

Banka Slovenije quarterly publication  
28 December 2022

**Macprudential instrument:**  
**COUNTERCYCLICAL CAPITAL BUFFER: third quarter of 2022**

**The countercyclical capital buffer rate for Slovenia stands at 0.5% of the total risk exposure amount.**

Banka Slovenije has conducted its quarterly assessment of cyclical systemic risks in Slovenia. Our finding is that cyclical systemic risk is increasing in the Slovenian banking system, as a result of high growth in residential real estate prices, strengthened growth in credit to the private non-financial sector, and the huge uncertainty in the macroeconomic environment. Similarly to numerous other countries in the EEA, we are therefore raising the countercyclical capital buffer for exposures to Slovenia from zero to 0.5% of the total risk exposure amount. Banks have 12 months to meet the capital requirements for the countercyclical capital buffer, with a deadline of 31 December 2023. The Regulation on the determination of the countercyclical capital buffer rate is published in the Official Gazette of the Republic of Slovenia (No. 157/22).

The purpose of the countercyclical capital buffer is to protect the banking system against potential losses when excessive growth in lending is associated with an increase in risks in the system as a whole, which directly increases the resilience of the banking system. In the event of the reversal of the credit cycle or the materialisation of risks, the buffer rate is either reduced or fully released (to a zero rate). Indicators that react rapidly to financial stress apply to release. The release of the buffer requires a high level of discretionary judgment and is therefore subject to a higher level of uncertainty. The immediate release (or reduction) of the buffer helps banks to cover losses, while maintaining lending to the real sector and meeting the regulatory capital requirements.

Banka Slovenije calculates a buffer guide<sup>1</sup> on a quarterly basis in accordance with Article 233 of the Banking Act (Official Gazette of the Republic of Slovenia, Nos. 92/21 and 123/21 [ZBNIP]; hereinafter: the ZBan-3). The buffer guide is a meaningful reflection of the credit cycle and risks due to excess credit growth in Slovenia, and takes into account the specificities of the Slovenian economy. In setting the buffer rate Banka Slovenije takes appropriate account of the methodology of the BCBS (2010)<sup>2</sup> and the ESRB (2014).<sup>3</sup> In accordance with the ESRB guidelines, six individual indicators of risk in the system and a composite indicator have been selected as guidance for setting the buffer rate.

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<sup>1</sup> In accordance with the Recommendation of the ESRB of 18 June 2014 on guidance for setting countercyclical buffer rates (ESRB/2014/1), the buffer guide is not intended to give rise to an automatic buffer setting or to bind the designated authority.

<sup>2</sup> Basel Committee on Banking Supervision (2010). Guidance for national authorities operating the countercyclical capital buffer.

<sup>3</sup> ESRB (2014). Operationalising the countercyclical capital buffer: indicator selection, threshold identification and calibration options.

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The following criteria were taken into account in selecting the individual indicators:

- i) the indicators should cover various risk factors,
- ii) the indicators should have sufficient predictive power in forecasting a crisis,
- iii) the time series of the indicators should be long enough to allow for static analysis<sup>4</sup> of the suitability of the indicator (points iv and v),
- iv) the indicators should activate the buffer in periods of excessive lending to the real economy,
- v) the indicators should not activate the buffer (too frequently) in periods of moderate credit growth,
- vi) the indicators should cover a wide area of the banking system and the wider system, i.e. they should not be partial.

Because the calculations of indicators are based on past developments, it is necessary to subject the buffer rate signalled by the individual indicators to expert assessment, and to take account of any new findings. The key indicator for setting the buffer rate is the private-sector credit-to-GDP gap, i.e. the deviation in the private-sector credit-to-GDP ratio from its long-term trend. This indicator signals potential excessive credit growth in relation to economic growth.<sup>5</sup> Five indicators have been selected alongside the credit-to-GDP gap:

- i) annual growth in used residential real estate prices (a measure of the potential overvaluation of property prices),
- ii) annual growth in lending to the domestic private non-financial sector (a measure of developments in lending),
- iii) the LTD ratio for the private non-banking sector (a measure of the strength of bank balance sheets),
- iv) return on equity (a measure of the strength of bank balance sheets), and
- v) the ratio of credit to gross operating surplus (a measure of private-sector indebtedness).

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<sup>4</sup> Static analysis on the basis of historical data (roughly 2004 to 2008) is used to assess what the dynamic of the buffer would be during a period of increasing imbalances in the banking system and in the wider system. The analysis neglects that the banks' behaviour would most likely have altered had the buffer been active at that time.

