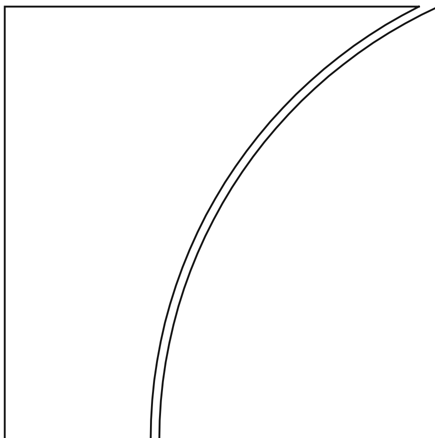
Financial Stability Institute

FSI Crisis Management Series
No 3

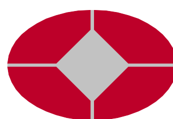


The 2008 financial crises in the Baltic countries

Patrizia Baudino, Olga Lielkalne, Tomas Reichenbachas, Mari Tamm, Rastko Vrbaski

December 2022

JEL: E58, E63, G21, G28, G33
Keywords: internal devaluation, peg, foreign banks, guarantees, default, swap lines



BANK FOR INTERNATIONAL SETTLEMENTS

FSI crisis management series papers are written by members of the Financial Stability Institute (FSI) of the Bank for International Settlements (BIS), usually in collaboration with external experts. The papers aim to contribute to the dissemination of practical knowledge on bank crisis management. The views expressed in them are solely those of the authors and do not necessarily reflect those of the BIS or the Basel-based committees.

Authorised by the Chairman of the FSI, Fernando Restoy.

This publication is available on the BIS website (www.bis.org). To contact the BIS Media and Public Relations team, please email press@bis.org. You can sign up for email alerts at www.bis.org/emailalerts.htm.

© *Bank for International Settlements 2022. All rights reserved. Brief excerpts may be reproduced or translated provided the source is stated.*

ISSN 2707-9511 (online)
ISBN 978-92-9259-618-7 (online)

Contents

Executive summary ... 4

Section 1 – Introduction ... 6

Section 2 – Origin of the crisis ... 7

Macroeconomic aspects ... 7

Structure of the banking sector and the role of foreign banks ... 10

The regulatory environment and banking sector conditions ... 14

Section 3 – The Baltic countries at the peak of the crisis around 2008 ... 17

Macroeconomic tensions ... 17

Financial markets in distress ... 17

Section 4 – Crisis response measures ... 20

Restructuring of domestic banks ... 21

Liquidity-supporting measures ... 24

Coordination with foreign authorities ... 25

Response by foreign-owned banks ... 26

Fiscal consolidation and public borrowing ... 27

Section 5 – Structural changes after the crisis ... 31

Changes in banking sector structure ... 31

Regulatory and supervisory reforms ... 32

Section 6 – Conclusions ... 35

References ... 37

The 2008 financial crises in the Baltic countries [1]

Executive summary

Following a period of rapid growth, the banking sector in the three Baltic countries faced significant challenges around 2008–09. Because of structural weaknesses in their economies at the time, the banking sectors in Estonia, Latvia and Lithuania were subject to considerable market stress around the time of the Great Financial Crisis (GFC) of 2007–09. Their banking sectors were exposed to liquidity shortages and, in response, special measures were put in place.

Stress emerged primarily because of unsustainable macroeconomic conditions. After restoring independence in the early 1990s, the three Baltic countries shifted from planned to market economies and pursued economic liberalisation, while pegging their exchange rates to either the US dollar, the SDR, the Deutsche mark or, later, the euro. All three countries experienced high rates of economic growth from the early 2000s until the GFC. Economic reforms pursued in the 1990s and after accession to the European Union contributed to a general boost in confidence. Over the same period of time, all of the Baltic countries experienced growing current account deficits, which coincided with steep increases in unit labour costs.

Bank credit had grown rapidly and supported macroeconomic expansion. From 2002–04, economic growth in the Baltic countries was driven increasingly by the financing of real estate activities. Bank credit grew by more than 40% per year over 2004–08. Eventually, this created asset price bubbles, especially in the real estate sector, raising questions as to whether the current account deficits and such high economic growth rates were sustainable.

An important feature of the banking sector in the Baltic countries was the large presence of foreign-owned banks. By the early 2000s, the banking systems in all three Baltic countries were characterised by a large presence of foreign banks. This was especially marked in Estonia and less so in Latvia, where one of the major banks remained under domestic ownership. Lithuania was an intermediate case. Baltic authorities saw foreign ownership of domestic banks as advantageous, as foreign banks could provide the knowledge and experience of running banking activities that was lacking in the Baltic countries after their emancipation from the Soviet Union. Thanks to their access to global markets, foreign banks also provided these countries' economies with more credit resources than would have been possible on a domestic basis.

From the mid-2000s, a consensus started to emerge that the Baltic economies had been overheating. High inflation, steep wage growth, widening current account deficits and increases in unit labour costs were indicative of a loss of international competitiveness. With the GFC and the associated global economic slowdown, exports from the Baltic countries dropped. Together with the broad-based economic contraction, this had an immediate effect on government finances: government expenditures increased as unemployment started to grow, all while government revenues shrank. Worries about the Baltic countries' economic situation started to emerge, raising speculation about the "unavoidability" of a devaluation.

[1] Patrizia Baudino (Patrizia.Baudino@bis.org) and Rastko Vrbaski (Rastko.Vrbaski@bis.org), Bank for International Settlements; Olga Lielkalne (Olga.Lielkalne@bank.lv), Bank of Latvia; Tomas Reichenbachas (TReichenbachas@lb.lt), Bank of Lithuania; Mari Tamm (Mari.Tamm@eestipank.ee), Bank of Estonia. The authors are grateful to Rodrigo Coelho, Reiner Martin, Stasys Jakeliūnas and to contacts who were employed by the Baltic financial authorities during the crisis (Thomas Auväärt, Akvilė Bareikaitė, Dainius Grikinis, Jeļena Ļebedeva, Jana Kask, Priit Kiilmaa, Helen Korju-Kuul, Andres Kurgpõld, Juris Kravalis, Simonas Krėpšta, Vilma Mačerauskienė, Mārcis Risbergs, Toma Sasnauskienė, Sigitas Šiaudinis, Kadri Siibak, Jaak Tõrs, Nijolė Valinskytė, Ludmila Vojevoda, Elmārs Zakulis, Audrius Želionis) for comments, but this does not imply that these persons share the views expressed herein. Theodora Mapfumo provided valuable administrative support.

In line with the scope of this series, this paper focuses on the policy response. Starting in 2006, the Baltic countries introduced various measures to try to cool their overheating economies, but they were insufficient.

The toolkit for banking sector measures that was available to the local authorities was limited in various ways. First, because all Baltic countries had decided early on to preserve the peg in order to eventually join the euro, the Baltic central banks were constrained in their ability to provide liquidity to financial markets. Second, the scope for regulatory and supervisory intervention was restricted in terms of its applicability. In particular, domestic authorities had little influence over the strategic decisions of foreign-owned banks, as foreign-owned banks that operated as branches fell outside the remit of the Baltic authorities. Lastly, fiscal space was limited.

The immediate policy response included an internal devaluation in all three countries, while different approaches were taken for the banking sector in terms of support measures, with varying implications for fiscal budgets. Given their commitment to the currency peg and the need to restore economic competitiveness, the three Baltic countries took fiscal consolidation measures. The weakening labour market and migration reduced wage pressures. European funds helped to reduce adjustment costs on the macroeconomic side. On the banking sector side, the three countries activated liquidity support measures, within the constraints of the peg. In addition, in cooperation with the foreign banks' home authorities, liquidity support was also provided to the branches and subsidiaries operating in the Baltic countries.

Capital support measures were needed for some banks in response to the increasing volume of non-performing loans. In that context, the support provided by foreign-owned banks was crucial. Their immediate response was to strengthen the capital positions of their local subsidiaries in Lithuania and Latvia, while no such measures were required in Estonia.

Implications for fiscal budgets differed for the three countries. In Estonia, higher capital levels, lower NPL rates and a conservative fiscal policy prior to the crisis meant fiscal implications were marginal. For Lithuania, the government had to increase government bond issuance, at relatively high costs. In Latvia, where a major domestic bank failed, authorities sought the support of an IMF/EU economic assistance programme.

Authorities introduced structural changes to the banking sector over the medium term. Also taking advantage of the adoption of the euro, over 2011-15, the countries introduced substantial regulatory and supervisory changes, spanning the creation of new authorities, the adoption of Basel III, the introduction of a macroprudential and bank resolution framework, and more.

Foreign banks adjusted their business strategies in the Baltic countries. In particular, while opting to remain active in the Baltic countries, they reduced their footprint and adjusted their funding structures to reduce their reliance on foreign funding.

The lessons from the episode of financial stress in the Baltic banking sectors are manifold. A fixed exchange rate masked mounting stress which would have otherwise materialised in the form of depreciation of the national currency. The exuberance associated with accession to the European Union and the expected adoption of the euro also contributed to a diminished awareness of risks. Foreign ownership of banks allowed for faster growth but could have become a source of financial sector vulnerability in a crisis. Finally, a well-developed toolkit for prudential and crisis management purposes, including macroprudential instruments and bank resolution powers, can strengthen the resilience of the financial sector. Key to the successful management of the crisis were the fact that foreign banks chose to remain active in the region and the public acceptance of the internal devaluation. These factors, however, were linked to specific features of the Baltic economies and societies and may not be easily replicated in other cases.

Section 1 – Introduction

1. **Starting in 2007, the banking sectors in the three Baltic countries faced considerable stress, which was exacerbated by the Great Financial Crisis (GFC).** After almost a decade of extremely rapid expansion, macroeconomic imbalances became manifest and economic growth started to slow down, making these economies inherently vulnerable. Changes in macroeconomic conditions also called into question the sustainability of the business model used by banks in Estonia, Latvia and Lithuania. With the failure of Lehman Brothers in 2008, the unfavourable international context, characterised by a retrenchment of international liquidity following heightened market turbulence in global markets, added further pressure on banks in the three Baltic countries, as these banks were heavily dependent on foreign wholesale funding.

2. **Specific features of these economies and their banking sectors shaped the way the crisis unfolded.** While there are some differences between the three Baltic countries in terms of the origin of the crisis and how it developed, there are also some key similarities in relation to the structure of their financial sectors and their economies. In particular, all are small open economies which returned to a market-based economic system in the 1990s. With some minor differences in their arrangements, they all had anchored their monetary policy by pegging their currencies. Their economies were well integrated with the rest of Europe via trade and commercial links, especially after joining the European Union in 2004. As for their banking systems, they were largely dominated by foreign-owned banks, particularly those headquartered in Scandinavia.[2]

3. **The crisis response by the financial authorities in the Baltics was influenced by the structure of the banking sector.** Because of their monetary and exchange rate policies, limited fiscal space and commitment to join the euro area as soon as possible, these countries could not overcome the contraction in global liquidity and the economic downturn via an expansionary domestic policy. Prudential measures on banks applied only to domestically chartered banks (ie domestic banks and foreign-owned subsidiaries). The response therefore rested on other tools, in particular an improvement in domestic competitiveness via a so-called internal devaluation. For the banking sector response, the actions taken by foreign banks, such as capital injections, were crucial. Access to the European Union's funds helped reducing the adjustment costs and provided support on the fiscal side.

4. **A peculiar feature of the crisis response in these countries is that foreign banks continued to operate there at the peak of the crisis and afterwards.** Due to the systemic importance of the foreign banks, their business choices were of paramount importance to the Baltic countries. The majority of the foreign banks opted to preserve their operations in the Baltics, although over time these banks ended up operating on a smaller scale than they had prior to 2008, reflecting the more limited scope for credit growth there in the aftermath of the crisis. Importantly, they refocused funding to depend on domestic sources rather than on international ones. This adjustment accompanied the contraction in credit provision that followed the 2008–09 stress period.

5. **The experience in these countries offers important lessons concerning two separate issues, ie convergence processes and the role of foreign banks.** When the Baltic countries returned to market-based economies in the 1990s, their average income was around 40% of the EU average, rising to 60% a decade later. While some catching up was to be expected, the speed of credit growth, foreign capital inflows and rapid economic growth proved to be unsustainable given the underlying macroeconomic fundamentals. The second lesson is the role of foreign banks in both normal and crisis times. In the case of the Baltic countries, credit was provided in large part by foreign banks, letting their economies grow faster than their internal credit generation capacity would have allowed. The presence of foreign banks also made it possible to separate financial sector risk from the country's sovereign risk, provided that

[2] By 2006, foreign ownership of banks was above 60% in all three countries, and as high as 99% in Estonia.

domestic banks did not become a source of financial stability risk. This was possible not least given the entry of well-diversified foreign banks to the Baltic countries. On the downside, reliance on foreign banks may have made the policy response during the financial crisis more complex.

6. **This paper aims to draw some lessons on crisis situations in banking sectors similar to those of the Baltics, where foreign banks play a considerable role.** There is extensive literature on the specific features of the Baltic economies and their crisis experience in the mid-2000s, as reflected in publications by the three countries' central banks, the International Monetary Fund (IMF), the Financial Stability Board (FSB) and academics referenced in this paper. The literature has covered both the macroeconomic and financial sector aspects of the crisis. This paper focuses on the banking sector aspects and, in particular, prudential and crisis response measures. The experience in the Baltic countries highlights important trade-offs and associated challenges faced by authorities when responding to a crisis in a financial system dominated by foreign-owned banks.

7. **The paper is organised as follows.** Section 2 reviews the macroeconomic and financial sector developments that took place in the Baltics in the years prior to 2008. Section 3 describes the market dynamics at the peak of the stress phase and the specific dilemma for authorities and policymakers as they faced the crisis. Section 4 discusses the measures that were taken in response to the crisis, while Section 5 analyses the longer-term structural changes. Section 6 provides some concluding reflections.

Section 2 – Origin of the crisis

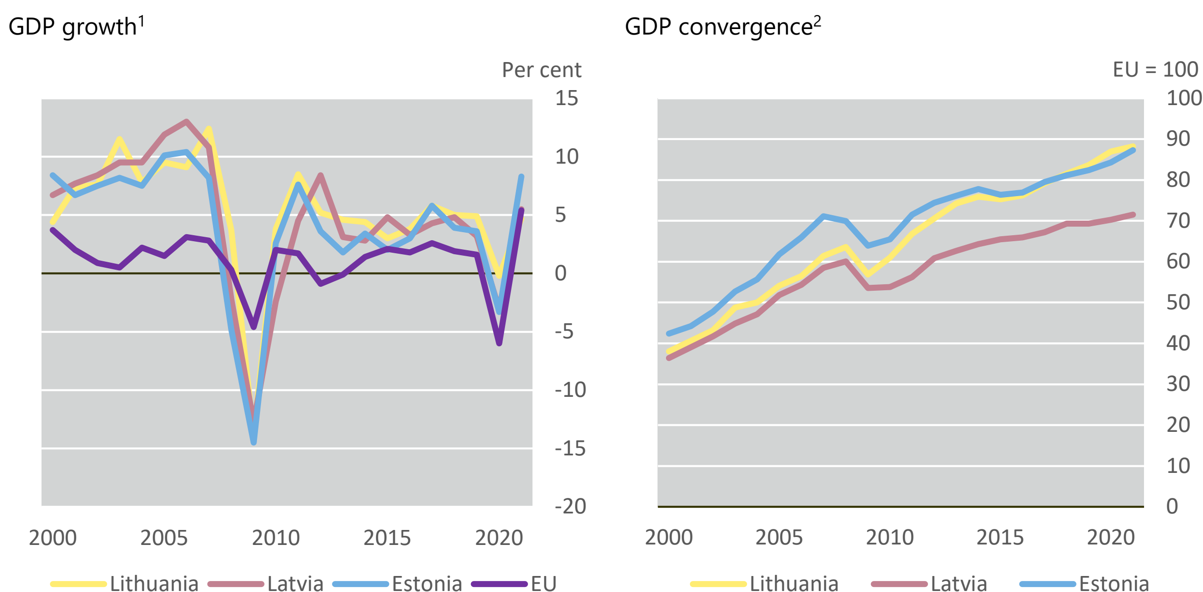
Macroeconomic aspects

8. **After restoring independence in the early 1990s, the three Baltic countries shifted from planned to market economies and pursued economic liberalisation.** In the early 1990s, following the collapse of the Soviet Union, the Baltic countries restored their independence and embraced market reforms. Step by step, these countries became integrated into the western economic system.

