Committee on the Global Financial System

BIS

CGFS Papers
No 69

Macroprudential policies to mitigate housing market risks

Country case study: Luxembourg

December 2023

Macroprudential policies to mitigate housing market risks Case study – Luxembourg

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Housing as a source of risk

The vulnerabilities related to the residential real estate (RRE) market are one of the main areas of concern for financial stability in Luxembourg. As explained in a blog post of 21 January 2022 by Gaston Reinesch, Governor of the Central Bank of Luxembourg (BCL), "the accumulation of vulnerabilities over the years has led Luxembourg to currently rank among the euro area countries with the highest risks in the housing market".[1] For this reason, the national RRE market has been the subject of several analyses by international institutions, including the European Central Bank (ECB), the European Systemic Risk Board (ESRB) and the International Monetary Fund (IMF). For instance, in 2016, the ESRB issued a warning to Luxembourg on medium-term vulnerabilities in this sector,[2] considering the main risk to be the combination of high house prices with increasing household indebtedness relative to disposable income. In 2019, following a new round of assessments, the ESRB issued a country-specific recommendation to Luxembourg to establish a legal framework for borrower-based measures (BBMs) and to activate those measures once they became available.[3] Moreover, analyses of the housing market in Luxembourg typically underline the role of structural factors in driving RRE vulnerabilities, specifically identifying the housing supply shortage as an important factor that exerts upward pressure on house prices and household indebtedness.

In order to follow RRE developments, national authorities have set up a comprehensive risk assessment framework for housing market risk monitoring in Luxembourg. The assessment periodically conducted by the BCL includes, but is not limited to, the indicators in Table 1.

Main indicators of the BCL risk assessment framework for RRE

Table 1

RRE price indicators	Lending indicators	Household balance sheet
House price growth	Early warning models	Household debt to GDP
Valuation measures	• Mortgage credit growth rates	Household debt to assets
• Statistical indicators	• Mortgage credit-to-GDP gap	Household debt to disposable income
• Model-based indicators	Lending conditions and pockets of risky lending	Debt service ratio
House price-at-risk	Share of variable rate mortgages in new loans	
RRE cycle estimates	Internal ratings-based (IRB) mortgage risk weights	

Source: BCL.

1 See Central Bank of Luxembourg, "Residential Real Estate Prices in Luxembourg", *The Governor's Blog*, 21 January 2022, https://www.bcl.lu/en/publications/Blog/Blog-14/index.html.

2 See ESRB Warning of 22 September 2016 on medium-term vulnerabilities in the residential real estate sector of Luxembourg (ESRB/2016/09).

3 ESRB Recommendation of 27 June 2019 on medium-term vulnerabilities in the residential real estate sector in Luxembourg (ESRB/2019/6).

Governance of macroprudential policy

The Law of 1 April 2015[4] established the Systemic Risk Committee (SRC) as the national macroprudential authority in Luxembourg. The SRC is chaired by the Minister of Finance and the institutions represented are: (1) the Ministry of Finance; (2) the Central Bank of Luxembourg (BCL); (3) the Commission de Surveillance du Secteur Financier (CSSF, the competent micro-supervisory authority); and (4) the Commissariat aux Assurances (CaA, the insurance supervisor).

Article 2 of the Law lays down the powers the SRC is entrusted with. It stipulates that the SRC must: (1) identify, monitor and assess risks to financial stability, with the aim of preventing or mitigating those risks; (2) determine, based on analyses produced by the members of the SRC, which activities and participants in the financial system pose – or may pose – a systemic risk for Luxembourg; (3) issue opinions, warnings and recommendations aimed at realising the intermediate and ultimate objectives of macroprudential policy and making such communications public where relevant; (4) evaluate and follow up on the responses provided by the addressees to opinions, warnings and recommendations issued by the SRC; (5) contribute to reinforcing cooperation and information exchange – during both normal and crisis situations – between its members; (6) cooperate and exchange information with the ESRB and with other macroprudential authorities; and (7) ensure a follow-up of the recommendations issued by the ESRB.

