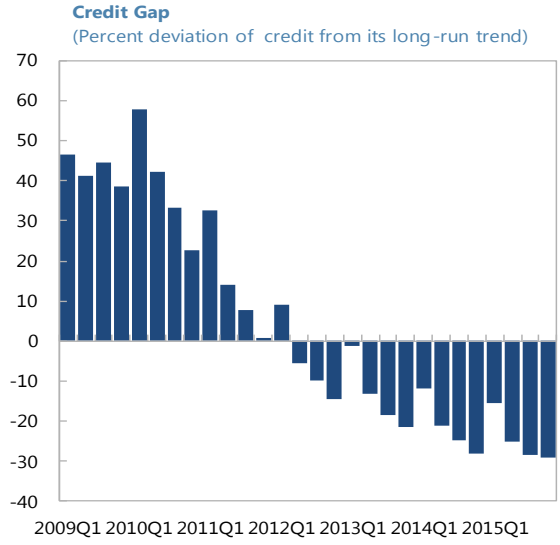
Households and NFCs have delivered significantly since the crisis…



… and their debt repayment capacity has improved.



Nevertheless, the credit gap remains significantly negative.



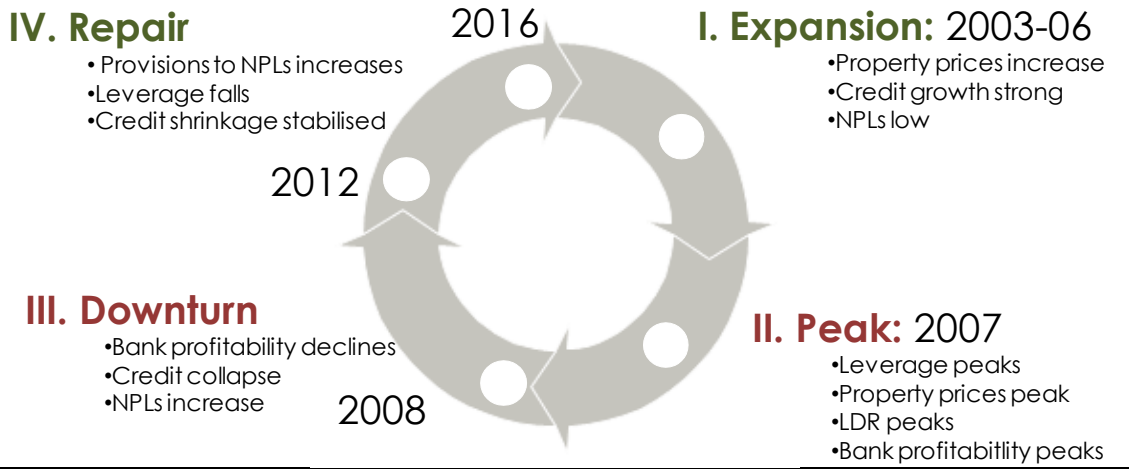
Sources: Bank of Latvia, Eurostat, Haver Analytics, and IMF staff calculations.

8. Consistent with this narrative, indicators place Latvia at the late stages of its credit cycle. Based on the methodology used in the October 2015 GFSR, Latvia is placed ahead of the Euro Area as a whole in the credit cycle, but behind Japan and the United States. The long period of balance sheet deleveraging and repair following the expansion years prior to the crisis would place Latvia towards the end of the repair stage in the credit cycle. A measure of the credit gap, calculated as percentage deviation of credit to GDP from its long-run trend, shows signs of bottoming out, albeit at very depressed levels. NPLs, both for households and corporates have come down significantly since 2011, and provisions to NPLs have soared. Furthermore, households and non-

financial corporates are deleveraging and debt servicing capacity has increased significantly since the crisis (Figure 3).

Figure 3. Latvia Through the Credit Cycle

Indicators place Latvia at the late stages of its credit cycle.