9. **Following the liberalisation of the 1990s, all three countries became well integrated into the global economic system.** They joined the World Trade Organisation (WTO) in 1999–2001 and the IMF in 1992. Their economies became increasingly connected with the rest of the world via trade channels. In 2000, exports accounted for around 35–40% of GDP in Lithuania and Latvia and more than 60% in Estonia. This ratio continued to increase over time.

10. **All three countries adopted a fixed exchange rate as their monetary policy anchor.** The choice was driven by the desire to reduce uncertainty about the exchange rate. This was an especially important goal for small open economies with a high reliance on international trade. During the 1990s, Estonia pegged its currency to the Deutsche mark, Latvia to a currency basket and Lithuania to the US dollar. However, after the launch of the euro in 1999, all three Baltic countries moved over time to re-peg their currencies to the euro. The switch reflected trade developments, as EU countries became the Baltics' main trading partners. In addition, governments in the Baltic countries were aiming to bring their countries into the European Union and, later on, the euro area.

GDP developments in the Baltic countries Graph 1



[1] Chain-linked volumes (2010), euro per capita. [2] Calculated using purchasing power adjusted GDP per capita.

Source: Eurostat.

11. **The Baltic countries' economies grew at a rapid pace starting in the early 2000s.** All three countries experienced high rates of economic growth after 2000 (Graph 1). Economic reforms pursued in the 1990s and after accession to the European Union contributed to a general boost in confidence. Significant foreign investment over this period also contributed to the countries' economic development. From 2000 to 2008, the Baltic countries made significant progress in catching up to European living standards – in 2000, their per capita GDPs fell around 40% of the EU average, and in 2008 they reached 55–65%.

12. **Bank credit grew rapidly, creating asset price bubbles, especially in the real estate sector**. From 2002 to 2004, economic growth in the Baltic countries was driven increasingly by the financing of real estate activities. This was a considerable turnaround given that up to the 1990s, mortgage credit was almost inexistent.[3] Banks' credit grew by more than 40% year on year in 2004–08 (Graph 2), and in 2008 around 50% of loans provided by banks were mortgages. Credit to non-financial companies connected to the construction sector also grew substantially. Such rapid credit growth contributed to a rapid increase in real estate prices – between 2004 and 2008, they more than tripled.[4] Their growth outpaced considerably that of income. Many countries in the Central, Eastern and Southeastern Europe (CESEE) region experienced significant credit and real estate price growth around the same time, but the trend in the Baltic countries was exceptionally strong (see Comunale et al (2020)). Accommodative fiscal policies in the

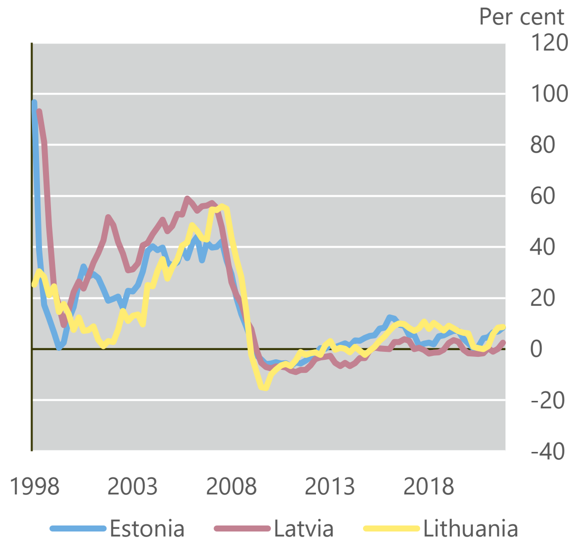
[3] See Kulikauskas (2016). Initially, the Baltic countries had a significantly larger share of homeowners without mortgages, in comparison with other EU countries, following large-scale privatisation after the break-up of the Soviet Union. Because of this, in the 1990s, mortgage credit was almost non-existent. However, buying a house with a mortgage became more common starting in the early 2000s.

[4] The rapid increase in real estate prices was initially believed to be sustainable on the back of lower interest rates thanks to EU membership and income growth. Only in the mid-2000s were the high prices eventually recognised as a bubble.

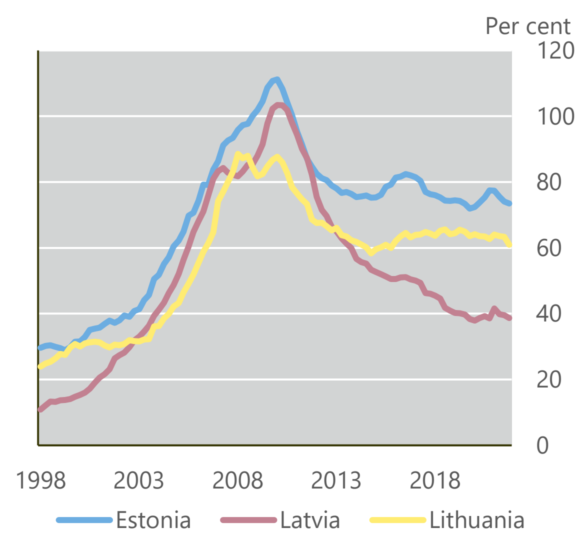
Baltic countries, with budget deficits in Latvia and Lithuania in the years prior to the crisis, did not counterbalance the credit expansion. However, by international comparison, public debt levels were low in all three Baltic countries (Graph 2).

Macroeconomic developments in the Baltic countries — Graph 2

Credit growth[1]

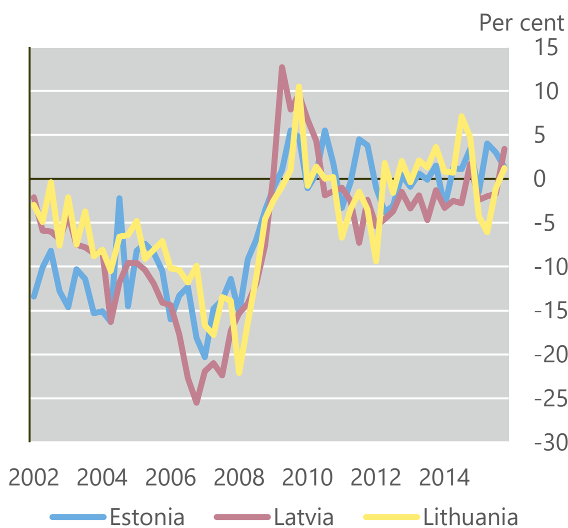


Credit-to-GDP ratio

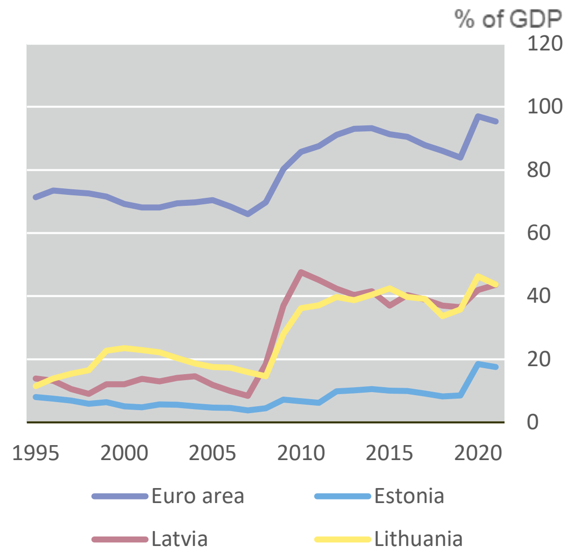


[1] Estonia – MFI loans; Latvia – total credit; Lithuania – total credit.
Sources: Bank of Lithuania; Bank of Estonia; Bank of Latvia.

Current account, as a percentage of GDP



Government consolidated gross debt (% of GDP)



Sources: Eurostat; Bank of Lithuania; Bank of Estonia; Bank of Latvia.

13. **Household and non-financial corporate leverage increased substantially in the run-up to the GFC.** By 2008, leverage ratios in the non-financial corporate sector were higher than in the euro area countries and in most other new EU member states, especially in sectors such as real estate and

construction. Household debt, the majority of which comprised mortgages, was denominated in euros and at variable interest rates. It reached almost 50% of GDP by the same time (Purfield and Rosenberg (2010)).

14. **Over the same period of time, all three Baltic countries experienced growing current account deficits, which coincided with steep increases in unit labour cost (ULC).** In 2006–07, the three countries began running high current account deficits, exceeding 10% of GDP (Graph 2). Export growth in the Baltic countries slowed down rather sharply in 2006. In addition, the strong growth in credit-fuelled domestic demand contributed to rapid growth in imports. Labour costs also started to increase markedly, reducing the comparative advantage of the relatively lower wages in these countries compared with in the rest of Europe.

15. **At the time, there were concerns about whether the current account deficits and high economic growth rates were sustainable**. On the one hand, the deficit could be explained by the process of convergence to EU averages and the import of foreign capital. On the other hand, it could have been led by the increase in domestic demand and growing labour costs/ULC.[5] Prior to the crisis, the general consensus favoured the first argument. As the Baltic countries were significantly less developed in comparison with Western Europe, there was an expectation that joining the European Union would lead to some "catching up", and growth in credit was understood as an inevitable consequence of financial deepening. Views started to change as the rapid pace of economic and credit growth persisted, with demand fuelling consumption rather than investment, and vulnerabilities started to emerge. Starting as soon as in the early 2000s, some started to voice concerns that the credit growth in the Baltic countries was not sustainable, expectations about income growth were too optimistic, and the increasing ULC was reducing the countries' international competitiveness.[6]

Structure of the banking sector and the role of foreign banks

16. **The Baltic banking sectors developed in earnest after the collapse of the Soviet Union**. In all three countries, the banking sector was reconstituted on a private basis following the disintegration of the Soviet Union. They had all inherited the Soviet system, under which specialised state banks serviced specific branches of the economy. The countries proceeded to privatise these banks, taking somewhat different approaches. In Estonia and Lithuania, the specialised Soviet-era banks were reconstituted as state banks and then gradually or partially privatised. In Latvia, the Bank of Latvia was re-established as the central bank, and Latvia's branch of the State Bank of the USSR and some other Soviet-era banks were incorporated under it. The remaining banks were merged, rehabilitated, and then offered for privatisation (Fleming et al (1997)).

17. **The first few years of the 1990s were marked by banking sector instability and banking system restructuring**. As of the early 1990s, companies began operating in a market-based economic system and started to have access to bank credit. However, the volatile economic environment hindered firms' ability to make plans and negatively affected the debt servicing capacity of these borrowers. While households made up a small part of bank credit, they had very limited experience with managing debt and its repayment. While these trends emerged across all of the Baltic countries, Fleming et al (1997) argue that the proximate cause of the banking sector problems was different in each country. For Estonia, it was the freezing of two important Estonian banks' assets in Moscow; for Lithuania and Latvia, the trigger was the reduction in highly profitable trade financing opportunities, accompanied by general mismanagement, as well as government-instructed lending allocation in Lithuania. Irrespective of these differences, a shared outcome was a rash of mergers and liquidations, leading to a rapid concentration and a sharp decline in

5 See Purfield and Rosenberg (2010).

6 See Ramanauskas (2006a), Ramanauskas (2007), Cottarelli et al (2003) and Fratzscher and Bussière (2004).

the number of banks in the Baltic countries over the 1990s (Fleming et al (1997)). Changes in prudential requirements may also have facilitated these changes in the structure of the banking sector. For instance, in Estonia, changes to own funds requirements in the early 1990s reduced the number of banks by half.

18. **Foreign ownership of Baltic banks was first allowed around the end of the 1990s**. Until the late 1990s, domestic owners had a majority in the stock capital of the largest local banks in all three countries (Fleming et al (1997)). However, the Russian financial crisis of 1998 was a turning point. In its aftermath, the banking system in all three Baltic countries was considerably weakened. In response, the Baltic countries' governments reportedly saw foreign, and in particular Scandinavian, banking groups as strategic investors for the restructuring and consolidation of the banking system (Sheridan et al (2004)).

19. **Baltic authorities saw foreign ownership of domestic banks as advantageous**. When the Baltic countries moved to market-based economies, they lacked the expertise to run private banks, and their regulatory and supervisory frameworks were not well developed (Fleming et al (1997)). Foreign banks could provide the knowledge and experience of running banking activities. In addition, following the pressure experienced by Baltic banks around the time of the Russian financial crisis of 1998, foreign banks could bring with them a strong reputation and credibility as well as financial resources.

20. **The lead-up to and completion of accession to the European Union made the local banking sector attractive to foreign banks.** In 2004, all three Baltic countries became members of the European Union, in line with expectations. This change, as well as the expectations regarding its materialisation, had a profound impact on the economies of these countries. It also had an equally important impact on their banking sectors, making them more attractive to other European banks. In particular, expectations of the applicability of the same EU-wide regulation as in other EU countries made it, in principle, easier for foreign, EU-headquartered banks to start operating in the Baltics, by reducing compliance costs and some operational requirements. Extending operations in the Baltics was also seen as an attractive strategy for European banks given the rapid growth experienced by these countries in the early 2000s.

21. **Foreign banks acquired large parts of the domestic banking sector**. By the early 2000s, all three Baltic countries had banking systems which were dominated by foreign banks. The prevalence of foreign banks was especially high in Estonia, and lower in Latvia, where many banks (almost a third of total banking assets) remained under domestic ownership, including one of the major banks (Table 1). While foreign bank ownership became a feature of many Eastern European countries that returned to market-based economies in the 1990s, the prevalence of foreign bank ownership was more marked in the Baltic countries, setting them apart from the others (Arakelyan (2018)).

22. **Foreign banks provided the Baltic countries with more credit resources than would have been possible on a domestic basis**. Thanks to the abundant global liquidity and low risk premia in the early 2000s, as well as foreign banks' well-established access to capital markets, these banks could borrow funds on international capital markets at extremely low interest rates and lend them on directly via their Baltic operations (Pataccini (2022)). This allowed foreign banks to increase lending volumes beyond the constraint of deposit collection in the Baltic countries (Graph 3).

23. **Foreign ownership was relatively concentrated in a few banks**. The number of foreign banks in the Baltic countries was low, and each bank controlled a significant part of the banking sector in each country. These banks were also of systemic importance in their home countries. The country of origin of these foreign banks was also concentrated, with home countries being primarily Sweden and, to a lesser degree, Finland, Denmark and Germany. In particular, Swedish banks acquired large portions of the market via two banks, Swedbank and SEB (Ingves (2010)). This setup applied to the pool of foreign banks operating in the Baltic countries from the start.

Banking structure in the Baltic states — Table 1

Foreign ownership* (% of total assets)	2004	2006	2008	2010	2012	2014	2016	2018	2020
Estonia	97.9	99.1	98.2	97.7	96.2	95.4	93.8	88.7	79.9
o/w branches	9.4	9.4	26.3	28.4	30.6	27.1	25.8	8.5	3
Latvia	48.6	65.3	67.9	68.9	63.9	56.3	78.5	91.3	86.2
o/w branches	5.5	7.0	11.5	12.1	13.4	12.8	4.1	5.6	16.9
Lithuania	86.0	82.9	85.1	78.4	94.4	91.9	91.8	90.9	90.6
o/w branches	8.9	7.0	15.2	17.2	21.2	20.6	16.8	5.5	25.9

* Foreign ownership is defined as the share of assets of the banks with a foreign ownership of over 50% of the share capital. Total assets do not include the assets of foreign branches of credit institutions registered in Estonia.

Sources: Bank of Estonia; Gallizo et al (2018); Bank of Latvia; Bank of Lithuania.