The Law designates the SRC to issue opinions, warnings or recommendations directly to the government, the national supervisory authorities, and to the market as well as market participants. Decisions taken by the SRC are of a non-binding nature, but the addressees of an SRC recommendation are subject to a mandatory "comply or explain" process and any market participant's deviation from a recommendation is thus carefully scrutinised by the SRC. Article 5 of the Law further states that, in the implementation of macroprudential policy in Luxembourg, the SRC must adopt its opinions, warnings, recommendations and annual reports, and decide on their publication, by unanimity of the votes cast.

Macroprudential instruments in place and their objectives

Pursuant to Article 1 of the Law of 1 April 2015, the SRC shall coordinate the implementation of macroprudential policy. The ultimate goal is "*to contribute to maintaining the stability of the Luxembourg financial system, notably by strengthening the resilience of the financial system and decreasing the build-up of systemic risks, thereby ensuring a sustainable contribution of the financial sector to economic growth*". Article 1 also indicates that "*(...) the SRC shall pursue intermediate objectives, which serve as operational specifications of the ultimate objective of macroprudential policy, taking into account the structure and vulnerabilities of the national financial system*". In line with the intermediate objectives formulated by the ESRB, two of the intermediate objectives identified by the SRC are to mitigate and prevent excessive credit growth and leverage and to strengthen the resilience of financial infrastructures.[5] The SRC considers the housing market to be one of the main sources of systemic risk to financial stability in Luxembourg.

There are two main macroprudential instruments in place specifically targeting RRE risks in Luxembourg: (i) the average risk-weight floor and (ii) the differentiated loan-to-value (LTV) limits.

[4] See Commission de Surveillance du Secteur Financier, *Law of 1 April 2015 establishing the SRC and amending the Law of 23 December 1998 concerning the monetary status and the BCL, as amended*, 1 April 2015, https://www.cssf.lu/wp-content/uploads/L_010415_SRC.pdf.

[5] SRC, "Le cadre de la politique macro-prudentielle au Luxembourg", December 2016.

Average risk-weight floor

In 2016, the SRC recommended the implementation of an **average risk-weight floor of 15%** on domestic mortgage exposures of IRB banks.[6] This recommendation was aimed at mitigating the role of historical low losses in banks' internal models, thereby aligning the IRB mortgage risk-weights applied in Luxembourg with international standards.

LTV limits

In line with the 2019 ESRB recommendation mentioned above, the legal process allowing for the activation of BBMs in Luxembourg was completed with the adoption of the Law of 4 December 2019.[7] In 2020, the SRC recommended the activation of **differentiated LTV limits** for mortgage loans granted for RRE located in Luxembourg, effective as of 1 January 2021.[8]

The main objective of the LTV limits was to smooth the RRE cycle by dampening housing credit cycles and to increase the resilience of lenders to absorb potential shocks in order to safeguard financial stability.

In terms of calibration, the LTV limits consider three borrower categories: (i) an LTV limit of up to 100% for first-time buyers acquiring their primary residence; (ii) an LTV limit of 90% for other buyers (ie not first-time buyers) acquiring their primary residence;[9] and (iii) an LTV limit of 80% for other mortgage loans (including the buy-to-let segment). The limits were calibrated based on international experience, simulations using bank-level data on mortgage lending conditions, and model-based analyses.

Although the **countercyclical capital buffer** (CCyB) is a broader tool covering systemic cyclical risks in general, housing risks in Luxembourg were also taken into account in the decision of activate, increase and maintain the buffer rate. In 2018, the SRC recommended the initial activation of the CCyB at a rate of 0.25%, effective as of 1 January 2020.[10] In 2019, it was decided to further increase the CCyB to 0.5%, with the new rate to be effective as of 1 January 2021.[11] In both cases, the "BCL narrow" credit-to-GDP gap (ie the main domestically preferred indicator used in the CCyB framework) was negative and therefore well below the 2% activation threshold at the time of decision. Nonetheless, the SRC identified the cyclical systemic risks associated with the housing market in Luxembourg as important reasons for policy tightening. Moreover, the CCyB decisions highlighted the need to preserve bank capital, in order to enhance resilience and to protect the banking system in case of a turn in the financial cycle.