9. Furthermore, an index summarizing the financial conditions for Latvia suggests a slow return to neutral conditions (Figure 4). Using a number of indicators of financial conditions (NPLs, credit growth, profitability, house prices and funding ratios) we construct an index of financial conditions.[3] The FCI offers a useful tool for continuous surveillance of financial conditions, as it summarizes information from several variables simultaneously. By construction, the FCI has a mean of zero and variance of 1 over the sample (2007- 2015), and thus should be interpreted as changes relative to the mean during this period. Higher values indicate looser financial conditions and lower values indicator tighter conditions. Consistent with the narrative of credit cycle discussed above, the FCI shows that financial conditions were at their easiest in 2007 but deteriorated rapidly and have been very slow to return to neutral. FCIs are typically leading indicators of business cycle, whereas credit growth is a lagging one. Therefore, the long period of FCI returning to normal is consistent with the slow recovery in credit. Nevertheless, the FCI masks differences in the evolution of underlying indicators. Whereas NPLs and bank profitability measures have improved dramatically, credit growth is still far behind neutral levels.

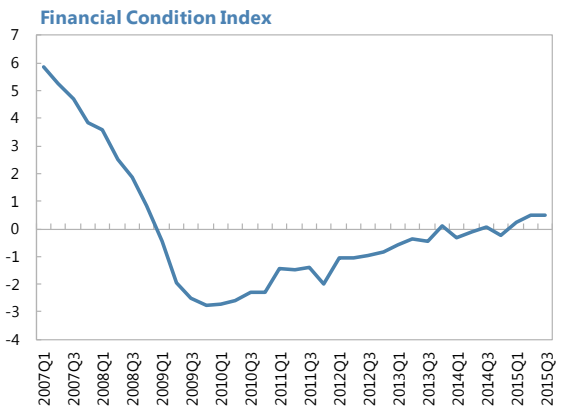
10. Despite significant balance sheet progress, bank lending standards remain tight. While banks systematically expect loosening of standards, in reality, the bank lending survey suggests that

[3] Specifically, we take the first principal component of the variance-covariance matrix of the underlying indicators as our FCI. Principal component analysis allows the primary drivers of a large dataset to be summarized in one index, while abstracting from idiosyncratic movements. The FCI for Latvia explains over 75 percent of the covariance of the data.

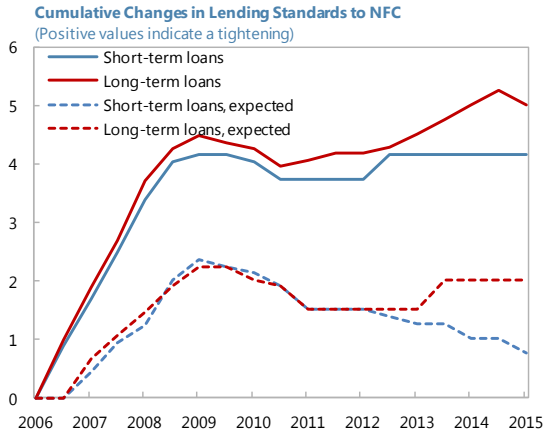
lending standards have not eased since 2014 (Figure 4).[4] This is despite improvements in the balance sheets of the banks, as well as general macroeconomic recovery. Banks cite lack of collateral, short credit history and lack of documentable income (for mortgages) and risk perceptions associated with firm or industry level outlook (for corporates) as the main reason contributing to tight lending standards. Furthermore, in light of the crisis experience, banks have re-evaluated their expectations of recovery of collateral, which has contributed to a part of the tightening in standards that will take time to reverse.

Figure 4. Financial Condition

The FCI shows a gradual return to period averages...



...yet, no loosening of standards has been observed since the crisis.



Sources: Bank of Latvia and IMF staff calculations.

B. Why Has Credit Been Restrained?

Latvia's creditless recovery is not surprising, yet its duration is unusual. Creditless recoveries, where credit growth remains elusive for an extended period of time, are widely understood to be common after banking crises as they are associated with disruptions in credit supply (see for instance Abiad, Dell Ariccia, and Bin, 2011, or Bijsterbosch and Dahlhaus, 2011). Such episodes are often preceded by large output losses, banking crises, and high private sector indebtedness, all making Latvia a likely candidate to experience a creditless recovery. Yet, credit contraction in Latvia has persisted for an unusually long time. For instance, Bijsterbosch and Dahlhaus (2011) study 211 recoveries, out of which only 12 experienced 3 consecutive years of negative credit growth. In Latvia, real credit has shrunk for over 5 consecutive years, despite positive GDP growth over the same period. In comparison, real credit contraction in Estonia and Lithuania ceased after 3 and 4 years, respectively (Figure 5).

[4] Latvijas Banka conducts the bank lending survey in cooperation with the European Central Bank (ECB), on a quarterly basis. Prior to 2014, the BLS was conducted on a semi-annual basis.