24. **Foreign banks operated mostly as subsidiaries**. As foreign banks' entry into the Baltic countries mostly took place via the acquisition of existing banks, acquiring banks had the option of keeping local banks as separate legal entities, in the form of subsidiaries. This approach was taken in a majority of cases. However, some acquiring banks fully integrated local banks into existing groups, so they operated in the Baltic countries via branches. In still other cases, foreign banks started their activities in the Baltics via newly established branches.

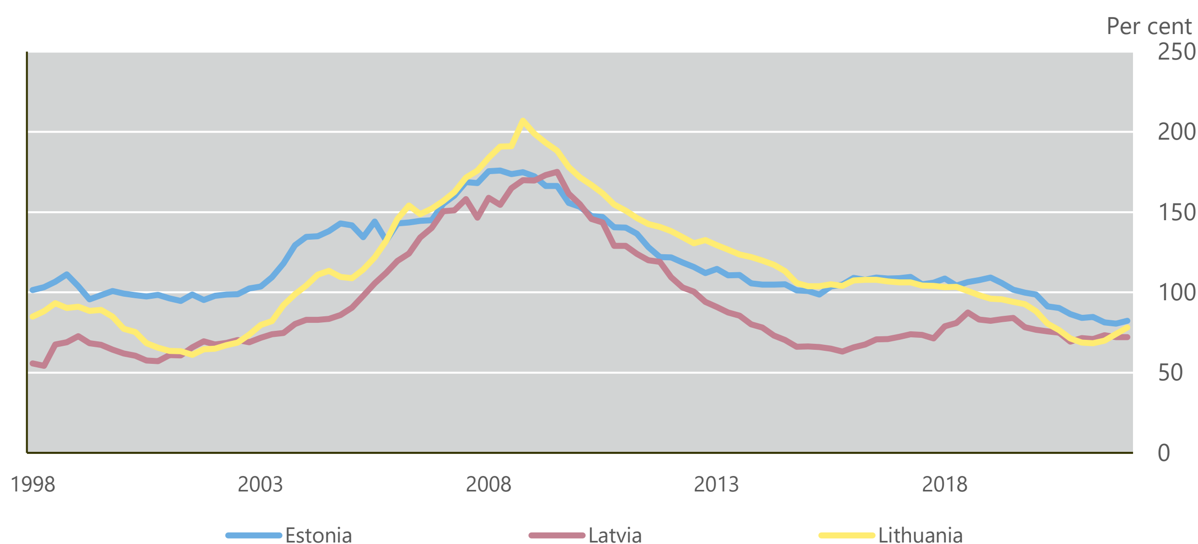
25. **The relevance of foreign banks in the Baltic countries called for cooperation between home and host authorities**. Domestic financial authorities needed to maintain close oversight of foreign banks' activities. This was more straightforward when the foreign banks operated via domestic subsidiaries. For branches, this was inevitably more complex. In all cases, close cooperation with the foreign banks 'home authorities was important in order to provide the Baltic authorities with sufficient information.

26. **A standard approach for cross-border cooperation in the Baltic countries was through the use of Memoranda of Understanding (MoUs)**. MoUs are typically non-legally binding agreements that authorities sign in order to create better-established channels of cooperation. In the EU context, MoUs have been used to foster cooperation across financial sector authorities. In particular, in 2005 an MoU was signed by the central banks, banking supervision authorities and ministries of finance of the EU countries with the aim of supporting and promoting cooperation between these authorities in crisis situations. The 2005 EU-wide MoU was mirrored in the MoU involving the central banks of the three Baltic countries and Sweden, given the importance of Swedish banks there. This MoU, signed in December 2006, focused on cooperation arrangements in case of a banking crisis.

27. **Financial sector authorities conducted joint crisis simulation exercises**. Joint crisis simulation exercises were conducted at the EU level in 2005 and 2006. In this context, in 2007 the Nordic authorities conducted a regional crisis simulation exercise to test the frameworks for crisis resolution cooperation. The Baltic countries were invited in as observers. One key topic of the exercise was burden-sharing across countries, but the exercise also showed that there was little appetite among authorities to engage in such agreements during a crisis (FSB (2014)).

Loan-to-deposit ratios in the Baltic countries

Graph 3



Sources: Bank of Lithuania; Bank of Estonia; Bank of Latvia.

28. **The Baltic countries introduced various measures to try to cool their economies and to contain inflation**. Estonia limited its public spending increases, thus managing to constrain the growth of aggregate demand. This measure also produced a significant budget surplus of more than 3% of GDP in 2006–07 (see Bank of Estonia (2006) and (2008a)) and provided an important fiscal cushion to use during the crisis. In March 2007, the Latvian government introduced an "anti-inflation plan". The main measures of this plan included a balanced budget target in 2007–08 and budget surpluses for 2009–10, the introduction of a capital gains tax for real estate, an increase in the real estate stamp duty, the introduction of a credit register and various measures for restraining bank lending[7] (see Bank of Latvia (2007)). In February 2007, the Bank of Lithuania proposed various measures to tame inflation, which were introduced by the Lithuanian government under its "medium-term inflation management strategy" (Lithuanian Government (2007)). This plan included some limits on government deficit. Containing inflation was considered a primary policy objective, as otherwise the goal of joining the euro would be endangered.[8] Measures included steep wage cuts, which were largely seen as necessary to ensure the country joined the euro area, a widely shared objective across all segments of the population.

29. **The measures adopted by the Baltic authorities were not enough to significantly affect the trajectory of the economy**. However, more severe measures might not have been politically feasible. For example, from 2006 to 2008, Lithuania had a minority government, and parliamentary elections were held in 2008. Any more substantial measures might not have had political support.[9] In addition, home-host supervisory cooperation may not have worked as intended. Baltic supervisors lacked prior experience with cross-border banking operations and had only partial control over the activities of the foreign banks in

[7] The LTV (loan-to-value ratio) of a mortgage-backed credit was capped at 90%.

[8] In order to adopt the euro, EU countries have to bring their national legislation in line with relevant EU law and meet specific conditions designed to ensure economic convergence. These requirements, agreed by the EU Member States in Maastricht in 1991, are known as the convergence criteria. One of the main convergence criteria was price stability. Formally, the price stability criterion is defined by the European Commission as "a price performance that is sustainable and average inflation not more than 1.5 percentage points above the rate of the three best performing Member States".

[9] The Lithuanian prime minister at the time, Gediminas Kirkilas, said in various interviews that it is hard to propose any meaningful measures such as real estate taxation without a majority in the parliament (see www.tv3.lt/naujiena/verslas/g-kirkilas-vyriausybe-svelnins-infliacija-n176739).

their jurisdictions. In turn, the rapid credit growth in the Baltic countries did not trigger action by foreign banks' home supervisors due to the limited size of those economies.

The regulatory environment and banking sector conditions

30. **Banks operating in the Baltic countries were subject to a combination of regulatory requirements.** Domestically incorporated banks, whether domestically or foreign-owned, were subject to capital requirements set by the Baltic authorities. This gave the Baltic authorities some leeway in requiring sufficient capital levels against possible risks that were germane to the situation in the Baltics. As is typically the case, branches of foreign banks were not subject to capital requirements by the Baltic authorities, and their capital levels were set by the banking group's home authorities on a consolidated basis.

31. **Starting in the early 2000s, authorities in the Baltic countries took measures to strengthen the capital levels of locally incorporated banks.** In Estonia, for example, authorities sought to address the limited set of tools for crisis management in the fixed exchange rate arrangement by setting the minimum requirement for total capital above international standards (ie 10% of risk-weighted assets). In Latvia, when introducing Basel II, the application of a 35% risk weight was limited to residential mortgage loans with an LTV not exceeding 70%, while commercial real estate lending was assigned a 100% risk weighting. Authorities also introduced measures aimed at moderating credit growth and softening the impact of the introduction of Basel II and its relatively more lenient treatment of credit risk. For instance, in Estonia, claims to residents guaranteed by a first-ranking mortgage on residential property were reclassified so that their risk weight was increased from 50% to 100%, effective from March 2006. In 2008, when preparing for the transposition of Basel II, the Bank of Estonia also decided to set the risk weight of mortgage loans temporarily at 60% (instead of the 35% in the standardised approach recommended by Basel II). In 2006, the Bank of Lithuania introduced several amendments to the capital adequacy framework to make it more stringent than international standards (eg it narrowed the definition of claims mortgaged by residential property that were allowed to carry a 50% risk weighting while all other claims mortgaged by residential property were applicable for 100%).[10]

32. **These changes in capital requirements applied only to locally incorporated banks and not to branches, creating an issue regarding level playing field.** Against the tightening of domestic requirements in the Baltic countries, foreign branches had, in principle, a competitive advantage over domestic banks and the subsidiaries of foreign banks, and a legal framework similar to the European Union's current reciprocity arrangement for macroprudential policies did not exist at the time. In 2008, against mounting market instability, foreign subsidiaries cut back credit supply as concerns over the sustainability of the credit growth became more prominent, while branches were able to increase their market share, at least for a while, and in some cases on a more sustained basis.

33. **Reserve requirements were also used by authorities in the Baltic countries for financial stability purposes.** Authorities applied this tool to control credit growth and, to some extent, to strengthen the liquidity position of locally incorporated banks, given that reserves, defined as money held at the central bank and expressed as a percentage of specific liabilities, mainly deposits, qualify as a highly liquid asset. The minimum for reserve requirements was as high as 13% in Estonia and 6% in Lithuania, while it was 3% in Latvia.[11] In Latvia, it was increased in several steps to 8% over 2004-05; in Estonia, it

[10] For example, claims to legal entities were excluded, limiting the definition to private individuals, and claims with an LTV ratio exceeding 70% were excluded. Additionally, a limit was imposed on the portion of current year's profit that could be counted as regulatory capital, and banks were asked to fully retain profits earned in 2005–06.

[11] The reserve requirement was decreased from 7% at the beginning of 2000 to 3% in 2003. It was then increased in several steps in 2004-05, reaching 8% in December 2015.

reached 15% in September 2006, while a planned reduction of the reserve requirement in Lithuania was not implemented (IMF (2008)).[12]

34. **As in many countries prior to the GFC, the prudential framework for bank liquidity was less well developed.** In the Baltic countries, this was also a by-product of the currency rate arrangements in these countries. In Lithuania and Latvia, a liquidity ratio defined as a ratio of certain liquid assets to deposits applied to locally incorporated banks, but not to branches. Latvia and Lithuania required banks to hold at least 30% of current liabilities as liquid assets.

35. **With regard to deposit insurance arrangements, prior to the 2008 crisis the Baltic countries' systems had not yet fully converged with EU standards.** Deposit insurance schemes were established in the Baltic countries in 1996 (Lithuania) and 1998 (Estonia and Latvia). In all three countries, eligible deposits included most types of deposit held by residents and non-residents, but excluded intragroup, public sector and certain other types of deposit, such as those held by related parties. While deposits were insured irrespective of the currency in which they were denominated, even in the years prior to the introduction of the euro, coverage was defined in euro terms.[13] Payouts would be converted to local currency based on the applicable rate. The insurance level in the three Baltic countries was initially below the minimum coverage amount established under EU directives, EUR 20,000,[14] but it was considered elevated against average deposit levels in those countries. In Estonia and Lithuania, a co-insurance feature mandated that, in the event of a bank failure, depositors would bear losses of up to 10% of their insured deposits. The deposit insurance scheme was mandatory and included all banks incorporated in the country, excluding deposits held at branches of foreign banks.[15]

36. **In terms of banking sector conditions prior to the peak of the crisis, banks' capital and liquidity positions were considered satisfactory over the early 2000s**. As reflected in Table 2, Tier 1 ratios were relatively high in all three countries. In Estonia especially, capital positions benefited from local tax legislation that exempted retained earnings from corporate taxation, thus incentivising the build-up of capital. In terms of liquidity, and as discussed above, the Baltic countries applied different requirements at the time, allowing only for an imperfect comparison. The leverage ratio, which had been declining since the early 2000s, was around 8% in all three countries immediately prior to the crisis.[16]

[12] Latvia also had a minimum requirement for the liquidity ratio, requiring that liquid assets (this includes vault cash; claims on the Bank of Latvia and solvent credit institutions whose residual maturity does not exceed 30 days and deposits with another maturity if a withdrawal of deposits prior to the maturity has been stipulated in the agreement; and investment in financial instruments, if their market is permanent and unrestricted) make up no less than 30% of banks' total current liabilities with residual maturity under 30 days.

[13] For Lithuania, as of January 2008, deposits were fully insured up to an amount corresponding to EUR 3,000, and for 90% up to an amount corresponding to EUR 20,000. The coverage level in Estonia was set at EUR 20,000 from 31 December 2007. Before that, the level was set at 200,000 Estonian kroons (from 31 December 2005) and, before that, 100,000 kroons (from 31 December 2003). In Latvia, the coverage level had been regularly increased since 1998 and was EUR 20,000 at the beginning of 2008.

[14] It converged to EUR 20,000 in 2008.

[15] According to the Guarantee Fund Act in Estonia, deposits held at branches of foreign banks were covered if there was no deposit insurance or the coverage in the foreign country's system was lower than in Estonia. The Financial Supervisory Authority had the discretion to decide on this issue. However, given the higher coverage in the home countries of foreign banks from the Nordic/Scandinavian countries, this provision did not apply.

[16] See IMF (2009b).

Capital and liquidity of the Baltic banking sectors Table 2

Tier 1 (% RWA)	2005	2006	2007	2008	2009	2010	2011	2012
Lithuania	10.3	10.8	10.9	12.9	14.2	15.6	13.9	14.4
Latvia	8.75	8.84	9.83	10.3	11.5	11.3	14.1	15
Estonia	11.1	8.9	8.6	10.4	11.8	12.7	18.7	23.1
Liquidity ratio (%)[1]								
Lithuania	42.9	41.9	43.5	39.0	49.9	42.8	44.1	40.8
Latvia	52.3	51.1	55.7	52.8	62.8	67.9	63.9	59.8
Estonia	Not applicable							

[1] Ratio of liquid assets to current liabilities (definitions of liquid assets and current liabilities varied country by country). No such requirement existed in Estonia.

Data on solo basis (ie, at the level of local subsidiary).

Sources: Bank of Latvia; Bank of Lithuania; Bank of Estonia.

37. **The transposition of Basel II into the regulatory framework of the Baltic countries after 2007 decreased banks' risk-weighted assets, boosting their capital ratios.** In particular, regulatory risk weights for mortgage lending under the standardised approach fell considerably in comparison with pre-existing national regulation, to a level of 35%, due to the transposition.[17] Banks were also allowed to use internal risk models. This option was primarily used by larger banks, and consequently by the subsidiaries of large foreign banks, reducing the risk weight of their local assets and allowing them to further increase their lending and balance sheet growth. As a result, while the capital ratio to risk-weighted assets automatically increased, the actual amount of capital did not necessarily change.[18] At the same time, the introduction of IFRS constrained banks' ability to make provisions for NPLs compared with the previous accounting regime.[19]

38. **Banks' lending and balance sheet growth was funded primarily from wholesale sources.** In 2008, the portion of wholesale funding of banks' balance sheets was approximately 40% of total assets in all three countries. Foreign subsidiaries especially relied on wholesale funding, and intragroup funding in particular. To illustrate, intragroup liabilities of foreign subsidiaries in all three countries increased from approximately 10% of total assets in the early 2000s to about 31% of total assets in 2008. Stress tests conducted at the time suggested that banks could withstand significant withdrawals of resident and non-resident deposits but were heavily reliant on foreign wholesale debt funding (IMF (2008)). This scenario eventually played out during the 2008–09 stress, when some foreign subsidiaries faced significant deposit withdrawals in 2008 and had to resort to parent liquidity support.

[17] Starting in 2008, the Bank of Estonia decided to apply a risk weighting of 60% on household loans instead of the usual 35% in the standardised approach (it used to be 100%) in order to avoid a considerable decrease in own funds required from banks (Bank of Estonia (2008b)).

[18] Based on this, the IMF (2008) concluded, even after taking into account the changes made by the Bank of Lithuania to the regulatory framework in 2006, that the regulatory capital of Lithuanian banks needed to be strengthened further.