Effectiveness of targeted macroprudential measures

The 15% **average risk-weight floor** was aimed at aligning the IRB mortgage risk weights applied in Luxembourg with international/European standards. Despite its non-legally binding nature, the measure has proven successful, and all banks respect the threshold. Taking into account the additional capital

6 SRC Recommendation of 1 July 2016 (CRS/2016/004).

7 Law of 4 December 2019, https://legilux.public.lu/eli/etat/leg/loi/2019/12/04/a811/jo.

8 SRC Recommendation of 9 November 2020 (CRS/2020/005).

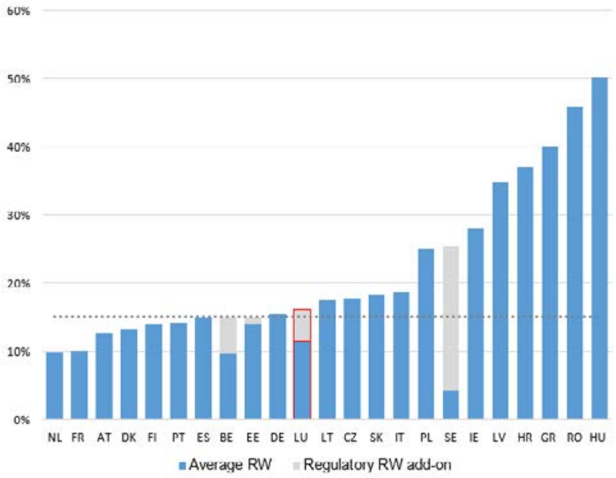
9 This limit is implemented with a flexibility margin. Specifically, lenders may issue 15% of the annual portfolio of new mortgages granted to borrowers in this category with an LTV above 90% but below the maximum LTV of 100%.

10 SRC Recommendation of 10 December 2018 (CRS/2018/006).

11 SRC Recommendation of 29 November 2019 (CRS/2019/008).

needed to comply with the measure, the average risk-weight floor on domestic mortgage loans for IRB banks in Luxembourg stood at 16.1% in the first quarter of 2023 (Graph 1).

Graph 1 Average risk weights for IRB banks on domestic mortgages (in %)



The reference period for the average risk weight is the first quarter of 2023 for Luxembourg and the third quarter of 2022 for other countries. The dotted line corresponds to the 15% threshold. The regulatory risk weight for Luxembourg is based on BCL calculations; for the other relevant countries, the regulatory components rely on the latest published information by the ESRB for the reference period of the first quarter of 2021 (please see the ESRB report on vulnerabilities in the RRE sectors of the EEA countries of February 2022).

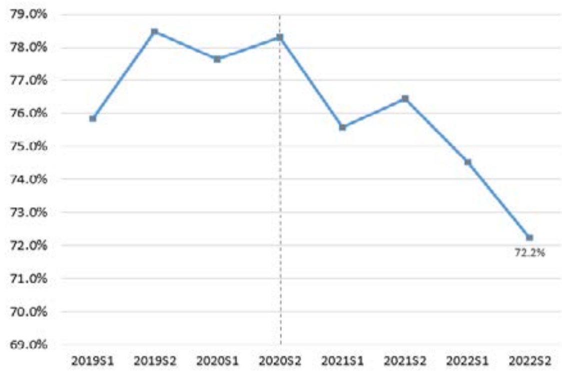
Source: ECB (SDW), COREP, BCL calculations.

As indicated above, the main objective of the **differentiated LTV limits** was to smooth the RRE cycle and increase the resilience of lenders in order to safeguard financial stability. Following the implementation of the LTV measure, the weighted average LTV ratio decreased from 78.3% in the second half of 2020 to 72.2% two years later (Graph 2a), with a significant adjustment in the tail of the distribution of LTV ratios at origination (Graph 2b). Indeed, the share of new mortgage loans with an LTV above 90% decreased from 34.3% in the first half of 2019 to around 22% in the second half of 2022.