Supply Side Factors

11. A credit crunch, or a reduction in the general availability of credit, can appear for several reasons. Supply constraints leading to tighter conditions for obtaining credit could include (i) shortages in capital or liquidity (or an increase in requirements), reducing lending capacity when raising capital or liquidity is costly; (ii) an increase in risk aversion; (iii) absence of good collateral; iv) uncertainty about borrowers' creditworthiness, resulting in an increase in asymmetric information between the borrower and the lender; and v) encumbered balance sheets, leading to bankers being pre-occupied with working out bad loans as opposed to extending new ones.

12. Capital and liquidity do not seem to be binding constraints to lending in Latvia. As of end-2015, banking system capital adequacy ratio was at 22.7 percent (CET1 of 19.7 percent) and banking sector liquidity ratio stood above 65 percent. For those banks focused on residents, which undertake most of the lending to the real economy, the CET1 stood even at a higher level of 26 percent (also see chart). Although capital does not seem to be a binding constraint, the more prudent post-crisis regulatory regime, appropriately, has raised the cost of extending loans. Capital requirements have risen significantly compared to the pre-crisis era, making the marginal cost of a loan much higher to a bank. This is particularly the case in Sweden, home to two of the largest subsidiaries in Latvia, where total capital requirements for the groups range between 19–25 percent of RWA. This fact does not explain, however, why loan growth in Latvia has been slow compared to peers in the Baltics where the same banks also operate.

13. Yet, the legacy of the crisis has meant that supply conditions remain tight. The high level of losses realized during the crisis has increased banks' risk aversion in two ways:

- **First, there was a general change in attitudes towards risks and a re-evaluation of the credit-worthiness of certain classes of clients.** Nordic banks suffered very large losses during the crisis. Since then, their balance sheets have shrunk continuously and, in the case of the two largest banks, they have withdrawn from all but very top-tier clients. In the same way that lax attitudes towards risk prior to the crisis were extreme, this withdrawal could be an over-reaction, a fact that is more difficult to reverse through policy action. Related, problems with collateral recovery in default cases during the crisis, mean that lenders are now much more cautious about new clients.

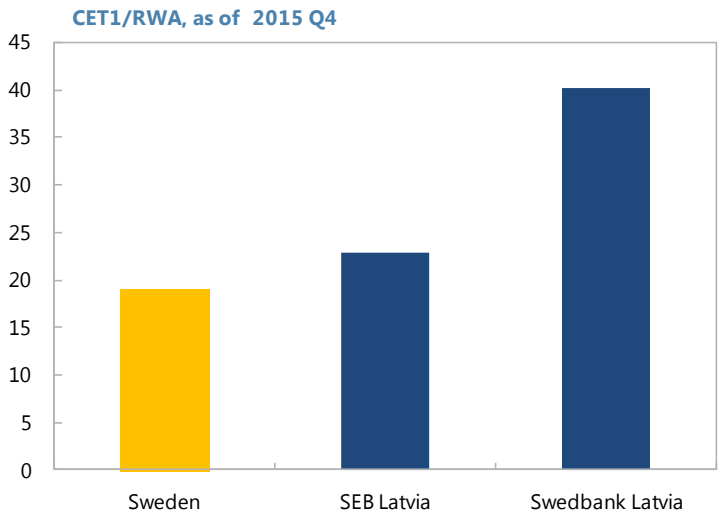
- **Second, the calibration of risk models mechanically implies tighter conditions for Latvia.** Given the limited data history used to calibrate the internal risk-based (IRB) models, the crisis legacy in Latvia implies high projected probability of losses and loss given default. To the extent that the same models are calibrated based on local data, the Latvian portfolios appear riskier compared to the parent counterpart. As a result for some banks, centralized risk management techniques have implied tighter lending standards in Latvia compared to home countries.

14. Structural factors further contribute to the tightness of credit standards. The significant size of the gray economy means that a large number of firms (and individuals) may be effectively excluded from seeking bank credit, as their "official" income is inadequate. As noted above, banks

see the slow process of reclaiming their collateral as an impediment to lending to riskier borrowers. Despite commendable progress in the insolvency framework reform, implementation lags. In addition, administrators and judges could be better trained on specific issues related to insolvency.