[19] Prior to the introduction of IFRS, banks in the Baltic countries, among others, could set aside provisions for unrealised losses via general or "forward-looking" provisions. This option was no longer available under IFRS, restricting banks' options to cumulate provisions ahead of possible losses. In Estonia, in the aftermath of the switch to IFRS, the coverage ratio declined – although provisions increased, they did so less rapidly than NPLs (see Bank of Estonia (2008b)). In Latvia, the right to request additional loan loss provisions according to supervisory benchmarks was also preserved after IAS 39 entered into force – the Financial and Capital Market Commission (FCMC) had been asking banks to make capital adjustments in the capital adequacy calculation for the positive difference between supervisory provisions determined by the FCMC and incurred loss provisions under the accounting standards.

Section 3 – The Baltic countries at the peak of the crisis around 2008

Macroeconomic tensions

39. **Starting in early 2007, all three Baltic economies started to slow down markedly as a consensus that they had been overheating started to emerge.** The change started in Estonia, due also to geopolitical tensions with Russia, and moved to Latvia and Lithuania. Notwithstanding government intervention, inflation remained high, and ever steeper wage growth, widening current account deficits and increases in ULC were indicative of the countries' loss of international competitiveness. At the same time, various rating agencies changed the outlook for the Baltic countries' credit ratings to negative.[20] Bank lending policies became somewhat more cautious, and the overheated real estate markets started to cool down gradually. This in turn had a negative impact on consumption and investment dynamics.[21]

40. **The GFC amplified this downturn.** Because of the global economic slowdown, exports from the Baltic countries dropped. Together with the lending contraction following the changes in bank policies, this had an immediate effect on government finances: government expenditures increased as unemployment started to grow, all while government revenues shrank. At the same time, worries about the Baltic countries' economic situation started to emerge, raising speculation about the "unavoidability" of a currency devaluation.[22] The combination of these factors significantly risked reducing the Baltic countries' access to international financial markets.

Financial markets in distress

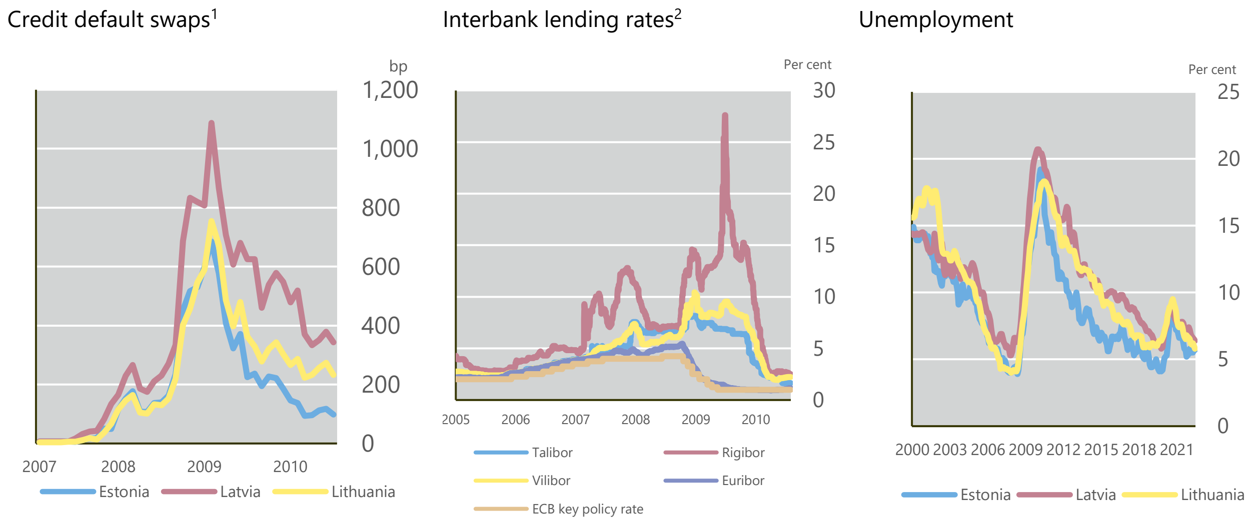
41. **Financial sector indicators showed increasing pressures.** These were visible in CDS spreads, currency forwards and interbank lending rates across the Baltic countries (Graph 4). The peak was reached in early summer 2009, when doubts emerged about the Latvian government's ability to make supplementary budget cuts and secure continued external support (Purfield and Rosenberg (2010)). The impact was felt across all three Baltic countries. At the same time, foreign banks operating in the Baltic countries also came under funding pressure as a consequence of the turbulence in international markets. This created some pressure on their subsidiaries in the Baltic countries, given the latter's high dependence on funding from the parent bank.

[20] The Baltic countries' credit ratings were lowered starting in May 2007 (Latvia), January 2008 (Lithuania) and October 2008 (Estonia).

[21] Starting in 2008, the Baltic countries also experienced unemployment and emigration. For a discussion on emigration, see OECD (2013).

[22] For instance, see Krugman (2008).

Macroeconomic and financial stress in the Baltic countries — Graph 4



[1] EUR Sr CDS five-year. [2] Vilibor = Vilnius interbank offered rate (six-month); Rigibor = Riga interbank offered rate (six-month); Talibor = Tallinn interbank offered rate (six-month).

Sources: Bloomberg; Bank of Lithuania; Bank of Estonia; Bank of Latvia.

42. **The financial turbulence was particularly severe in Latvia.** This was due to the collapse of the country's second largest bank, Parex Bank. Parex had a market share of around 13%. It faced a deposit run, lost its access to the wholesale funding market and saw the quality of its securities portfolio deteriorate. The fragility of the biggest domestic bank in the country further increased concerns about the stability of the currency regime and the magnitude of the macroeconomic and financial adjustments that would be required in all of the Baltic countries**.** The Latvian government had to intervene and bail out the bank. As explained bellow, this eventually led Latvia to apply for international financial assistance.

43. **Turbulence in the interbank market had already intensified in 2007 and was amplified in 2008–09 by both the freeze in international financial markets and the hard landing of Latvia's economy.** In 2007, lats interest rates experienced the first bouts of volatility due to the unravelling of macroeconomic imbalances, speculation about a possible devaluation of the lats, and the lowering of Latvia's credit rating. In 2008, the interbank market regained some stability. However, the Lehman Brothers bankruptcy triggered a new wave of volatility and speculations that some Latvian banks could have difficulties in refinancing their borrowing from foreign banks that matured in large amounts in 2009. Interbank rates increased further towards the middle of 2009 due to concerns about Latvia's ability to meet the demands of the international economic assistance programme and the country's possible default. For instance, the weighted average rate on transactions between Latvian banks in lats, for all maturities, reached 22.30% in June 2009, with the overnight rate reaching 33% on average and up to 125% for certain transactions.

44. **Deteriorating liquidity conditions in the global financial markets, as well as the macroeconomic situation in Latvia, resulted in a decline in deposits in 2008**. In Q4 2008, resident deposits declined by 6.6%, while outflow of non-resident deposits reached 15.8%. The Treasury of the Republic of Latvia intervened to stem the deposit outflow by depositing funds at Parex. As a result, at the aggregate level, resident deposits increased by 5.8% in 2008 (Bank of Latvia (2007)). While deposits continued to decline in 2009, confidence in the banking sector started to recover at the end of the year and deposits grew again. As a result, deposits reached a historic high in 2010. Over the most acute phase of the crisis, in 2008, parent banks from abroad had continued to finance their subsidiaries and branches in Latvia. However, starting in 2009, parent bank funding started to decline. The repayment of syndicated

loans by several smaller banks in 2010 also contributed to the shift towards lower reliance on foreign bank funding and more towards deposits.

45. **The global turmoil also affected the Lithuanian financial system and the broader economy.** Foreign-owned banks experienced a loss of depositor confidence because of concerns about the health of their parent banks, which were funding their activity in global wholesale markets. As a consequence, the deposit portfolio in the Lithuanian banking system shrank by 6% in October 2008 (Bank of Lithuania (2009)). Nonetheless, even the most exposed foreign-owned banks did not suffer liquidity problems, as their parent banks fully compensated for the deposit loss. On the other hand, local banks experiencing deposit outflow reacted by offering substantially higher deposit interest rates (Bank of Lithuania (2009)).

46. **Global trends and local specificities in Lithuania contributed to the rise of pressure in the interbank lending market, which subsided only in 2010.** In October–December 2008, the interbank rate in local currency, VILIBOR, increased significantly. This was driven by a reassessment of currency risk due to deteriorating prospects for both economic growth in Lithuania and other Baltic countries and their early entry to the euro area. Until the financial turmoil of 2007, the currency risk associated with funding in local currency, the litas, was minimal, and the interest rates on euro funding by foreign banks acted as guidance for the marginal cost of funding in litas. The GFC dried up long-term flows from parent banks and triggered expectations of a devaluation. Although parent banks continued to support their subsidiaries and branches in Lithuania with euro liquidity as needed, they also started to reflect the negative implications of a currency devaluation in their pricing (Bank of Lithuania (2009)).[23]

47. **Estonia was relatively less affected by market stress.** The stress in Estonia's interbank lending market was smaller than in Lithuania and Latvia. CDS prices also increased less, although these spreads may not be highly relevant given the low amount of public debt. As Estonia had significant budgetary surplus over the few years leading to the crisis and low public debt[24] with no government bonds outstanding, the fiscal adjustment was relatively easier there. However, economic trends such as wage cuts, increased unemployment or multi-year deleveraging of the private sector were similar to those in the other Baltic countries.

48. **The rise in interest rates on kroon loans in the domestic money market did not exert pressure on the majority of the Estonian financial sector.** The Estonian money market at the time was relatively small and had low liquidity compared with that in the euro area countries. The majority of the local credit institutions managed their liquidity in euros via their parent banks or directly on external markets, using the central bank's forex window to convert euros to kroons. The domestic money market was important mainly for the liquidity management of some large foreign non-financial companies for foreign exchange risk hedging purposes. Smaller banks nevertheless were exposed to liquidity risk as they did not have access to parent banks' support. Moreover, most loans, especially real estate loans, were denominated in euros and referenced to euro-based rates.

49. **The deposit insurance scheme, however, could not prevent a disruption in deposits in Estonia.** The local subsidiary of Swedbank, Hansabank, experienced a significant depositor outflow. This was triggered in September 2008 by Swedbank's public announcement that it had significant exposures to Lehman Brothers, which was also echoed in the Estonian media. This prompted coverage in the Estonian media of possible concerns about the credibility and limitations of the Estonian deposit guarantee scheme. Depositors withdrew approximately 15% of funds from this bank between September and November 2008.[25] However, these funds did not leave Estonia, but rather were shifted to the local branches of foreign

[23] Šiaudinis (2010) discusses in more detail the main drivers behind VILIBOR rates. It is worth noting that the Bank of Lithuania reduced reserve requirements in 2008 in an attempt to alleviate the interbank market stress. The Bank of Lithuania also applied the existing provisions of the regulation to exclude one bank judged to be an outlier from the VILIBOR calculation for the first quarter of 2009, until that bank eliminated the wide deviation of its quotes from the general level.

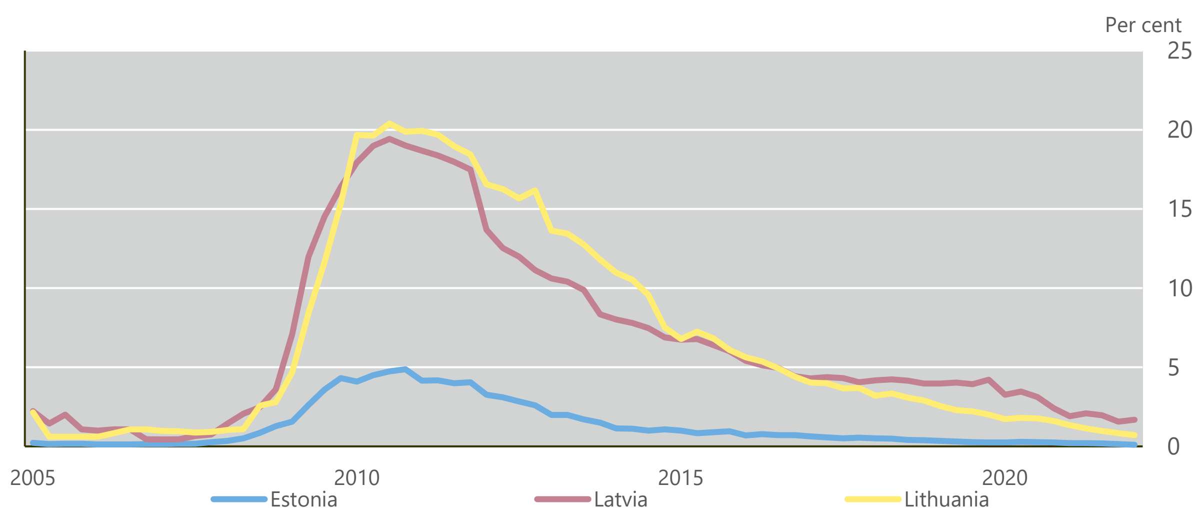
[24] Public debt amounted to only 3.8% of GDP at the end of 2007.

[25] Some decline in deposits also took place in the Latvian and Lithuanian subsidiaries of Hansabank, owned by Swedbank.

banks. Deposits held with foreign banks' branches were insured by their home systems, which were in large part the Danish and Finnish deposit insurance schemes. Depositors aimed mainly for the coverage that the foreign banks' home schemes provided, which was higher than that offered by the Baltic countries' schemes.

50. **The crisis could have triggered concerns about the solvency of other banks in addition to Parex.** In the midst of the market turmoil following the collapse of Lehman Brothers, concerns about deteriorating credit outlooks and mounting losses on banks' balance sheets became generalised across the three Baltic countries. As credit growth had quickly dried out starting in 2008, real estate prices had collapsed by 2009, dropping by 40% from their peak levels. At the same time, NPL levels started to increase in all three countries, albeit at a different pace in each one (Graph 5).[26] This was likely to cast doubt on the value of banks' assets and the collateral they held.

NPL ratios in the Baltic countries — Graph 5



Note: For Estonia and Latvia, loans overdue for more than 90 days as % of total assets. For Lithuania, non-performing loans – loans for which periodical payments had been late for more than 60 days, including impaired loans – until Q1 2008; until Q2 2014, non-performing debt instruments, including impaired loans and loans overdue for more than 60 days (but unimpaired); from Q3 2014, indicators of non-performing debt instruments are published according to the new common EU-wide definition, and are not entirely comparable with previous data.

Sources: Bank of Lithuania; Bank of Estonia; Bank of Latvia.

Section 4 – Crisis response measures

51. **Authorities in the Baltic countries faced a policy dilemma**. A possible policy response was complicated by the fact that the toolkit available to the local authorities was limited in various ways. First, all three Baltic countries had decided early on to retain the foreign exchange peg and stay on course to eventually join the euro. However, this constrained the ability of Baltic central banks to provide liquidity to financial markets. Second, any regulatory and supervisory intervention was limited in terms of its scope. In particular, domestic authorities had little influence over the strategic decisions of foreign-owned banks,

[26] NPL levels differed considerably in each individual country. While the level of loans past due for more than 90 days might have been as high as 20% at their peak in Latvia, they did not exceed 4.9% in Estonia (Sept 2010).

as foreign-owned banks that operated as branches fell outside the remit of the Baltic authorities. Lastly, fiscal space was limited and constrained the state's ability to support financial markets.

52. **Emergency Liquidity Assistance (ELA) was not a readily available option in the Baltics.** Central banks can provide funding in domestic currency at will, within certain parameters, thus making ELA an option that authorities regularly consider when responding to the early phases of a banking stress episode. However, the central banks in the Baltics faced a number of obstacles in using ELA. To begin with, all of the Baltic countries had pegged their currencies to the euro by then, so any increase in the supply of domestic currency would conflict with keeping the exchange rate anchor. In addition, bank borrowing was largely in foreign currency, as banks and their foreign parents could fund themselves more cheaply in international markets. As the Baltic countries were not part of the euro area, they had no direct means to activate ELA in euros. Finally, all three Baltic countries were strongly attached to preserving the exchange rate peg, as a precondition for joining the euro.