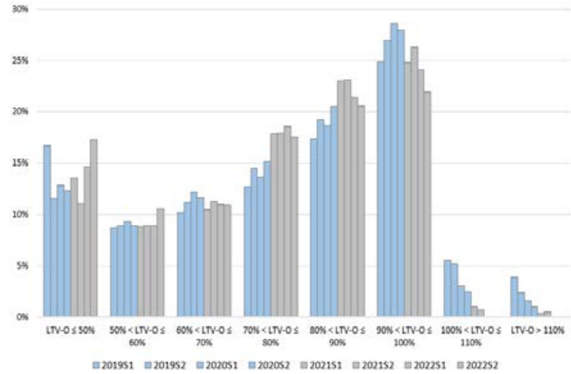
Looking at pockets of risky lending, the share of new mortgages with LTV ratios above 90% granted to lower-income borrowers (ie borrowers with an annual income below EUR 75,000) decreased from 14.9% in the first half of 2019 to 6.2% in the second half of 2022 (Graph 3a).

Graph 2 Developments in LTV ratios at origination

(a) Weighted average LTV ratio



(b) LTV distribution for new mortgage loans

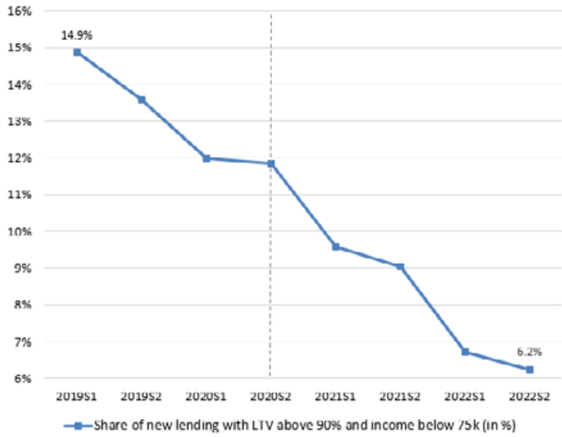


The LTV limits came into force on 1 January 2021, which corresponds to the end of the second half of 2020 in the graphs.

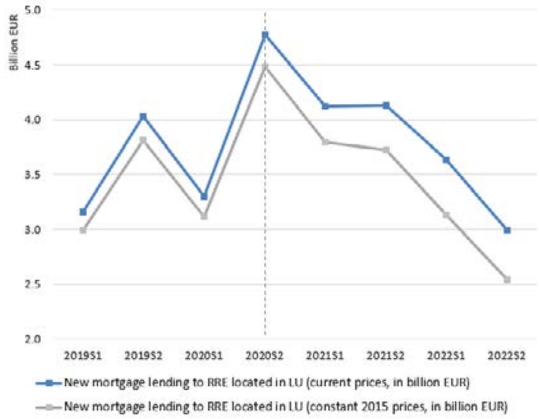
Source: CSSF biannual data collection on RRE, BCL calculations

Graph 3 New mortgage lending

(a) Pockets of risk lending



(b) Total new lending



The left-hand graph shows the share of new lending with LTV above 90% granted to borrowers with an annual income of less than EUR 75,000. The right-hand graph shows the amounts of total new mortgage lending in billions of euros.

Source: CSSF biannual data collection on RRE, BCL calculations.