15. The specific banking sector structure in Latvia may have also contributed to the significant deleveraging and anemic credit growth that ensued. Lending by foreign banks, in theory, should be more resilient to host country shocks, since the capital and liquidity position of the parent is likely more correlated with the home country business cycle. In practice, however, countries with more international banking linkages tend to see a larger contraction in lending, as foreign banks could deleverage disproportionately from non-strategic stressed regions or markets (April 2015 GFSR, Chapter 2). This result could be significant for Latvia as it only constitutes 2 percent of the Swedish banks' assets (Figure 5).

16. Swedish banks' lending is more sensitive to GDP growth in the Baltics compared to Sweden. We used bank level data from Bankscope to compare lending at the parent and the subsidiary level for the two largest foreign banks present in Latvia (Swedbank and SEB). The data shows that loan growth is much more sensitive to GDP growth in the Baltics than it is in Sweden (Figure 5). As a result, the reduction in net loans since 2008 has been significantly faster in the Baltic subs compared to the parent. This highly cyclical behavior of foreign banks could reinforce the business cycle and the volatility of output and credit growth. The behavior is similar for the subsidiaries of the two banks in Estonia and Lithuania. Furthermore, this behavior is independent of the level of capitalization. In fact, subsidiaries, on average, enjoy higher levels of capital compared to the overall group. These results are consistent with the findings of the GFSR chapter, referred to above.



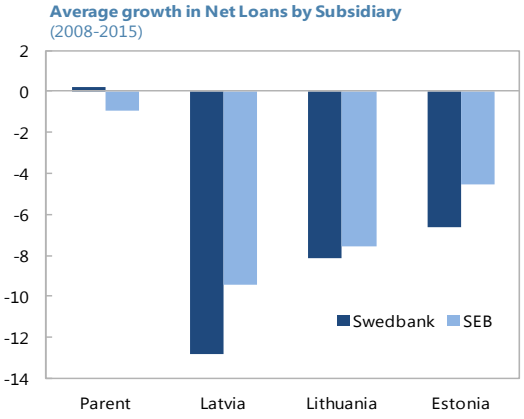
17. Domestic banks have not picked up the slack left by the foreign banks. Except for one small domestic bank (less than 7 percent of total loans) who is gaining market share, domestic banks are mostly concentrated on non-resident lending, which is growing more strongly than domestic lending (Figure 6). The NRD sector's lending to the domestic economy remains limited (13 percent of total lending) and typically to special big-ticket projects such as luxury real estate. The specific banking structure in Latvia implies that a large part of the economy, such as first time borrowers or SMEs have limited access to credit. It also creates constraints on policy levers that can be used to encourage credit growth.

18. Shared supervisory responsibility may also be contributing to the problem (Box 1). The supervisory responsibility of Swedbank and SEB is shared between the home supervisor at the group

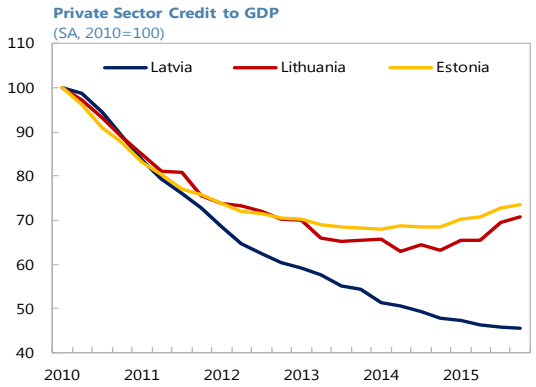
level (Swedish FSA in the case of Swedish banks operating in Latvia) as well as the host supervisor (FCMC) and SSM. Given the small size of the subs relative to the parent, this arrangement could imply that for the two largest banks in Latvia the priorities of the group—and the home supervisor—may override local considerations. This could particularly be the case at times when home and host countries are at different points in their credit and business cycles. Currently, the Swedish FSA has activated some of its macro-prudential levers, which is appropriate as credit growth remains strong in Sweden, but less so for some of the host countries that the Swedish banks operate in. Although some of these tools, such as the Counter Cyclical Buffer only apply to Swedish exposures, the overall risk-off attitude could percolate through the group business model.