<sup>5</sup> Analysis by the BCBS shows that the credit-to-GDP gap is a useful starting point for guiding decisions on countercyclical capital buffer rates, but its performance varies over time and across countries. Given the diversity and the dynamic nature of financial systems, the specificities of national economies, and the significant differences in the availability of data in the EU, the designated authorities must take account of a range of information when assessing the risk level in the system as a whole, and must set the buffer rate accordingly. This information includes additional indicators that warn of an increase in risk at the level of the system as a whole. The quantitative and qualitative information used in this assessment, including the buffer guide and the additional indicators, lay the foundation for explaining and substantiating decisions on the buffer rate.

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Table 1 gives the values of the indicators in the second quarter of 2022 and the corresponding historical averages.

Table 1: Indicators for setting the countercyclical capital buffer rate

Indicator	Average value (Q1 2000 to Q2 2022)	Snapshot value Q2 2022
credit-to-GDP gap	-10%	-20.2%
annual growth in used residential real estate prices (available since 2001)	5.9%	17.3%
annual growth in lending to domestic private non- financial sector	8.3%	8.1%
LTD ratio for private non-banking sector	1.1	0.7
return on equity	1.8%	10.5%
ratio of credit to gross operating surplus	4.2	1.8

Notes: The average is cited solely for orientation purposes. Owing to data availability, the average value of the indicator of annual growth in used residential real estate prices is calculated for the period of Q1 2001 to Q2 2022.

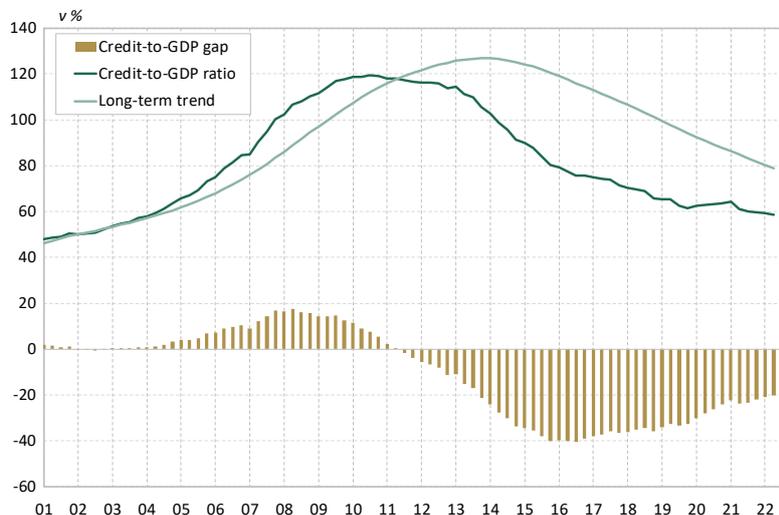
Sources: SORS, own calculations

The table shows that the credit-to-GDP gap is negative (in the amount of 20.2%), whereby the credit-to-GDP ratio stands at 58.6% (see Figure 1). The gap between the credit-to-GDP ratio and the long-term trend is still profoundly negative, on account of the extremely high growth in lending to the private non-banking sector in the period before the global financial crisis.<sup>6</sup>

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<sup>6</sup> Growth in credit to the non-banking sector exceeded 35% in 2007. The private-sector credit-to-GDP ratio stood at 65.8% at the beginning of 2005. By the end of 2008 the ratio had risen by 44.4 percentage points to 110.2%, before peaking at almost 120% in the third quarter of 2010. The high credit growth, which outpaced GDP growth for a lengthy period, drove a sharp rise in the estimate of the long-term trend. As a result of the pronounced slowdown in credit growth after the global financial crisis and the sharp decline in the credit-to-GDP ratio, the credit-to-GDP gap fell sharply, reaching its lowest level (of -41%) in mid-2016. Since 2016 the credit-to-GDP gap has undergone a sustained narrowing.

Figure 1: Credit-to-GDP gap



Note: The calculation of the credit-to-GDP gap includes all bank loans (by domestic and foreign banks) to the private non-banking sector (the non-banking sector excluding the government sector) before impairments. GDP is annualised as the sum of nominal GDP over the last four quarters. The trend in the credit-to-GDP series is estimated by means of a recursive Hodrick-Prescott (HP) filter with a lambda parameter of 400,000. The credit-to-GDP gap is the gap between the actual credit-to-GDP ratio and its trend.