53. **Concerns about a possible deterioration in banks' solvency could not be easily addressed by public backstops because of limited fiscal space**. In the midst of the market turmoil following the collapse of Lehman Brothers, concerns about deteriorating credit outlooks and mounting losses on banks' balance sheets became generalised across the three Baltic countries. Confidence-building measures would require capital injections into the banks and solid public finances, even if public money outlays might eventually not be needed or would be paid back in full over time. In the Baltic countries, however, room for the use of public money to strengthen banks' balance sheets was limited. Moreover, the use of fiscal resources to support foreign-owned banks, even if targeting only locally incorporated banks, could have been politically controversial.

54. **All three Baltic countries decided to retain the foreign exchange peg.** This policy choice necessarily implied a restoration of their economies' international competitiveness via a process of internal devaluation (see Box 1). Support from public opinion was essential to this strategy's success given the upfront costs it implied for the population. Anticipation of joining the euro area likely played a key role in generating and retaining this support. Governments and authorities also nurtured support via an active communication policy.

55. **Eventually, as the crisis deepened, concerns about banks' solvency necessitated the adoption of structural measures.** Confidence-building measures required capital injections into the banks and solid public finances. Given the specific structure of the Baltic banking sectors, with its large presence of foreign banks, the recapitalisation of foreign-owned banks differed from that available to domestically owned banks. Foreign-owned banks could, in principle, hope for liquidity and, ultimately, solvency support from their parents. In contrast, domestically owned banks, which were facing relatively greater doubts regarding their solvency, did not have such a source of strength at their disposal, raising the issue of whether public funds were to be used in the resolution of these banks, with the resulting impact on public finances.

Restructuring of domestic banks

56. **Broadly speaking, the economic and financial crisis of 2008 did not result in systemic banking crises, and only one major domestic bank failed.** Contrary to the experience of some other European countries with weak banking systems at that time, the Baltic countries experienced more localised stress. As far as domestic banks were concerned, the cases were few and specific and did not trigger a system-wide response. Parex Bank, the largest domestic bank in the region, and the second-largest bank in Latvia with a market share of 13.8% of total assets of the banking sector, collapsed in November 2008. It was bailed out by the government of Latvia.

57. **Parex was adversely affected by the deterioration of financial conditions throughout 2008, especially during the turmoil and confidence crisis in the international financial markets after the Lehman collapse.** Parex was the largest non-resident service provider in Latvia, as it held 26% of all non-

resident deposits in the country. The bank was also servicing domestic retail and corporate clients, including state companies and municipalities. Unlike the subsidiaries of foreign-owned banks, Parex's funding structure was diversified. At the time, the bank was facing liquidity problems, as both non-resident and resident deposits were falling fast in September and October 2008. An inspection conducted by Latvia's Financial and Capital Market Commission (FCMC) revealed shortcomings in lending procedures, credit risk management and some other areas. The quality of Parex's bond portfolio also worsened due to the global turbulence. Repayment of two syndicated loans in the amount of EUR 775 million was scheduled for early 2009, but Parex's ability to refinance or repay these loans was impaired. As a result, Parex was not able to handle its liquidity problems and deteriorating capital positions, and it requested help from the government (FCMC (2009)).

58. **The government decided to take over and bail out Parex Bank due to its systemic nature and the risk of direct and indirect spillovers to the financial sector and whole economy in the event of its closure.** The government's option reflected the fact that readily available resolution tools did not exist at that time. In November 2008 the government took over a 51% stake in Parex from two major shareholders in the bank through the state-owned bank Mortgage and Land Bank of Latvia (MLB), for a symbolic price of two lats. In December 2008, a further 33.83% of Parex was transferred to MLB, while the existing minority shareholders of Parex Bank retained the remaining 15.17% (FCMC (2009)). At the same time, due to a lack of budgetary reserves for supporting the banking sector and the economy, Latvia applied for financial assistance from the European Union, IMF and other international lenders (see Box 1).

59. **Many immediate support measures were activated to strengthen Parex's liquidity and capital position.** The government issued guarantees covering its existing syndicated loans since creditors would otherwise trigger a default event (EC (2013)). It also issued securities and used this funding to place a deposit in Parex. Thus, Parex was provided with funds to buy government securities and use them as collateral to get short-term liquidity support from the central bank. At the end of 2008, these funding operations were repeated several times – short-term loans from the central bank were repaid fully in May 2010 (FCMC (2009)). Because of the continuous deposit run – deposits declined by 25% between August and end-November 2008 (IMF (2013)) – restrictions were imposed on deposit withdrawals from this bank in December 2008.[27] In early 2009, the bank received state guarantees to roll over the repayment of syndicated loans in line with the agreement negotiated with syndicated lenders (repaid in 2011) (IMF (2013)). At the end of 2008, Parex breached several regulatory requirements, including the capital adequacy ratio. In March 2009, the Latvian government decided to increase the bank's capital in the form of investments in the share capital and the subordinated capital.

60. **European agencies also contributed to the support for Parex.** In April 2009, the European Bank for Reconstruction and Development (EBRD) acquired 25% plus one of Parex Bank's ordinary shares – this was an important step towards restoring confidence in the bank and implementing its resolution. The EBRD supported Parex's capital and provided a subordinated loan. Several capital injections followed in October 2009 and in the following years (Parex Bank (2009) and (2010)).

61. **Further measures were taken in 2009–10, including the separation of Parex into a "bad" and a "good" bank.** The aim of these measures was to introduce a more effective management of government investments in the bank and prepare for Parex's sale. In February 2009, the government transferred its shares of Parex Bank to the Latvian Privatisation Agency. Parex's resolution involved the establishment of a good-bad bank structure in 2010 – healthy assets and liabilities were transferred to a newly created entity (Citadele), while Parex Bank continued to exist to manage the "bad" assets (IMF (2013)). The majority of deposits were later paid out or transferred to the new, "good" bank. A few big deposit holders were able to receive deposited money only at a later stage after Parex Bank was divided into "good" and "bad" banks. Syndicated loans to foreign lenders were repaid as scheduled. Minority shareholders remained with the "bad" bank. Over 2010–17, Parex operated as one of the largest distressed

[27] The restrictions softened gradually during 2009 and were eventually removed in January 2012.

asset management companies in the Baltics (under a new name, Reverta, starting in 2012).[28] In turn, Citadele was acquired in 2015 by a consortium of international investors. The EBRD still holds a 25% minus one share stake in Citadele.

Box 1

International financial assistance in Latvia

Considering the rapidly deteriorating macroeconomic situation and financial sector stability risks, as well as high external financing needs, the Latvian authorities requested international financial assistance in late 2008. The government of Latvia agreed on a financial assistance package of EUR 7.5 billion, with contributions from several counterparties. This package comprised around EUR 1.7 billion (or about 1,200% of Latvia's quota) under an IMF Stand-By Arrangement; EUR 3.1 billion from the European Union, under a balance of payments assistance programme; EUR 1.8 billion from the Nordic countries (Sweden, Denmark, Finland and Norway); EUR 400 million from other regional partners (Czech Republic, Poland and Estonia) and EUR 500 million from the World Bank and EBRD (IMF (2009a)).

The financial assistance package was conditional on a strong commitment by the Latvian authorities to implement an ambitious reform programme. Key elements included immediate measures to stabilise the financial sector and maintain international reserves, together with medium-term measures – financial sector reforms, fiscal measures, and structural reforms and income policies aiming at rebuilding competitiveness (IMF (2009a) and European Commission (2009)). The Latvian authorities were unequivocally committed to maintaining the exchange rate peg in order to join the euro area as soon as possible. This also implied that the adjustment of external and internal imbalances would materialise mainly via strict fiscal consolidation and income policies.

Measures related to the financial sector had several components. The first priority was to prevent Parex Bank's condition from deteriorating further, to implement a resolution of the bank and to restore confidence in the banking sector. The programme included measures to strengthen the authorities' crisis response capacity and the bank resolution framework. For example, arrangements for information-sharing between authorities were enhanced, legal tools to allow for the orderly resolution of banks and to improve supervisory intervention tools were developed, the deposit insurance fund was transformed, and its funding arrangements were improved. Cross-border cooperation and commitment from parent banks to support their investments in the Latvian banking system and to provide their subsidiaries with adequate financing and capitalisation if necessary① played an important role in the programme and in financial sector stabilisation.

A comprehensive private debt restructuring strategy was developed. This included amendments to the insolvency law in order to facilitate orderly and efficient debt restructurings, improvement in the personal bankruptcy framework, and an overall strengthening of banks through capital injections and other measures.

The implementation of the reform programme in its early stages was not without some delays and revisions.② Uncertainty regarding progress in programme implementation and rumours concerning the sustainability of the peg contributed to continued pressures on international reserves and to capital outflows until mid-2009. However, from that moment onwards, market confidence gradually improved, and the implementation of fiscal policy and other measures strengthened considerably. Economic growth resumed at the end of 2009 – earlier than expected. In 2011, rating agencies upgraded Latvia's sovereign credit ratings to investment grade, and Latvia successfully returned to international capital markets, reflecting financial markets' confidence in the Latvian economy and the programme's implementation (IMF (2013)).

Eventually, the Latvian authorities successfully implemented the reform strategy, as immediate programme objectives were met and significant progress towards medium-term objectives was made. Latvia completed its

[28] Other AMCs were created as a result of the stress in the Baltic financial system. For instance, in autumn 2009, Swedbank established the company Ektornet AB to manage and add value to repossessed assets. The head office was located in Stockholm, with subsidiaries in countries where there was repossessed collateral to be managed. Ektornet is an independent subsidiary of Swedbank AB. The purpose of its operations is to manage the Group's repossessed assets and develop them over time in order to recover as much value as possible. Most of the collateral consists of real estate, a large part of which will be in the Baltic countries, though there is also some in the Nordic region and the United States (see Swedbank (2010)). SEB had a similar arrangement in place, as its annual report from 2009 states: SEB has an operational Real estate Holding Company (RHC) for each of Estonia, Latvia and Lithuania.

international financial assistance programme in December 2011, ahead of its expiration. Out of EUR 7.5 billion available, only EUR 4.5 billion was drawn.③ While the programme appeared overfinanced, the availability of a sizeable financial package contributed significantly to the credibility of Latvia's reform strategy and the restoration of confidence in the banking sector (IMF (2013)). Stabilisation of the economy and implementation of a comprehensive set of reforms while maintaining the exchange rate peg paved the way for the country to join the euro area in 2014.

① Latvia was covered by the Vienna Initiative (see Box 2). In September 2009, during a European Banking Group Coordination Meeting chaired by the IMF and the European Commission, the key foreign banks active in Latvia – DnB Nord, Nordea, SEB and Swedbank – issued a Concluding Statement on the principles of maintaining their overall exposure to the country and meeting the liquidity and capital needs of their branches and subsidiaries in Latvia (IMF (2009c)).

② Adjustments had to be made to the programme's design due to a dramatically larger-than-expected economic contraction, election cycles and the need for additional time to identify fiscal measures and adjust to new developments. For example, a 27-month Stand-By Arrangement with the IMF was extended to 36 months at the second review (IMF (2013)).

③ This includes EUR 1.1 billion from the IMF (out of EUR 1.7 billion available) and EUR 2.9 billion from the European Union (disbursed in four instalments, instead of the six instalments of EUR 3.1 billion as initially scheduled).

Liquidity-supporting measures

62. **To bolster public confidence in the banking sector, authorities enhanced the deposit insurance scheme.** Measures included an increase in insurance coverage up to the amount in local currency corresponding to EUR 50,000 in Latvia and Estonia and EUR 100,000 in Lithuania. Moreover, the co-insurance feature in Estonia and Lithuania, which may have contributed to disruptions due to the implied haircut on deposits, was dropped. These measures were consistent with the decisions taken by the Economic and Financial Affairs Council of the European Union (ECOFIN) on 7 October 2008, which included raising the coverage level to EUR 100,000 by 2010. However, the schemes continued to exclude deposits held with foreign branches, inciting potentially diverging risk perceptions by depositors. Moreover, deposit insurance funds could only be used for payout and reimbursement, rather than broader resolution measures.

63. **To shore up liquidity and support credit, the central banks of Latvia and Lithuania decided to lower the reserve requirement over the course of the crisis.** In the fixed exchange rate system the Baltics had at the time, the minimum reserve requirement was one of the few policy tools that central banks could use independently. In doing so, the Baltic central banks did not primarily target the money multiplier, but rather sought to improve banks' liquidity position. The Bank of Latvia decided to lower the reserve requirements several times to free up additional financial resources that banks could channel to lending in order to promote economic growth. The requirements were lowered five times in 2008, from February to November, the final time right after the government's takeover of Parex Bank. The reserve ratio for bank liabilities with a maturity of over two years was decreased from 8% to 3%, and the reserve ratio for all other liabilities included in the reserve base decreased from 8% to 5%. The Bank of Lithuania lowered the required reserve ratio from 6% to 4% in November 2008.

64. **To face the liquidity shortages at the peak of the crisis, several swap agreements were created with the Nordic central banks.** These swap agreements became necessary since the central banks in the Baltic countries could not easily provide ELA in domestic currency, given their fixed exchange anchor and the desire to keep the exchange rate unchanged in view of the adoption of the euro. The provision of foreign liquidity was also likely to be preferable, as a good part of banks' loans had been granted in foreign currency.

65. **The central banks of Latvia, Sweden and Denmark entered into a swap agreement in December 2008.** This agreement was signed early in the crisis and acted as a bridge financing agreement before the IMF programme funding could become available (Bank of Latvia (2008)). The swap agreements entitled the Bank of Latvia to borrow euros against Latvian lats, up to EUR 500 million (375 million from

Sweden, and 125 million from Denmark). It aimed to provide short-term funding to preserve macroeconomic and financial stability in Latvia. For Sweden and, to a lesser extent, Denmark, this was seen as a way to reduce potential spillovers to other Nordic-Baltic countries. Under the terms of the swap agreement, the Nordic central banks entered into it in conjunction with the conditionality under the IMF programme – this allowed the swap agreement to rely on the assessment of Latvia's fiscal position conducted by the IMF, thus avoiding an additional assessment by the Nordic central banks. A peculiar feature of this swap agreement was that the Nordic central banks lent money not in their local currencies but in euros.

66. **The central banks of Estonia and Sweden entered into a swap agreement in February 2009.** The precautionary arrangement was set up with the aim of securing financial stability and promoting confidence in the Estonian financial system. Under the agreement, the Bank of Estonia could borrow up to SEK 10 billion (approximately EUR 917 million) against Estonian kroons. The precautionary arrangement enhanced the Bank of Estonia's capabilities for providing liquidity under the currency board arrangement (Bank of Estonia (2010)). The swap was never used, and it was left to expire in 2010.

Coordination with foreign authorities

67. **Cooperation on prudential requirements was more limited**. At times, domestic authorities in the Baltic countries expressed concerns about the high level of credit growth in their jurisdictions, with the expectation that this could trigger prudential requirements by the home authorities of foreign branches. However, home authorities did not see scope for revising the capital requirements of banking groups based on the location of a banking group's operation.[29] The relatively small proportion of banking sector assets represented by operations in the Baltic countries likely contributed to this view. Efforts by local authorities therefore did not generate changes in capital and liquidity positions by these banks.

68. **A specific group was created between Nordic and Baltic financial sector authorities**. A second EU-wide MoU involving supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability was adopted in 2008. This MoU recommended that countries with specific common financial stability concerns develop voluntary specific cooperation agreements. Within this framework, the Nordic-Baltic Stability Group (NBSG) was created in 2010, involving finance ministries (Ministry for Business and Growth in Denmark), central banks and financial supervisory authorities in Denmark, Estonia, Finland, Iceland, Latvia, Lithuania, Norway and Sweden. The NBSG's mandate was to prepare for financial crisis situations by agreeing in advance on procedures for cooperation, information-sharing and assessments, as well as for crisis management and resolution of cross-border crises.