Figure 5. Latvia's Creditless Recovery

Swedish banks have delevered more strongly in Latvia compared to home or the rest of the Baltic…

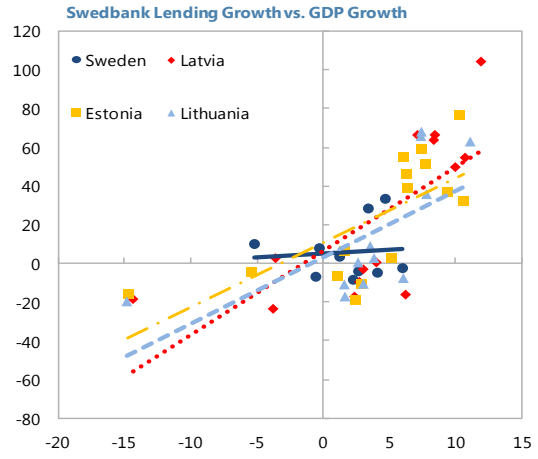


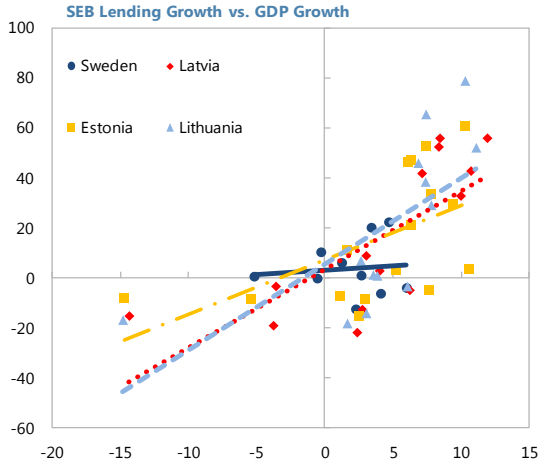
…As a result, Latvia's credit crunch has been deeper and longer.



Sources: Bank of Latvia, Central Bank of the Republic of Lithuania, Bank of Estonia, and IMF staff calculations.

Lending of the subsidiaries is more sensitive to GDP growth, suggesting procyclical behavior by the banks.





Demand side Factors

19. Monetary policy and general macroeconomic conditions are unlikely to be a drag on demand for credit. Demand-side explanations for lack of credit include an increase in aggregate uncertainty and a reduction in aggregate demand, (expectations of) tighter monetary conditions or a reduction in asset prices and net wealth. These factors may have played a role in the rapid deleveraging observed earlier in the recovery. But given the current monetary policy stance, improving property prices, and strengthening balance sheets of households and companies, their contribution has likely diminished over time.

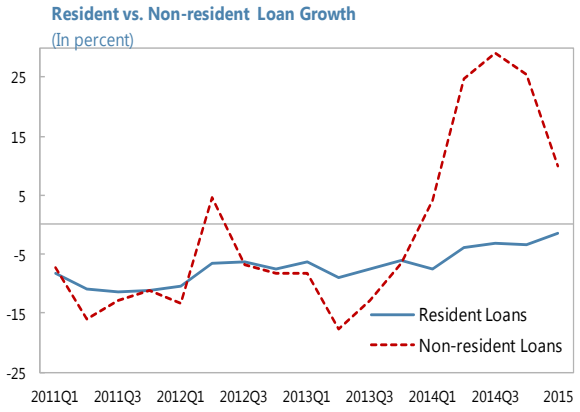
20. Nevertheless, the crisis legacy and ongoing uncertainties have probably affected attitudes towards borrowing. The large number of insolvencies during the crisis could have affected private attitudes towards taking on debt. Anecdotal evidence suggests that the actual duration of mortgage portfolios is significantly shorter than their time-to-maturity at origination, as borrowers amortize much faster than they have to.[5] As a point of comparison, Estonia and Lithuania who did not see an increase in their NPLs to the same extent as Latvia, have seen credit returning earlier (Figure 5). Also, ongoing uncertainties regarding economic prospects in key trading partners, as well as geo-political risks, and delays in the arrival of EU structural funds may all act as a drag on demand for new credit.

21. While net credit growth may still be negative, reallocation across sectors may be a source of growth. Gross credit flows may go undetected when looking at net flows (see Claessens, et al., 2008). As the economy shifts from a housing-fueled boom towards a more balanced growth model, we would expect credit reallocation towards the more productive sectors. This reallocation will be accompanied by growth given the differences in productivity between the different sectors. Indeed this process has to a certain extent taken place in Latvia. The 26 percent reduction in overall outstanding credit since end-2010 masks sectoral differences in credit allocation. Construction and real estate sector has experienced a particularly strong deleveraging, and credit to these two sectors constituted 36 percent of domestic corporate credit at end-2015, compared to 44 percent at end-2010. In fact, excluding real estate sector and construction, year-on-year credit growth turned positive in the final quarter of 2015 (Figure 6).