Source: Banka Slovenije

Annual growth in prices of used residential real estate stood at 17.3% in the second quarter of 2022, well above the average over the period between Q1 2001 and Q2 2022 (see Figure 2). Growth in residential real estate prices rose sharply last year, surpassing the previous record rates seen in 2008, and has strengthened further this year. Last year residential real estate prices passed their previous peak of 2008 in nominal and real terms. High price growth meant that Slovenian residential real estate became relatively overvalued last year, and the continuing high growth in prices is increasing this overvaluation even further this year (see Figure 3).<sup>7</sup>

Figure 2: Residential real estate prices

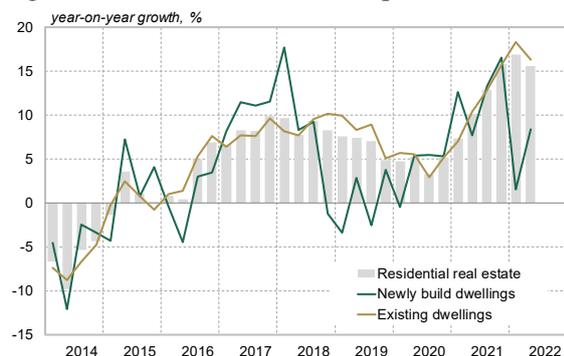
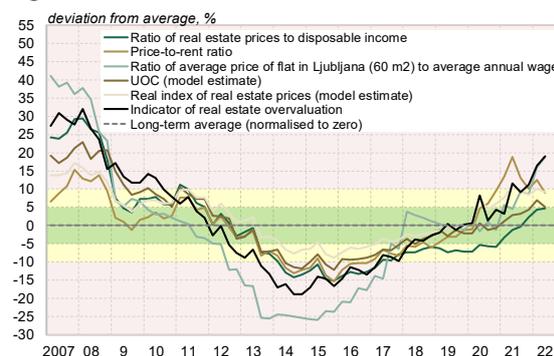


Figure 3: Overvaluation of residential real estate



<sup>7</sup> The indicators are showing relative overvaluation, where the dynamics in residential real estate prices are compared with developments in other fundamentals such as income (e.g. GDP, disposable income), prices (e.g. general inflation, rents) or costs (e.g. construction costs, interest rates on housing loans). The advantage in calculating relative overvaluation rather than absolute overvaluation is that relative overvaluation can be assigned a specific reference point (the fundamental in the numerator). With absolute overvaluation there is no reference point; instead it is the subjective perspective of the buyer or vendor that is important. Absolute overvaluation from the perspective of the buyer can differ considerably from that from the perspective of the vendor.

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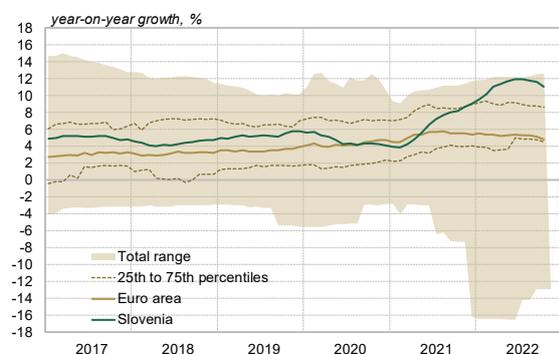
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Note: In the right figure the indicators of housing price alignment with fundamentals are normalised around their own long-term averages, which are assigned a value of zero. Each indicator's deviation from the long-term average illustrates the overvaluation or undervaluation of residential real estate.

Sources: SORS, SMARS

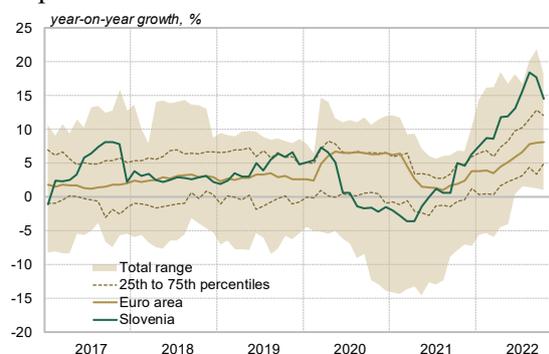
Growth in credit to the private non-financial sector, which last year was driven primarily by growth in housing loans, has become more broadly based this year, as growth in loans to non-financial corporations has strengthened sharply. Growth in credit to the private non-financial sector stood at 8.1% in the second quarter of 2022. The rates of growth in housing loans and loans to non-financial corporations are among the highest in the euro area (see Figures 4 and 5).