69. **MoUs turned out to be of limited use in an actual crisis.** In principle, MoUs would be most useful during times of stress, when cooperation between home and host authorities needs to be intensified. As part of the policy response, the MoU that was originally signed in 2005 was updated in order to take into account the early lessons of the GFC and the need for close cooperation among authorities. However, while the MoUs provided a general framework for interactions between authorities and supported preparation for establishing appropriate communication channels, a possible limitation has been that, in practice, they may be harder to implement during times of crisis, when national priorities dominate (FSB (2014)). Moreover, these arrangements could not cover all of the elements that would come into play in a real crisis situation, such as burden-sharing, and responsibilities might not have been clearly allocated among authorities (Waijd et al (2007)).

[29] In 2005, when the Bank of Estonia increased the risk weighting for residential mortgage loans from 50% to 100%, a written petition was sent to the home authorities of foreign branches operating in Estonia, asking them to apply similar requirements for the exposures to Estonian residents at the parent bank level. The home authorities declined, saying that it was incompatible with EU regulations to stipulate provisions that involve different rules for a bank's operations depending on where they are carried out (Riksrevisionen (2011)).

Response by foreign-owned banks

70. **As the turbulence peaked, there was a risk that foreign banks would opt to put a floor on possible losses and exit their operations in this region**. This would have substantially reduced the availability of credit flows in each Baltic country given the large share of foreign banks in their banking sectors. Yet, foreign banks opted to continue operating in the Baltic countries. This was likely motivated by the fact that operations in the Baltic countries had been a stable source of revenue for the foreign banks. Moreover, a complete withdrawal would likely have been operationally complex and might also have damaged the reputation of these banks.

71. **Foreign banks chose to strengthen the capital positions of their local subsidiaries**. In Lithuania and Latvia, parent banks strengthened the capitalisation of their subsidiaries in the Baltics during the most acute phase of the crisis. Capital positions were strengthened mostly through increasing equity and, in some cases, subordinated debt qualifying as regulatory capital as well. Swedbank, for example, raised fresh capital of SEK 12.4 billion, primarily in order to distribute such capital to its Baltic operations. The subsidiaries of foreign banks in Estonia did not need any capital injection, but the hefty profits earned in 2008 were included in own funds as retained earnings in 2009.[30] These measures made it possible to build up higher provisions for sharply increased credit losses. Later on, these provisions were reduced, either because of loan write-offs or because they appeared excessive in comparison with the realised credit risk. The recovery in asset quality and in income streams from loans that started performing again supported the banks.

72. **Strong capital positions helped to work out NPL portfolios.** As the level of NPLs increased between 2009 and 2011, early recapitalisation of banks contributed to the orderly resolution of bad loans. Swedish banks and their subsidiaries used internal asset management companies to manage and work out NPLs. These asset management companies acquired, managed and then sold real estate in different segments of the market (residential and commercial). In addition, they often purchased the auctioned real estate collateral of defaulted loans, thus preventing value destruction of the collateral. Given that the subsidiaries of foreign banks were major players in local markets and the amount of collateral they held was considerable in relation to the total size of the market, the use of asset management companies helped to scale down the magnitude of collateral sell-off and alleviate the price shock to the real estate market, which was nevertheless substantial.

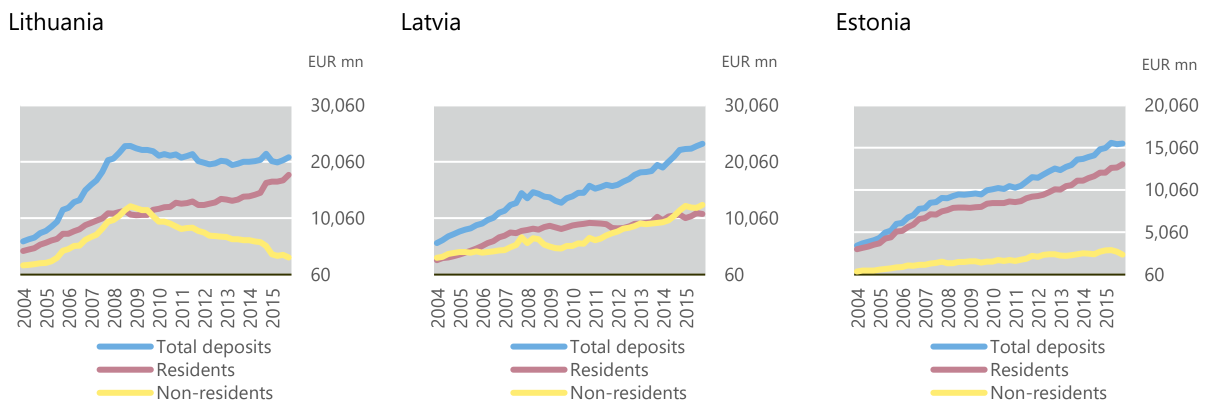
73. **Centralised liquidity management at the group level provided Baltic subsidiaries with access to a large pool of liquid assets.** This approach allowed the foreign banks to strengthen liquidity buffers as well as withstand outflows at the local level. Centralisation at the (mostly) Swedish parent level allowed these banks to benefit from support by the Swedish government, as Swedish banks could draw on a government programme for liquidity. A guarantee scheme by the Swedish government for certain Swedish banks was implemented in October 2008 and remained in place until mid-2011. It was designed to preserve credit extension by Swedish banks to businesses and households. It applied to new short- and medium-term debt of maturities ranging from 90 days to five years which had been issued by eligible banks. These loans received a guarantee by the Swedish government in exchange for a fee based on the maturity of the guaranteed debt and the risk profile of the issuing institution. The scheme was funded under a broader stabilisation fund and initially capped at a maximum of SEK 1.5 trillion (USD 195.1 billion) (Engbith and Kiernan (2020)). Utilisation at peak, in 2009, reached SEK 354 billion. This programme provided Swedish banking groups access to relatively cheaper funding and allowed them to channel the funds they could raise under the scheme to their Baltic subsidiaries. A possible motivation supporting this choice is that they considered their operations in the Baltic countries to be viable over the longer term,

[30] This approach had already been taken during the lending boom period and helped strengthen the capitalisation of Estonian banks.

and they had already committed substantial resources to their operations there, with good returns at the group level.[31]

74. **Overall, foreign banks adjusted the scale and scope of their local operations while maintaining a strong regional presence.** Swedbank was arguably one of the most heavily hit foreign banks, having incurred a loss in its Baltic operations of SEK 9.406 billion in 2009 against a profit of SEK 3.452 billion in 2008, mainly due to an increase in credit impairments, but also due to lower income. This represented a return on allocated equity of –50%. In this light, it reduced its Baltic operations by cutting 18% of its personnel and 19% of its branches over the course of 2009, but ultimately remained in the Baltic market.[32] This was a distinct feature of the financial crisis in the Baltics. Strong liquidity and funding support from Sveriges Riksbank and government support measures to the banking sector (eg a government guarantee scheme for lending) allowed parent banks of major Baltic banks to overcome liquidity squeezes in domestic and international markets. Together, they allowed them to support their substructures in the Baltic countries. Some consider that by avoiding a disorderly retreat from the Baltics, these measures ultimately also benefited the stability of the Swedish financial system (Molin, 2010).

Stock of deposits in Baltic countries — Graph 6



Note: Non-resident deposits also include deposits from financial institutions.

Sources: Bank of Lithuania; Bank of Estonia; Bank of Latvia.

Fiscal consolidation and public borrowing

75. **The strategy chosen by the Baltic authorities had a significant impact on public finances, especially in Latvia and Lithuania.** With the economic contraction following the market turmoil and the GFC, government revenue fell in all of the Baltic countries. Fiscal consolidation required significantly decreasing government expenditure as well as maintaining or even increasing tax revenues. However, in the case of Latvia and Lithuania, public expenditure nonetheless increased, requiring issuance of new public debt. In the case of Latvia, this was necessary as a consequence of public support for the restructuring of Parex and MLB. For Lithuania, the choice to respond to the crisis without an international assistance programme implied higher public outlays. In the case of Estonia, the public outlays were more

[31] For instance, for Swedbank, in 2008 profits from Baltics operations amounted to a 30% share of group profits, against a share in total lending of 17%.

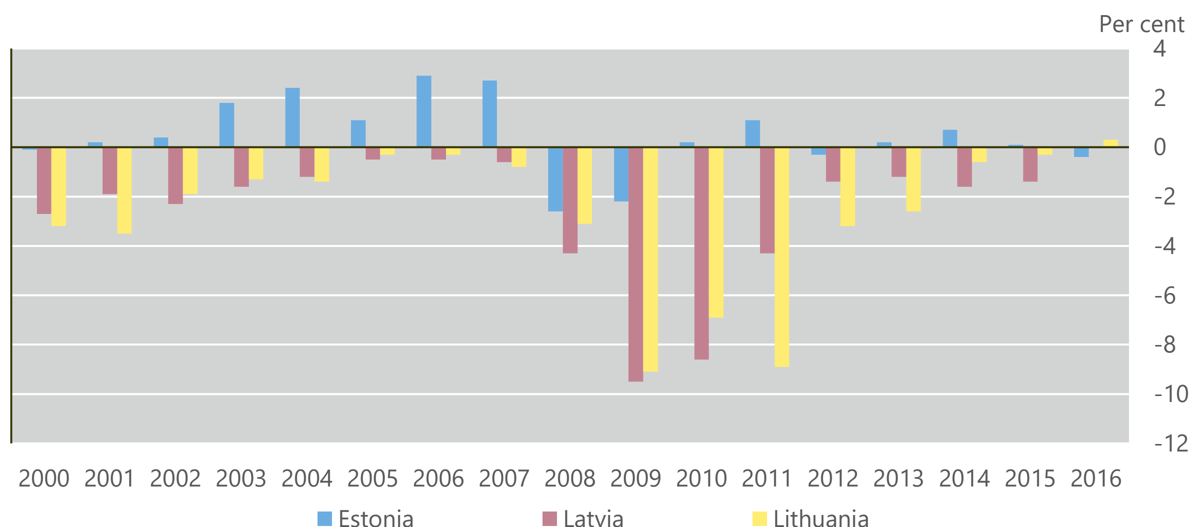
[32] See Swedbank (2010).

contained, as no bank needed official recapitalisation funds and there were no payouts from the deposit insurance scheme.[33]

76. **The fiscal consolidation was quick; it mostly took place over a couple of years and implied a process of internal devaluation**. Graph 7 shows how the fiscal adjustment was deepest in 2009 and started to unwind in the following few years. The internal devaluation, requiring wage reduction in the public sector and indirectly in the private sector (see Box 2), was accepted by the public given the strong support for continuing along the path of euro adoption.

Fiscal adjustments in the Baltic countries — Graph 7

Annual budget balance in % of GDP



Source: Eurostat.

77. **Following its agreement to obtain international financial assistance, Latvia introduced severe austerity measures and ambitious structural reforms**. Overall, fiscal consolidation measures reached almost 17% of GDP between 2008 and 2012 (of this, the adjustment in 2009 was 8% of GDP).[34] Latvia regained access to international capital markets in June 2011, issuing a 10-year USD 500 million bond with a yield of 5.5%. This was followed by another issuance in February 2012. In December 2012, Latvia issued a seven-year USD 1.25 billion bond at a historically low yield of 2.9%, and that allowed the country to repay its remaining programme-related liabilities to the IMF.[35]

78. **Lithuania opted to increase official borrowing and not to ask for international assistance.** Rates on government debts increased markedly in 2008, putting pressure on the Lithuanian economy and its banking sector. The Lithuanian government took measures to substantially cut government expenditure, increased its use of EU funds (corresponding to 20–30% of fiscal revenues in 2008–09)[36] and introduced various tax increases, but a significant funding gap remained. The government chose to finance its deficit by borrowing in financial markets. Part of this was covered by borrowing in domestic markets,

[33] In March 2009, the Estonian Parliament adopted a regulation to allow the possibility of changing the state budget if needed and giving loans or guarantees to stressed banks. Ultimately, these provisions were not used.

[34] See Ministry of Finance of Latvia.

[35] See European Commission (2013).

[36] A modification in the European Union's Cohesion Policy provided additional support to the Baltic countries' fiscal space (Purfield and Rosenberg (2010)).

and a substantial part in international markets, although at very high rates.[37] As a result of market tensions, interbank rates also increased markedly during the crisis, imposing costs on bank borrowers such as corporates and households.

79. **The size of the fiscal consolidation in Lithuania was comparable with that in Latvia**. Over 2008–12, the Lithuanian authorities made five government-wide cuts to expenditure in the state budget. In total, these cuts amounted to EUR 1.6 billion. Lithuania's expenditure cuts were initially broad-based. Later, a more progressive approach was taken in dealing with cuts in government expenditure. Though Lithuania's fiscal consolidation primarily relied on expenditure reduction, tax changes were also implemented. Over the same period, Lithuania largely relied on increases in existing tax rates rather than the introduction of new ones. For example, the standard VAT rate was raised from 18% to 19%, followed by a further increase to 21% starting on 1 September 2009, and several types of VAT exemption were abolished (see Nakrošis et al (2015) for a more detailed discussion).

Box 2

Internal devaluation in the Baltic countries

Given the build-up in imbalances during the 2000s, a policy response was needed to regain competitiveness. A traditional solution to this condition could have been the devaluation of the exchange rate. However, all three Baltic countries chose a different route and implemented a so-called "internal devaluation". The choice remains heavily debated (see Blanchard et al (2013) and Darvas (2011)).

An internal devaluation aims to restore a country's international competitiveness mainly by reducing its labour costs – either wages or indirect costs to employers. In contrast, an external devaluation operates by devaluing a fixed, nominal exchange rate. One possible advantage of an external devaluation is the speed with which it affects a country's economic competitiveness. A disadvantage of an internal devaluation is that it might be hard to implement because of nominal wage stickiness.

There are several reasons why the Baltic authorities preferred an internal devaluation. It would both support and require a fiscal consolidation, thanks to significant wage cuts across the public sector. Should changes in public wages trigger similar adjustments in private sector wages or related benefits, this would also facilitate an additional improvement in competitiveness. Considering the costs of the adjustments for the population, the more gradual impact of the internal versus the external devaluation could also produce less hardship and pushback. In addition, given that many households' and companies' debt was denominated in euros, an external devaluation would have increased the debt servicing burden automatically.

Some specific drawbacks to an external devaluation applied in the case of the Baltic countries. First, introducing the euro was a priority, and a stable exchange rate was a prerequisite. An external devaluation would therefore have delayed the switch to the euro. Related to this, accessing international capital markets might have been difficult after a currency devaluation – an important consideration for the Baltic financial sector, which relied extensively on foreign banks. In this context, the so-called Vienna Initiative, launched in January 2009, aimed, among other things, to prevent a large-scale and uncoordinated withdrawal of cross-border banking groups from emerging Europe, and to ensure that parent banking groups maintained their exposures and recapitalised their subsidiaries in emerging Europe. Avoiding an external devaluation could be seen as facilitating foreign banks' continued involvement in the Baltic countries.① An external devaluation might also have increased inflation, as these countries were net importers of energy resources.

In practice, opposition to the wage cuts in the public sector was mostly muted. There may be different reasons for this. One possible explanation might be that, in general, the Baltic countries experienced rapid wage growth before the crisis, so wage cuts, while costly to employees, may have been more acceptable if they brought wages back to levels just before the 2008–09 crisis. The Baltic countries had also experienced various phases of economic turmoil in living memory (eg the economic reforms of the 1990s, the banking crisis in 1995–96 and the

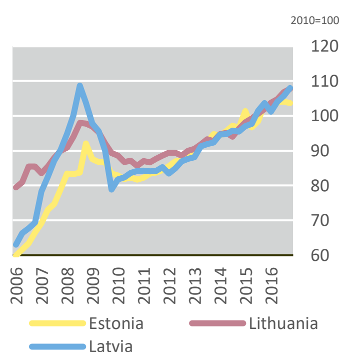
[37] For instance, in August 2009, the Lithuanian government made a eurobond issue of EUR 500 million with a yield of 9.75%; in November 2009, a five-year USD 1.5 billion issue with a yield of 6.75%; and in May 2010, a 10-year USD 2 billion issue with a yield of 7.375%.