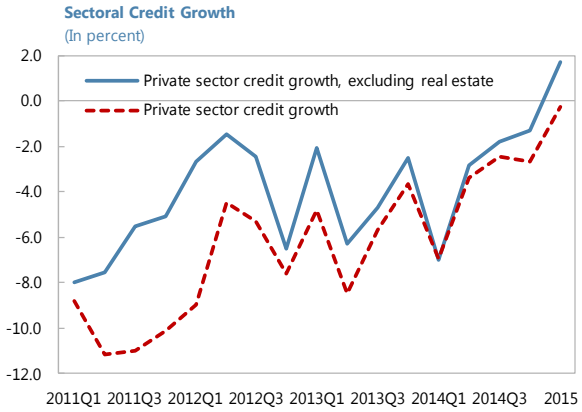
[5] Although this fact may also signify that borrowers have cash flows beyond what they can document and present to the bank at the time of loan origination.

Figure 6. Cross-Sectional Developments in Credit

While loans to the domestic economy continue to shrink, loans to non-residents have grown strongly,



Sectoral reallocation of credit may over-state the depth of deleveraging outside the-real estate sector.



C. Lessons and Policy Implications

22. Emphasis on resuscitating credit growth is key to maintaining recovery. Creditless recoveries tend to be weak and short-lived (see Kannan (2010), Abiad et al. (2008) and Claessens et al. (2008)). Furthermore, investment makes a disproportionately lower contribution to growth in such episodes compared to "normal" recoveries and productivity is adversely affected. This is consistent with Latvia's experience of low investment growth and an output growth driven by consumption so far. Going forward, credit will be essential for investment growth needed to push the productivity frontier and maintain competitiveness. As productivity gains achieved by shedding labor run their course, any further gains in productivity will require investment in capital. In addition, going forward, strong wage growth could limit the firms' ability to finance investment through retained profits. Absorption of the EU funds, a pillar for the investment growth projections of the next few years, requires private co-financing, again underpinning the role of their access to credit. Therefore, the financial sector will have to play its part in providing the credit needed to support future investment.

23. Focus should be on facilitating access to credit for SMEs and first time borrowers, where market failures are the largest. The SME sector is particularly credit constrained and therefore, government programs such as loan guarantee schemes and subordinated loans designed by the Single Development Institute (SDI) are particularly welcome and have so far been well received. Historical experience shows that credit guarantee schemes can only be effective when there are competent, financially sound banks, with adequate staff to effectively screen and monitor SME loans. It is important that credit guarantees do not become a vehicle for misallocation of funds to SMEs with little future, or to those that do not need it. The more effective schemes are (i) targeted to those sectors that are most several financially constrained and (ii) operated on a commercial basis, typically through an on-lending program via commercial banks. In this regard, the authorities'

focus on areas where market failure is identified is welcome. Nevertheless, these programs do not alleviate the problem for those firms or individuals that are part of the grey economy and hence choose to under-report their income and are therefore excluded from access to credit.

24. Lending by Nordic subsidiaries could be better-attuned to Latvian conditions. There is some evidence that centralized risk management by parent banks could be contributing to overly-constrained lending in Latvia. Given Latvia's recent crisis experience, and hence the higher probabilities of default, and rates of loss given default, it may be that banks' internal risk models place too much weight on the recent historical episode, relative to current conditions. Indeed, after a sharp tightening since the onset of the crisis, bank lending standards have not changed substantially.[6] Also, subsidiary level data suggests that Nordic banks' lending is more volatile during the business cycle in Latvia (and the rest of the Baltics) compared to the home country. Based on this, staff urged the prudential authorities to review the results of a benchmarking exercise of banks' risk models, conducted in cooperation with other competent authorities, to ensure they appropriately capture risk, and that the crisis legacy and associated risk aversion does not unduly constrain lending.