Figure 4: Growth in housing loans



Source: ECB SDW

Figure 5: Growth in loans to non-financial corporations



The LTD ratio for the private non-banking sector is lower than it has been in the past (at 0.7). This indicates that lending is primarily being funded by customer deposits, which are a more stable source of funding than wholesale funding. However, the high share of sight deposits (more than 80% of deposits by the non-banking sector) means that the risk of an outflow of deposits remains relatively high. The banks performed well in the second quarter of 2022: ROE stood at 10.5%. The ratio of credit to gross operating surplus, which is a measure of private-sector indebtedness and reflects the corporate sector's capacity to finance debts, remains low. As a result of the high growth in residential real estate prices, and the faster growth in loans to the private non-financial sector, which this year has become more broadly based, cyclical systemic risks are rising, which is also increasing the need to build up the banking system's resilience.

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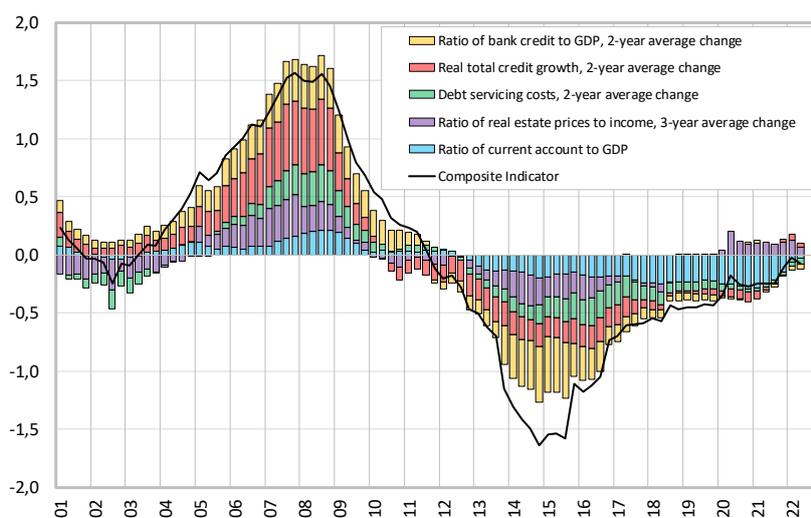
Since mid-2020 Banka Slovenije has additionally monitored a composite indicator that combines individual risk indicators that showed good predictive power in forecasting a crisis on the basis of data from euro area countries and from Denmark, Sweden and the UK. The risk indicators combined into the composite indicator are:

- i) bank credit to the domestic private non-financial sector relative to GDP (a measure of credit developments),
- ii) overall real growth in credit (a measure of credit developments),
- iii) the ratio of residential real estate prices to income (a measure of potential overvaluation of property prices),
- iv) the debt-service-to-income ratio (a measure of private-sector debt burden),
- v) the ratio of the current account balance to GDP (a measure of external imbalances).

Various transformations (quarterly, one-year, two-year and three-year) were tested for each of these indicators with the aim of identifying those with the best predictive power. The two-year or three-year changes in the indicators have the best predictive power in forecasting a crisis. When these are used, the individual indicators rise or fall for approximately five years before the outbreak of a systemic financial crisis, and usually hit their peak or trough one to two years before the crisis, which are desirable attributes for early warning indicators.

The individual risk indicators are combined into a composite indicator so as to optimise the predictive power of the early warning of the crisis five to twelve quarters before the outbreak of the crisis. Figure 6 illustrates the value of the composite indicator in the second quarter of 2022, and the individual indicators' contributions to the composite indicator. The composite indicator illustrates the rise in cyclical systemic risks in Slovenia. The composite indicator declined slightly in the second quarter of 2022 to stand at -0.0727. The indicator is expected to again decline slightly in the third quarter as a result of a base effect, but will then resume its trend of increase.

Figure 6: Composite indicator for Slovenia



Source: Banka Slovenije

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## **Requirement to maintain an institution-specific countercyclical capital buffer**

In accordance with Article 232 of the ZBan-3, each bank is required to maintain an institution-specific capital buffer equal to its total risk exposure amount multiplied by the weighted average of the countercyclical buffer rates calculated in accordance with the Regulation on the calculation of the institution-specific countercyclical capital buffer rate for banks and savings banks (Official Gazette of the Republic of Slovenia, Nos. 55/15, 42/16, 9/17 and 92/21 [ZBan-3]) on an individual and consolidated basis, as applicable in accordance with Title II of Part One of Regulation (EU) No 575/2013.

A rate of 0.5% is applied to exposures located in Slovenia. The rates applied to exposures in other EEA countries are given on the [ESRB website](#). The buffer rate cited on the [BIS website](#) is applied to credit exposures located in countries that are not listed on the ESRB website, while a zero rate is applied to any remaining unlisted countries.