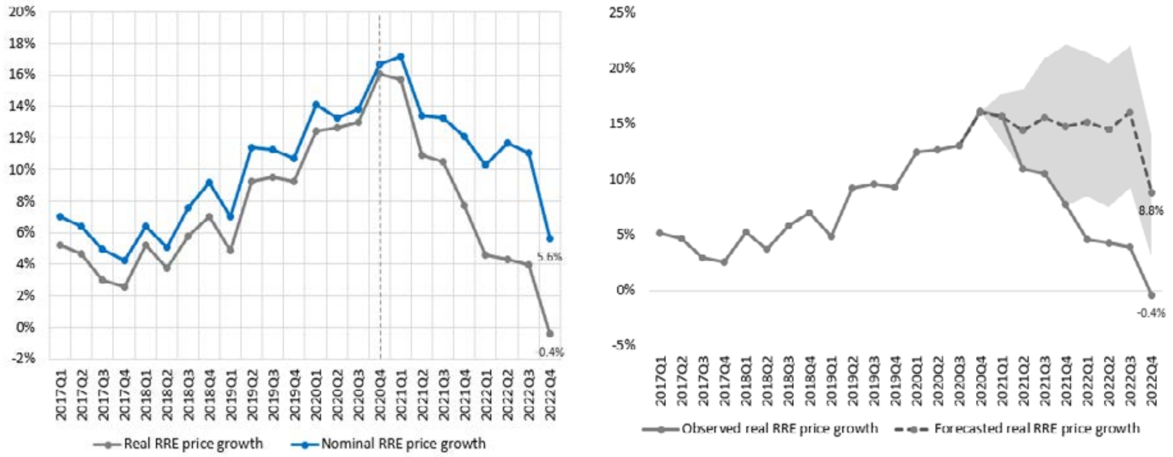
The LTV limits are not intended to control house prices, which are primarily determined by housing demand and supply conditions, as well as credit flow effects in the short run. Nonetheless, although the objective of the LTV limits is not to affect house prices, there may be a secondary indirect effect. By preventing borrowers who could become overindebted from contracting excessive mortgage loans, the limits may affect mortgage credit demand and thus also house prices. Graph 4a presents the recent trends in nominal and real RRE price growth in Luxembourg, showing a significant deceleration after early 2021.

While Graph 4a suggests a negative association between the activation of the differentiated LTV limits and house price growth, it does not necessarily imply a causal negative effect of the LTV policy on RRE price growth. In order to better understand the effectiveness of the differentiated LTV limits, Graph 4b presents a model-based counterfactual analysis. It shows that, following the implementation quarter, the observed real house price growth (grey line) was below the growth rate forecasted by the model in the absence of policy change (dotted line). This difference was statistically significant in 2022, indicating a delayed effect of the implementation of the differentiated LTV limits on house price growth. However, as the forecasting horizon increases, the effects of the differentiated LTV limits become more difficult to estimate due to other confounding factors. While 2021 was still marked by the COVID-19 pandemic, the development of the housing market during 2022 was strongly influenced by monetary policy tightening and inflationary pressures, which contributed to lower mortgage demand and a slowdown in real market activity, with a decrease in construction and the number of RRE transactions observed in Luxembourg. Therefore, the results of the counterfactual exercise should be interpreted with caution.

Graph 4 Observed RRE price growth and the counterfactual scenario without LTV limits

(a) Latest developments in RRE price growth

(b) Counterfactual scenario



The left-hand graph shows the observed values of the annual nominal and real house price growth rates (year-on-year). The right-hand graph shows the observed real growth rate of house prices (grey line) and the forecasted real growth rate (dotted line) according to the BCL's vector error correction model (VECM). The shaded area shows the 90% confidence interval for the model forecast. Please refer to Box 1.4 of the BCL's Financial Stability Review 2022 (in FR) for more details on the estimation and its limitations.

Source: STATEC, ECB (BCL calculations).

Leakages and unintended consequences

To date, national authorities in Luxembourg have observed no significant leakages associated with the implementation of the average 15% risk-weight floor.

The design and scope of application of the LTV limits considered this aspect and aimed at minimising potential circumvention by the following means:

- In order to limit **cross-sectoral** leakages, the LTV limits were made applicable to all types of relevant lenders in Luxembourg, including credit institutions, insurance corporations and professionals engaged in lending activities. They also apply to all categories of mortgage borrowers, as the concept of "emprunteur" (borrower) can refer to both households and real estate companies under civil law.
- In order to minimise **cross-border** leakages, national authorities requested the reciprocal application of the LTV limits by other Member States, especially neighbouring countries. Following the request for reciprocation, the ESRB decided to include this measure in the list of macroprudential policy measures recommended for reciprocation.[12] To date, all neighbouring countries (ie Belgium, France and Germany), as well as Portugal, have fully reciprocated the differentiated LTV limits.