25. Further progress on institutional factors affecting credit is required. Ensuring uniformity in quality of insolvency administration and improvements in the implementation of insolvency reforms undertaken so far is vital for restoring the trust of the banking sector. The establishment of a credit bureau this year is an important step forward for facilitating access to credit history, which will particularly benefit first-time borrowers. The authorities should ensure that these bureaus can become a "one-stop shop" where creditors will be able to access financial information about potential borrowers. This will require granting the bureaus access to both positive and negative data, such as the land register as well as information on court proceedings.

26. Experience of other jurisdictions in adopting policies to reignite credit could prove helpful. Box 2 summarizes some of the policies adopted in various jurisdictions in order to support, or revive the flow of credit. Among them are attempts to prevent discrimination against lending to SMEs by, for instance, defining a lender code of conduct. For instance, the Bank of Ireland requires lenders to publish on their website application procedures, as well as available government co-financing programmers available to SMEs. Lenders are also required to provide their reasons in writing for rejecting a loan and an appeal process on sound grounds exists for challenging the bank's decision. Awareness programs informing SMEs of options available to them for financing have also been found effective internationally.

[6] The Bank Lending Survey conducted by the Bank of Latvia, in cooperation with the ECB, is addressed to senior loan officers, and asks about changes in lending standards in the past quarter and intentions for one quarter ahead.

Box 1. Institutional Responsibility for Supervisory and Macroprudential Policy in the Nordic-Baltic Area

Implementation of micro-prudential policy

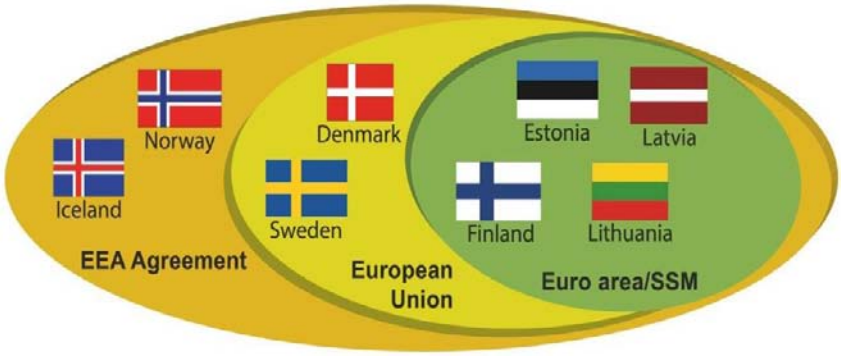
The Nordic-Baltic region is one of the most financially integrated regions in the world. The banking sector in this region is dominated by a small number of banks with large cross-border exposures. As a result, long-standing supervisory colleges for Nordic banking groups have existed, coordinating supervisory plans, and exchanging information regularly on risks, liquidity and capital adequacy. The colleges allow for coordination of inputs to EBA and to EU-wide colleges in the EU. Recently, with the advent of SSM the colleges also coordinate on their input to the Joint Supervisory Teams (JST) in the SSM.

The advent of the SSM has increased the need for close cooperation between all the relevant authorities. The home countries of subsidiaries in EA countries such as Latvia remain outside the SSM, which presents new challenges. Asset quality reviews and stress tests are done at various levels. Although subsidiaries of Nordic Groups within the Euro Area are assessed according to SSM methodology, group-level assessment is often based on the home authority methodology. With the implementation of CRD IV progress has been made towards harmonization, yet differences still exist in the supervisory practices. In addition, a close level of cooperation is essential in the region as it is often difficult to assess credit and liquidity risks on the basis of entity due to strong cross-border linkages.

Implementation of macro-prudential policy

As is generally the case elsewhere, macro-prudential policy is a fairly new concept in the Nordic-Baltic area. Following the financial crisis and recently with the introduction of the CRR/CRD IV, each Nordic-Baltic country has by now taken decisions to formally designate a domestic authority or body in charge of macro-prudential policy. Depending on the country, the authority could be vested with the central bank (Estonia, Lithuania, Latvia), the supervisory authority (Sweden, Finland), or the government or an independent council (Denmark, Norway and Sweden). Due to their strong ties, and different status in terms of membership in EU and EA, there are important overlaps in jurisdiction. This is the case in spite of differences in the stages of financial cycles across different countries in the region.