Russian financial crisis in 1999). This might have helped prepare society for the costs of the adjustments. Politicians also seem to have clearly communicated the need for cuts in a convincing way, building support among public opinion, so much so that some of them were re-elected after the crisis. However, the costs to employees were substantial, and the countries experienced emigration flows in the aftermath of the crisis. This in turn contributed to wage depression and an alleviation of tensions in the labour market (see Hazans (2016)).

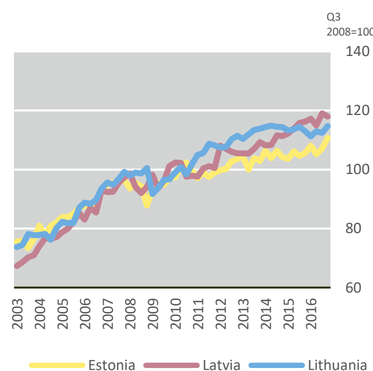
There is some evidence that the internal devaluation produced the desired recovery in competitiveness, but the underlying mechanism is not straightforward. Although there were significant decreases in the unit labour cost, this was achieved partly by wage decreases and partly by an increase in productivity. Many researchers emphasised that productivity gains played the main role. Wage decreases, while significant, were insufficient (Blanchard et al (2013)), especially because a large portion of the wage decrease took place in the public sector, which played a minor role in regaining competitiveness. However, some argue that looking at the changes in average wages may be misguiding. The average wage dynamics in the private sector are "biased" because of the layoff of less productive and lower wage-earning workers. As lower-earning workers exited the labour market, the average wage increased, even if others experienced significant wage decreases. The actual wage reduction during the crisis was steeper than that shown in the "average wage and salary" data (see Krasnopjorovs (2011)). Increased productivity might also be connected to the internal devaluation, at least partly. For Lithuania, Garcia-Louzao et al (2022) show that from an aggregate perspective, both firm exit and job reallocation accelerated after the 2008–09 crisis, and that these changes were associated with an increase in productivity growth. Specifically, they show that the least productive firms were more likely to leave the market, that the more productive firms destroyed jobs to a lesser extent, and that this relationship strengthened during the downturn. For Latvia, Benkovskis (2015) observes a growing misallocation of resources prior to and during the financial crisis, and improvement in the allocation of resources afterwards. The misallocation of resources was not the major driver of economic dynamics during the crisis; however, there was a positive contribution to economic growth from declining misallocation in 2011–13. Benkovskis (2015) argues that, at least partly, better allocation could be related to the internal devaluation, as it increased the price competitiveness of Latvia's enterprises abroad and reduced obstacles to their further expansion in external markets.

Competitiveness indicators — Graph B.1

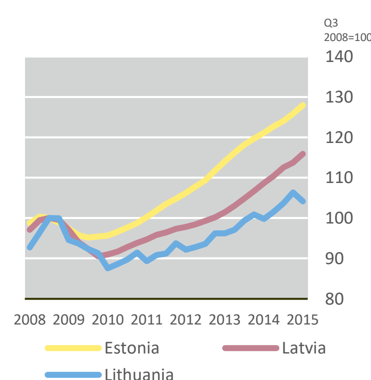
Unit labour cost



Real labour productivity per hour worked



Average monthly wages (whole economy)



Sources: Eurostat; SDW; National statistics authorities.

① For more information on the Vienna Initiative in 2009, see https://vienna-initiative.com/about/vienna-initiative-1-0/overview/.

Section 5 – Structural changes after the crisis

80. **While the Baltic countries' economies bounced back relatively quickly, a full recovery took longer.** The economic contraction in 2009 was significant, with GDP falling by over 15% in all three countries. However, the Baltic countries managed to return to a growth path relatively quickly. In 2010, growth recovered in Estonia and Lithuania, while Latvia was still experiencing a mild contraction. By 2011, growth had picked up and was significantly above EU averages in all three countries. Wages had recovered to pre-crisis levels by 2011–12. However, unemployment rates remained significantly higher than pre-crisis levels until 2010, when they started to decline, albeit mainly because of emigration.

81. **The situation in the interbank market normalised in mid-2010.** Growing confidence in Latvia's ability to meet the international financial assistance programme's goals and gradual economic stabilisation resulted in the normalisation of the interbank rates. However, the interbank market did not fully recover to pre-crisis levels, and activity in the interbank market has remained shallow since then.

82. **The adjustment required structural changes in the Baltic countries' banking sectors.** These changes continued after the crisis and required a major reorganisation of the banking sector. Foreign banks opted to remain active in the Baltic countries, but on a reduced scale and with a different funding structure. At the same time, the sharp economic downturn resulted not only in greater risk aversion and prudent lending practices by commercial banks, but also more cautious demand from borrowers.

83. **Changes in regulation and supervision took place in all three countries**. The financial crises that materialised in many countries after the bankruptcy of Lehman Brothers and its global repercussions generated a wave of regulatory changes at the global and national level that had an impact on the Baltic countries as well. Many regulatory and supervisory changes also took place in these countries following their entry into the euro area, starting in 2011.

Changes in banking sector structure

84. **The crisis resulted in significant structural changes to the Baltic countries' banking sectors.** In terms of funding, the aftermath of the crisis saw a reversal of banks' reliance on debt funding by their parents. Before the crisis, rapid growth in loan portfolios was mainly financed by wholesale funding, as reflected in extremely high loan-to-deposit ratios. Funding was mostly obtained via the parent banks. From 2009 onwards, banks started increasing the share of local funding, mainly deposits (Graph 6). Thus, in 2008, wholesale funding amounted to around 45% of total assets. By 2016, it had fallen to around 9.5% (Latvia), 19% (Estonia) and 20% (Lithuania). The share of parent funding within wholesale funding also declined, albeit with differences across countries. In Estonia, wholesale funding continued to be provided by parents after the crisis, whereas in Latvia and Lithuania, that share fell from around 30–40% of total liabilities in 2008 to almost zero in Latvia and just about 15% in Lithuania. At the same time, the average maturity structure of intragroup liabilities also changed: in the run-up to the crisis, parents provided primarily long-term debt, with longer-term liabilities representing a major source of funding and the majority of liabilities maturing within one to five years. By 2015, however, more than half the funding provided by parents had a maturity of less than one month.[38]

85. **Increased reliance on depositor funding coincided with reduced lending.** The share of deposits in total liabilities, previously not more than 50%, increased to about 80% in all three countries. At the same time, as banks shrank their lending portfolios, the loan-to-deposit ratio decreased from around

[38] The change in maturity profile of wholesale and, in particular, parent funding is true for the aggregate banking sector, not necessarily for each individual firm, and its extent may differ across the three countries. Interestingly, parents shifted to provision of more short-term funding, which may indicate greater risk aversion. The changes may also reflect the increasing proportion of branches versus subsidiaries among foreign banks in some of the Baltic countries.

200% in 2008 to about roughly 100% in 2015. The credit-to-GDP gap,[39] which had been positive until 2008, turned negative to about 15%. As a result, the Baltic countries, and especially Latvia, experienced a credit-less recovery.

86. **Banks' capital position changed, but to a lesser extent.** Prior to the crisis, Tier 1 capital adequacy ratios amounted to about 10% (Latvia and Lithuania) and 12.6% (Estonia). In each country, banks were able to free up unused NPL provisioning, utilise increased collateral value and reduce the share of NPLs from around 20% to 5% in Latvia and 5% to 1% in Estonia. Banks also managed to work out the majority of their impaired loans in the three years immediately after the crisis. As a result, capital ratios increased as risk weights fell, while leverage ratios remained at more or less pre-crisis levels.

Regulatory and supervisory reforms

87. **Changes in regulation and supervision took place in all three countries**. The financial crises that materialised in many countries after the bankruptcy of Lehman Brothers and its global repercussions generated a wave of regulatory changes at the global and national level that had an impact on the Baltic countries as well. Many regulatory and supervisory changes also took place in these countries following their entry into the euro area, starting in 2011.

88. **Accession to the European Union and the euro area shaped bank regulation in the Baltic countries**. As members of the European Union, the Baltic countries are required to implement European regulation – Directives and Regulations – issued by the European Commission. These cover the prudential requirements for banks and broadly follow the global standards set by the Basel Committee on Banking Supervision. A first round of changes had already been introduced in the early 2000s when the Baltic countries joined the European Union. However, as the regulatory package in the European Union continued to develop following both further progress by international standard setters and a deepening of institution-building in the European Union in the late 2010s, the Baltic countries adopted further changes to their regulatory and supervisory frameworks.

89. **Bank regulation was overhauled through the introduction of the European legislation transposing the Basel III framework**. The main regulatory changes were implemented in the European Union following the GFC. In particular, EU requirements imposed a robust framework for setting minimum capital levels, with a tighter definition of the capital instruments themselves. These requirements fall under the Fourth Capital Requirements Directive (CRD IV), the Capital Requirements Regulation (CRR) and a European Commission Delegated Regulation for the Liquidity Coverage Ratio. Capital requirements include the minimum Pillar 1 requirements, Pillar 2 requirements and the combined buffer requirement.

90. **Macroprudential measures have been activated in the Baltic countries.** In the early 2000s, when the Baltic countries were experiencing rapid credit growth, they did not have an established framework for macroprudential instruments, although they did introduce some macroprudential measures.[40] Since then, global standard setters and EU authorities have promoted the use of macroprudential tools and the establishment of the appropriate institutional setup.[41] For instance, borrower-based measures were also introduced in all three countries.[42] In Estonia, a limit on the loan-to-value (LTV) ratio was introduced in 2014, together with limits on loan maturity and a debt service-to-

[39] The credit-to-GDP gap is defined as the difference between the credit-to-GDP ratio and its long-term trend, as a percentage.

[40] See Eller et al (2020).

[41] For countries in the banking union, the European Central Bank has been entrusted with a macroprudential mandate, which allows the ECB to review and possibly top up certain national macroprudential measures (in particular, the CCyB). Borrower-based measures, such as DTI and LTV, remain a national competence. The European Systemic Risk Board (ESRB) is responsible for the macroprudential oversight of the EU financial system and the prevention and mitigation of systemic risk. The ESRB is also responsible for the assessment of some national macroprudential measures.

[42] For more details on Estonia's macroprudential policies, see Sutt et al (2011).

income (DSTI) ratio. Latvia had already implemented an LTV ratio in 2007.[43] It also introduced limits on loan maturity, DSTI and a debt-to-income (DTI) cap in 2020. Lithuania first introduced LTV and DSTI caps and a limit on loan maturities in 2011, and they were tightened in 2015 (DSTI and loan maturity) and 2021 (LTV for second and subsequent housing loans).[44] Countercyclical capital buffers (CCyB) were also among the major macroprudential tools introduced after the GFC, and CCyBs have been used in the Baltic countries. For instance, Lithuania's central bank increased the CCyB to 1% in 2018–19 and released it at the beginning of the Covid-19 pandemic. The CCyB in Latvia, introduced in 2015, remains at zero given weak lending flows. Estonia also introduced the CCyB in the mid-2000s, and changed its CCyB framework in 2021.[45]

91. **Adoption of the euro also resulted in changes in reserve requirements.** Upon entry into the euro area, the reserve ratio for bank liabilities was reduced. This was possible because reserve requirements were set by the European System of Central Banks (ESCB), benefiting from a lower risk component.[46]

92. **The introduction of credit registers has added a valuable source of information for both commercial banks and macroprudential authorities in Latvia and Lithuania**. In Latvia, the Credit Register was launched on 1 January 2008 as a result of policy action proposed in the anti-inflation plan. Information on total liabilities of potential and existing borrowers can help banks better assess credit risks, and it would have been helpful during the credit boom phase. In addition, access to loan microdata can provide authorities with a better understanding of the amount and distribution of risks in the system. In hindsight, it is possible that access to this kind of information would have allowed prudential authorities to act more proactively during the lending boom. In Lithuania, the Loan Risk Database had already been operational since 1996. It underwent a comprehensive renewal in 2019 and remains an important tool and information source for the Bank of Lithuania.

93. **Since November 2014, banking supervision in the Baltic countries has been integrated into the Single Supervisory Mechanism (SSM) framework**. All three Baltic countries joined the banking union, with the associated centralisation of supervisory functions. Under the SSM, the European Central Bank (ECB) is the central prudential supervisor of financial institutions. The ECB directly supervises the largest banks, while national supervisors continue to monitor the remaining banks.[47] For the Baltic countries, the ECB is responsible for the supervision of significant institutions (SIs) operating in each Baltic country, while the national authorities are responsible for less significant institutions (LSIs). Given that many – or, in some cases, most – banks are foreign-owned, Baltic countries' national authorities are mostly in charge of domestically owned LSIs. Baltic supervisory authorities participate in the Joint Supervisory Teams (JSTs) for domestically owned SIs. In the European Union, all JSTs follow the same methodology, based on the SSM's Supervisory Manual and guidance. They comprise ECB staff and staff from banks' home countries. For foreign-owned SIs, the Baltic authorities can join supervisory colleges.

94. **With the transposition of the EU Bank Recovery and Resolution Directive (BRRD) into law in the Baltic countries in 2016, national resolution authorities (NRAs) were established**. Separate

[43] The LTV cap was set at 90% in 2007. With the introduction of a state support programme for housing purchase for families with children in 2015, the LTV cap for loans within this programme was set at 95% in 2014.

[44] Information on national macroprudential measures in the European Union is collected by the ESRB. It is available on the ESRB website at www.esrb.europa.eu/national_policy/html/index.en.html.

[45] The change implied the replacement of another macroprudential buffer introduced after the GFC, the systemic risk buffer, with a combination CCyB composed of two parts: the base requirement (set at 1% at the time of writing) and a cyclical requirement (set at 0.5% at the time of writing, effective from 1 December 2023).

[46] The reserve requirement for Estonia was gradually lowered from 15% to 2% at the end of 2010 because the country joined the euro area starting on 1 January 2011 and began to operate in the euro area monetary policy framework.

[47] For more information on the SSM, its purpose and the relevant EU regulations, see https://ec.europa.eu/info/business-economy-euro/banking-and-finance/banking-union/single-supervisory-mechanism_en#:~:text=Council%20Regulation%20(EU)%20No%201024,modified%20framework%20for%20banking%20supervision.

resolution units were established in the central banks of Estonia and Lithuania and in the supervisory authority in Latvia. Prior to that, no separate resolution authority had existed in the Baltic countries. Following the reforms, the new resolution authorities are legally independent of other financial sector authorities, even if they may be located within existing authorities for organisational reasons, in order to reflect EU requirements.[48] Given the small size of the countries and their domestic banking sectors, establishing a separate agency was considered too costly and inefficient. The NRA is part of the banking union's Single Resolution Mechanism (SRM). The Single Resolution Board (SRB) is the centralised decision-making body of the banking union and works together with the NRAs to resolve significant failing banks. The most significant banks from each country fall under the direct responsibility of the SRB, assuring resolvability and crisis management. NRAs are responsible for all other banks.

95. **Crisis simulation exercises are still conducted between the Nordic and Baltic countries**. Notwithstanding the limitations of the exercises conducted in 2007, some relevant lessons were learned in terms of communication during a crisis and the identification of relevant actors across the institutional spectrum in the Baltic countries and foreign banks' home countries. Crisis management exercises have been repeated over time. For instance, in January 2019, a major financial crisis management exercise was carried out in the Nordic-Baltic region (see Farelius et al (2020)).

96. **In some cases, bank-specific MoUs have been signed, allowing Baltic supervisors to join the supervisory college of the parent bank**. This is the case of Nordea, for which Baltic countries were included in the college, as the bank had significant branches in all three Baltic countries. The input from these countries was seen as relevant to the risk assessment for both the local branch and the group as a whole. Nonetheless, it was also clarified that the supervisors of a branch were not formal decision-makers regarding capital and liquidity requirements (FSB (2014)).

Changes in institutional design

97. **National macroprudential institutional arrangements have been set up**. The central banks of Lithuania and Estonia were designated as macroprudential authorities. In Latvia, the central bank is a macroprudential supervisor authority, while the Financial Supervisory Authority undertakes the role of designated authority (ie it is responsible for applying macroprudential instruments) (ESRB (2015)).