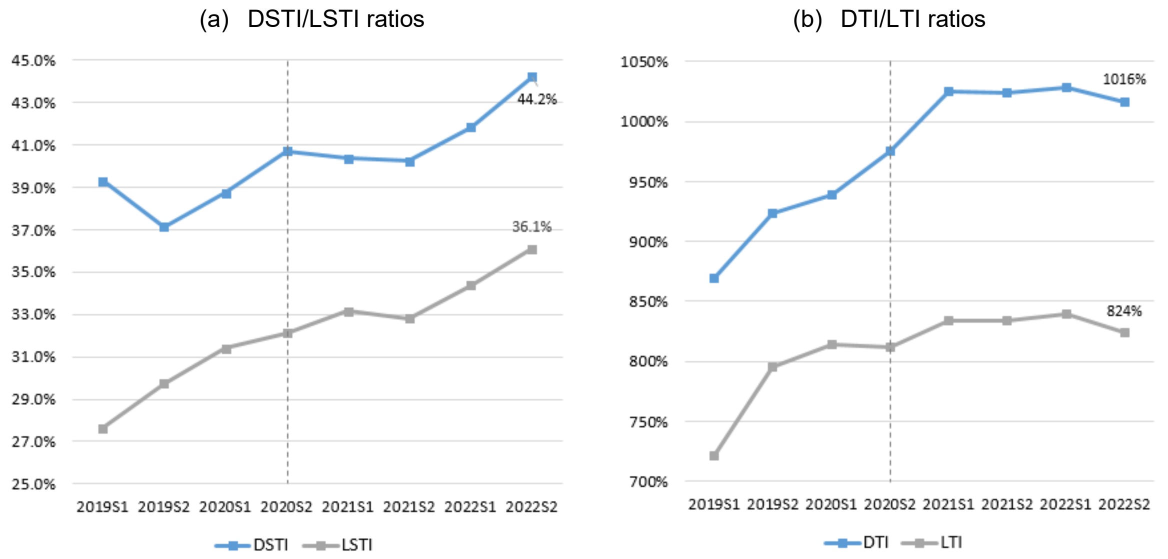
[12] ESRB Recommendation of 24 March 2021 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures (ESRB/2021/2).

Conclusions and open issues

The macroprudential measures implemented so far have been partially effective in addressing the risks in the housing market in Luxembourg. First, the 15% risk-weight floor has been successful in meeting its goal, as the current average IRB risk weights for mortgages are aligned with international standards. Second, the differentiated LTV limits have contributed to a decline in high-LTV lending and in pockets of risk related to LTV ratios.

Nonetheless, the high level of household indebtedness and an observed deterioration in income-based lending indicators are a source of concern for the macroprudential authority. Unlike LTV ratios, income-based lending indicators have deteriorated over time (Graph 5), while mortgage loan maturity has stayed roughly stable at 22 years.[13]

Graph 5 Weighted average income-based ratios for new mortgage loans



DSTI = debt service to income; LSTI = loan service to income; DTI = debt to income; LTI = loan to income.

Source: CSSF biannual data collection on RRE; BCL calculations

Against this background, the activation of income-based measures (eg DSTI limits) has to be considered by national authorities. This is mainly the SRC, as the macroprudential authority in Luxembourg.

In this institutional context, the SRC has discussed the potential implementation of income-based measures, weighing the pros and cons of their activation. On the one hand, these measures could directly address the flow risks observed in the mortgage market and contribute to achieving more sustainable levels of household debt over time. On the other hand, income-based measures might have procyclical effects, as the mortgage credit cycle is entering a downturn, and borrowers' disposable income and debt repayment ability are already impacted by increasing mortgage interest rates and high inflation.

[13] In the second half of 2022, the weighted average loan maturity decreased slightly to 20.6 years.

In addition to these considerations, macroprudential policy decisions should take into account the supply- and demand-side measures recently taken by the Luxembourg Government, the evolving economic and financial situations, and credit cycle conditions. Hence, the SRC will continue to closely monitor the developments and risks in the RRE market and remain ready to consider activating further macroprudential measures if needed.