Various institutional memberships in the Nordic-Baltic region



Nordic-Baltic Macroprudential Forum (NBMF)

In 2011, the Nordic and Baltic countries formed the Nordic-Baltic Macro-prudential Forum (NBMF) as a high-level platform for central banks and supervisory authorities in the Nordic-Baltic region to meet regularly, following the creation of the European Systemic Risk Board (ESRB) in 2010 which provides the same platform at the European level. While the NBMF is an informal body with no decision-making authority, the mandate of the Forum has been to discuss financial stability risks facing the Nordic-Baltic countries, and the implementation of macro-prudential measures. The NBMF has also discussed a number of separate topics such as the application of risk weights in the Nordic-Baltic area.

Box 2. Policy Measures Intended to Encourage Credit Growth: Examples from Various Jurisdictions

Credit-less recoveries have been a common feature among many countries following the financial crisis particularly in Europe. From Italy to Greece, Slovenia to Spain, several countries saw credit retrench long after output growth turned positive. In this section, we present some of the policies used in a number of jurisdictions to resuscitate credit growth. We have focused on policies outside those that facilitate NPL work-outs (out of court restructuring, specialized courts and judicial procedures, reforms of the insolvency law), mainly because Latvia has made important progress in this regard and as a result NPLs now stand at relatively healthy levels.

The supportive measures can be classified into two broad categories:

Government policies to improve bank credit intermediation

Credit guarantee schemes. Ireland and Greece used credit guarantees or subsidies on SME loans. In Ireland, through the SME Credit Guarantee Scheme, the state provided aid of up to 20 percent of the value of the loan to the banks. The Scheme was intended to address two distinct barriers to lending: i) inadequacy of collateral; and ii) inadequacy of understanding of the novelty of a business model, market, sector or technology. In Greece, the government teamed up with KfW, the German development bank, and the EIB to distribute funds to SMEs through an on-lending program with the help of accredited Greek banks.

Credit mediation. Credit mediation schemes, such as those conducted by the Credit Review Office (CRO) in Ireland, are available for SMEs whose demand for credit has been entirely or partially rejected by a financial institution. Such schemes operate by either independently reviewing rejected credit applications, or by acting as interlocutor between borrower and lender on a disputed credit decision. Credit mediation may be particularly useful during at times when banks' risk aversion has over-corrected in response to mounting losses and deleveraging requirements. Similar bodies exist in bodies have been set up in France, Belgium, Germany, Spain and the United Kingdom. As is the case with other forms of government intervention in the credit market, the separation of the credit mediation body from political interference is crucial to its successful operation.

Lending targets. In Ireland, the government put in place annual SME loan targets for the banks in which it owned a stake. A similar policy was adopted in the UK, whereby the government came to an agreement with a number of large commercial banks on lending targets to businesses and small firms.

Central bank and macro-prudential policies intended to improve bank credit intermediation

Cheap funding for lending. The Funding for Lending Scheme (FLS), set up by the Bank of England, was designed to incentivize UK banks to boost their lending to the real economy by providing them with funding for an extended period, with both the price and quantity of funding provided linked to their lending performance.

Ceilings on the speed of deleveraging. The Bank of Slovenia introduced a macro-prudential instrument, Gross Loan to Deposit Funding (GLTDF), aimed at slowing the reduction in loan to deposit ratio of the banks. The instrument was intended to keep deleveraging at a sustainable pace and to ensure that the banks did not transfer deposits from the non-banking sector abroad instead of re-circulating them as loans to the real economy. The GLTDF imposed a floor on the ratio of the annual change in the gross stock of loans to the annual change in the stock of deposits. The banks must comply with the requirements or else, apply corrective measures.

Capital relief through adjustment of risk-weights. In the UK, the Bank of England used its supervisory authority in the context of Pillar II to offer a capital offset for certain loans to SMEs. This macro-prudential measure relieved the banks' capital constraints for lending to the real economy.

References

Abdul Abiad & Giovanni Dell'Ariccia & Bin Li, 2011. "Creditless Recoveries," IMF Working Papers 11/58, International Monetary Fund.

Bijsterbosch, Martin & Dahlhaus, Tatjana, 2011. "Determinants of credit-less recoveries," Working Paper Series 1358, European Central Bank.

Stijn Claessens & M. Ayhan Kose & Marco E. Terrones, 2009. "What happens during recessions, crunches and busts?," Economic Policy, CEPR;CES;MSH, vol. 24, pages 653-700, October.

Kannan, Prakash, 2010. "Credit Conditions and Recoveries from Recessions Associated with Financial Crises," IMF Working Papers 10/83, International Monetary Fund.