98. **Cooperation arrangements between the Nordic and Baltic countries have been formalised**. Various macroprudential issues are discussed regularly at the Nordic-Baltic Macroprudential Forum (NBMF), which was set up in 2011. This forum brings together central bank governors and heads of supervisory authorities. It also provides an opportunity to discuss those issues at an expert level via various expert groups tasked with conducting the preparatory work for the NBMF.[49]

99. **Financial stability departments were created or expanded within the central banks.** For instance, in Lithuania, the Financial Stability Division was significantly expanded after the financial crisis, receiving more resources and becoming a department. It was also separated from the economics department, under which the old division had been placed. In Latvia, the Financial Stability Division was created in 2008 under the umbrella of the Monetary Policy Department, which is responsible for economic research, macroeconomic analysis and financial market analysis. This division became a separate department in 2014. In Estonia, the Financial Stability Department had already been established in the Bank of Estonia in 2002. When the organisational structure of the central bank was changed in 2012, the department was restructured with a more targeted focus on financial stability analysis and policy.

[48] In Lithuania, the NRA is placed within the central bank. In Estonia, it sits within the FSA. In Latvia, it sits within the FSA at the time of writing but will move to the central bank in 2023 when the FSA will be merged with the central bank.

[49] For more information, see www.eestipank.ee/en/financial-stability/nordic-baltic-partnership.

Section 6 – Conclusions

100. **The events in the Baltic countries' banking sectors around 2008–09 share a number of features in common with episodes of traditional banking crises**. Macroeconomic imbalances played a big role – rapid growth and credit flows created an initially virtuous cycle of economic expansion, increasing demand and public sector revenues, which quickly unravelled once the drivers of the growth proved unsustainable. External shocks can typically act as a trigger for such an assessment reversal – in the case of the Baltic countries, this was the GFC.

101. **There was a delay in detecting the build-up of vulnerabilities**. The opening-up of economic and financial opportunities following accession to the European Union in the early 2000s and the expectation of joining the euro area in the following years created a context of optimism towards the Baltic economies. In this context, there was a reduced awareness of the risks associated with the sustainability of the underlying dynamics. Indicators of stress building up in the financial sector or the broader economy, such as growing current account deficits and booming credit and house prices, were initially deemed justified as part of the convergence process. A fixed exchange rate masked imbalances which would have otherwise materialised in a depreciation of the national currency and reduced the scope for monetary policy to tighten in order to mitigate credit growth.

102. **The crisis in the Baltics was shaped by two specific features.** First, a large part of the domestic banking sector was owned by foreign banking groups. Foreign ownership influenced bank behaviour in the run-up to the crisis as well as in the crisis response. Second, a substantial element of the crisis response was the internal devaluation. This implied severe measures to correct imbalances and restore competitiveness through wage cuts and a reduction in public spending. This approach achieved the desired outcome, as growth recovered a couple of years after the peak of the crisis, though it came at substantial costs to the population. Strong domestic support for this measure was therefore key to its implementation during the crisis.

103. **The foreign ownership of banks allowed for faster growth and financial deepening pre-crisis but represented a vulnerability during the crisis.** Foreign-owned banks had access to foreign capital markets, and they shared this liquidity with their operations in the Baltics. This allowed credit to grow faster than domestic deposit supply would have allowed. Although this pattern was well aligned with the Baltic economies' catching-up process, it also had the potential to become unsustainable. When the global liquidity situation deteriorated in 2008, especially following the bankruptcy of Lehman Brothers, foreign banks faced some liquidity stress. In consequence, there was a risk of their disorderly retreat from the Baltic countries or of the transmission of the global funding stress to the Baltic banking sectors.

104. **Ultimately, the vulnerability did not materialise, as foreign banks chose to remain in the Baltic countries.** Foreign banks recapitalised their Baltic operations and provided liquidity that they could raise in international markets, partly on the basis of guarantees provided by their home governments. This allowed for a decoupling of banking and sovereign risk, although in the Baltic countries the link between bank and sovereign risk may not have been very strong in the first place given rather low levels of public debt. Such decoupling would have been beneficial in other European countries under stress during the GFC.

105. **Following the crisis phase and over time, the funding structure of foreign-owned banks has changed.** These banks continued operating in the Baltic countries after the crisis phase receded. However, they adjusted their business model, shifting funding to domestic sources and scaling down their lending flows. These changes reflected an overall shift in demand, as well as in supply, as the Baltic economies moved towards a more moderate growth path. This reflected a reassessment of the levels of credit growth that would be sustainable in the long term, after the excesses of the pre-2008 period. A so-called credit-less recovery has become the hallmark of the new normal in the Baltic countries.

106. **Fiscal implications were different for each of the three Baltic countries.** In Estonia, fiscal implications were negligible, given a fairly conservative fiscal policy prior to the crisis and, importantly, the absence of domestic banks in need of recapitalisation. Estonia could thus fund the cost of the crisis response primarily via its fiscal surplus. This was not the case in Latvia and Lithuania, where an increase in net government spending necessitated an increase in public borrowing. In Lithuania, the government was able to sell bonds to banks. In Latvia, an IMF/EU programme provided the resources for the required adjustments, which included capital injections into the banking system. This represented an additional, significant burden on fiscal budgets.

107. **Changes in prudential and institutional settings also helped to strengthen the structure of the financial sector on a long-term basis after the crisis**. Improvements in deposit insurance schemes helped restore confidence in the banking sector in the aftermath of bank failure. Macroprudential policies, post-GFC changes in prudential regulation and generally better access to microprudential data have provided authorities with a richer toolkit for monitoring banks and responding promptly to signs of weakness.

108. **A key lesson of the Baltic experience is that, under certain conditions, foreign banks can play a supportive role during a banking crisis.** Given such conditions, the inherent vulnerability that a large presence of foreign banks presents to the host country may not materialise. In the Baltic countries, foreign banks' positive contribution to the crisis response may have been facilitated by the strategic importance of these countries to the parent banks. Reputational costs for the parent banks were also considered high in the event of a hasty retreat from their activities in the Baltic countries. In addition, the relatively small size of the Baltic countries made the outlays necessary to stay put there comparatively small from the perspective of the parent bank. The MoUs between home and host authorities provided a general framework for interactions, although in practice they suffered from some limitations during the crisis response.

109. **Another lesson is that the option of an internal rather than external devaluation may be considered by authorities in other crisis situations, but its viability depends crucially on broad internal support.** An internal devaluation could be carried out in the Baltic countries thanks to the domestic consensus around this policy, which was probably strongly driven by the ultimate goal of joining the euro area and recent experiences of crisis situations in the Baltics and the associated costs of resolving them. The predominance of euro-denominated liabilities also supported the use of an internal rather than an external devaluation. The low level of public debt in these countries may have also supported a faster rebound in public confidence in these economies, including by foreign investors, once the internal devaluation was activated. The Baltic economies were also overall quite flexible, with relatively few structural rigidities. Achieving the necessary political and societal consensus around such a policy may not be easily replicable elsewhere. Devaluations are not cost-free and may also trigger a backlash.

References

Arakelyan, M (2018): Foreign banks and credit dynamics in CESEE, *IMF Working Paper* No. 18/3, January.

Blanchard, O (2012): "Lessons from Latvia", *IMF Blog*, 11 June.

Blanchard, O, M Griffiths and B Gruss (2013): "Boom, Bust, Recovery: Forensics of the Latvia Crisis", *Brookings Papers on Economic Activity*, Fall 2013.

Bank of Estonia (2006): *Monetary developments & policy survey*, September.

——— (2008a): *Estonian economy and monetary policy*, January.

——— (2008b): "Banking sector stability and analysis", *Financial Stability Review*, January.

——— (2010): *Annual report 2009*.

Bank of Latvia (2005): *Financial stability report 1/2005*.

——— (2007): *Financial stability report 2007*.

Bank of Lithuania (2008): *Financial stability review*, 12 June.

——— (2009): *Financial stability review*, 11 June.

Karadeloglou, P and K Benkovskis (2015): Compendium on the diagnostic toolkit for competitiveness, *Occasional Paper Series* No 163, European Central Bank, July.

Comunale, M, M Eller and M Lahnsteiner (2020): Assessing credit gaps in CESEE based on levels justified by fundamentals – a comparison across different estimation approaches, Working Paper, no 229, Oesterreichische Nationalbank (Central Bank of the Republic of Austria).

Cottarelli, C, G Dell'Ariccia and I Vladkova-Hollar (2003): "Early birds, late risers, and sleeping beauties: bank credit growth to the private sector in Central and Eastern Europe and the Balkans", *IMF Working Papers*, no 2003/213.

Darvas Z and V Kostyleva (2011): Fiscal and monetary institutions in Central, Eastern and Southeastern European Countries, *Corvinus University Working Paper* 2011/2, April.

Eller, M, R Martin, H Schuberth and L Vashold (2020): "Macroprudential policies in CESEE – an intensity-adjusted approach", *Focus on European Economic Integration*, no Q2/20, pp 65–81.

Engbith, L and K Kiernan (2020): "Sweden's guarantee scheme (Sweden GFC)," *Journal of Financial Crises*, vol 2, no 3, pp 911–26.

European Central Bank (2005): "Memorandum of understanding on co-operation between the banking supervisors, central banks and finance ministries of the European Union in financial crisis situations", 18 May.

——— (2008): "Memorandum of understanding on cooperation between the financial supervisory authorities, central banks and finance ministries of the European Union on cross-border financial stability", 1 June.

European Commission: "Convergence criteria for joining". ——— (2009): "Memorandum of understanding between the European Community and the Republic of Latvia". ——— (2013): *Convergence report 2013*, June.

European Systemic Risk Board (2015): *A review of macro-prudential policy in the EU one year after the introduction of the CRD/CRR*, June.

Farelius, D, S Ingves and M Jonsson (2020): "Financial integration in the Nordic-Baltic region vis-à-vis the EU: A Swedish perspective", *SUERF Policy Note*, no 189, August.

Financial and Capital Market Commission of Latvia (2009): Overview of JSC Parex Banka Takeover, May.

Financial Stability Board (2016): *Nordic experience of cooperation on cross-border regulation and crisis resolution – Report from a RCG Europe Working Group*.

Fleming, A, L Chu and M-R Bakker (1997): "Banking crises in the Baltics", *Finance & Development*, IMF, March.

Fratzscher, M and M Bussière (2004): "Financial openness and growth: short-run gain, long-run pain?", *European Central Bank Working Paper Series*, no 348, April.

Gallizo, J, J Moreno and M Salvador (2018): "The Baltic banking system in the enlarged European Union: the effect of the financial crisis on efficiency", *Baltic Journal of Economics*, vol 18, no 1.

Garcia-Louzao, J and L Tarasonis (2022): Productivity-enhancing reallocation during the Great Recession: evidence from Lithuania, *Oxford Economic Papers*, July.

Hazans, M (2016): "Migration experience of the Baltic countries in the context of economic crisis", in M Kahanec and K Zimmermann (eds), *Labor migration, EU enlargement, and the Great Recession*, Springer, Berlin, Heidelberg.

Ingves, S (2010): "The crisis in the Baltic – the Riksbank's measures, assessments and lessons learned", speech to the Riksdag Committee on Finance, Stockholm, 2 February.

International Monetary Fund (2008): "Republic of Lithuania: financial system stability assessment: update", *IMF Staff Country Report*, no 2008/137, 22 April.

——— (2009a): "Republic of Latvia: request for Stand-By Arrangement – staff report; staff supplement; press release on the Executive Board discussion; and statement by the Executive Director for the Republic of Latvia", *IMF Staff Country Report*, no 2009/003, 9 January.

——— (2009b): "Republic of Estonia: financial system stability assessment", *IMF Staff Country Report*, no 2009/089, 9 March.

——— (2009c): "Concluding statement by participating parent banks", at the European Banking Group Coordination Meeting for Latvia, Stockholm, 11 September.

——— (2013): "Republic of Latvia: ex post evaluation of exceptional access under the 2008 Stand-By Arrangement; public information notice on the Executive Board discussion; and statement by the Executive Director for the Republic of Latvia", *IMF Staff Country Report*, no 2013/030, 28 January.

Krasnopjorovs O (2011): Is Public Capital More Productive than Private Capital: Evidence from Latvia 1995-2009, Economic Studies Journal 2011, issue 3

Krugman, P (2008): "Latvia is the new Argentina (slightly wonkish)", *The New York Times*, 23 December.

Kulikauskas, D (2016): "Fundamental housing prices in the Baltic states: empirical approach", *Baltic Journal of Economics*, vol 16, no 2, pp 53–80.

Kuodis, R and T Ramanauskas (2009): "From boom to bust: lessons from Lithuania", *Pinigų studijos*, no 2009/1.

Lithuanian Government (2007): Lietuvos Respublikos Vyriausybės nutarimas dėl vidutinės trukmės laikotarpio infliacijos valdymo strategijos, 12 December.

Ministry of Finance of Latvia: *Economy of Latvia: 2008–2014.*

Molin, J (2009): "How has the Riksbank managed the financial crisis?", *Riksbank Economic Review*, no 1/2010, September.

Nakrošis, V, R Vilpišauskas and V Kuokštis (2015): "Fiscal consolidation and structural reforms in Lithuania in the period 2008–2012: from grand ambitions to hectic firefighting", *International Review of Administrative Sciences*, vol 81, no 3, pp 522–40, July.

OECD (2013): *Coping with emigration in Baltic and Eastern European countries*, OECD Publishing.

Parex Bank (2009): *Annual report for the year ended 31 December 2008.*

——— (2010:) *2009* Annual report.

Pataccini, L (2022): "Europeanisation as a driver of dependent financialisation in East-Central Europe: insights from the Baltic states", *New Political Economy*, vol 27, no 4, pp 646–64.

Purfield, C and C Rosenberg (2010): "Adjustment under a currency peg: Estonia, Latvia and Lithuania during the Global Financial Crisis 2008–09", *IMF working Paper*, no WP/10/213, September.

Ramanauskas, T (2006a): "Blowing bubbles, enjoying economic growth?", *Baltic Economic Trends*, no 1, pp 23–29, April.

——— (2006b): *Interest rates, credit and macroeconomy – a small structural model for the Lithuanian case*, working paper presented at the National Bank of Poland Conference on Monetary Policy Challenges Resulting from the Rapid Credit Growth in Converging Economies, Warsaw, November.

——— (2007): "Assessment of credit growth in Lithuania", in C Enoch and İ Ötker-Robe (eds), *Rapid credit growth in Central and Eastern Europe*. Palgrave MacMillan, New York.

Riksrevisionen (2011): Maintaining Financial Stability in Sweden - Experiences from the Swedish banks' expansion in the Baltics, May.

Sheridan, N, A Schipke, S George and C Beddies (2004): "Foreign ownership of banks and EU integration", in N Sheridan, A Schipke, S George and C Beddies, *Capital markets and financial intermediation in the Baltics*, International Monetary Fund, Washington D.C., January.

Šiaudinis, S (2010): "What drove the 6-month Vilibor during the late-2000s economic crisis?", *Pinigų studijos*, no 2010/2.

Staehr, K (2013): "Austerity in the Baltic states during the Global Financial Crisis", *Intereconomics*, vol 48, no 5, pp 293–302.

Sutt, A, H Korju and K Siibak (2011): "The role of macro-prudential policies in the boom and adjustment phase of the credit cycle in Estonia", *Policy Research Working Paper Series*, no 5835, World Bank, October.

Sveriges Riksbank (2006): *Memorandum of Understanding (MoU) between the central banks of Estonia, Latvia, Lithuania and Swede*n, December.

Swedbank (2010): *Annual report 2009*, February.

Takáts, E and C Upper (2013): "Credit and growth after financial crises", *BIS Working Papers,* no 416, July.

Tieman, A, M Khamis, F Haas and D Schoenmaker (2007): "Financial integration in the Nordic-Baltic region: challenges for financial polices", International Monetary Fund, 26 October.

Waijid S., A. Tieman, M. Khamis, F Haas, D. Schoenmaker, P. Iossifov and K. Tintchev Financial Integration in the Nordic-Baltic region, International Monetary Fund, 2007

Yeyati, E (2009): "Is Latvia the new Argentina?", *VOXEU Column*, 22 June.