NARODOWY BANK POLSKI

Ministerstwo Finansów

KNF KOMISJA NADZORU FINANSOWEGO

BFG Bankowy Fundusz Gwarancyjny

A quarterly review of the countercyclical capital buffer

A study prepared for a meeting of the Financial Stability Committee

Warsaw, November 2024

Executive summary

This study is a compilation of information for the purposes of assessing the intensity of cyclical systemic risk and the level and adequacy of the countercyclical capital buffer (CCyB) rate recommended by the Financial Stability Committee (FSC).

Cyclical risk intensity, as measured using an early warning model, has risen but remains within the standard range of risk. The rising cyclical risk assessed on the basis of the early warning model is accompanied by no signs of excess credit growth, as credit growth itself remains relatively low.

The registered rise in risk intensity is not such as to justify the determination of the countercyclical capital buffer over the rate established by the *Ordinance of the Minister of Finance of 18 September 2024 on the countercyclical buffer*, which raises the rate of the applicable countercyclical capital buffer to 1% (from September 2025). This ordinance implements the recommendations of Resolution No 74/2024 of 14 June 2024, where the FSC recommended achieving the target buffer rate in two stages, i.e. setting the rate at 1% in the first stage and raising it to 2% after one year.

This study is divided into three sections.

Section 1 provides a description of macrofinancial developments and a synthetic summary of current strains in the financial system in Poland. If any crisis events emerge, it will not be advisable to activate a countercyclical buffer, even if the early warning model would imply such a move. Elevated current stresses and crisis events could simultaneously justify a partial or full release of the buffer.

Section 2 presents the results of the early warning model. The role of models of this class is to capture a signal about a forthcoming financial crisis from the data analysed. The early warning model is employed to measure the intensity of cyclical risk and is applied to indicate the right timing of the activation of the countercyclical buffer and its adequate level.

Section 3 presents the progression of credit gap values and of other variables that illustrate lending in Poland. The early warning model, whose results are discussed in Section 2, includes the variables and additionally pools information coming from the variables with other data. Therefore, the variables have lost their dominant position in cyclical risk analysis in the context of the countercyclical buffer. However, these variables continue to play an auxiliary role in identifying the credit cycle.

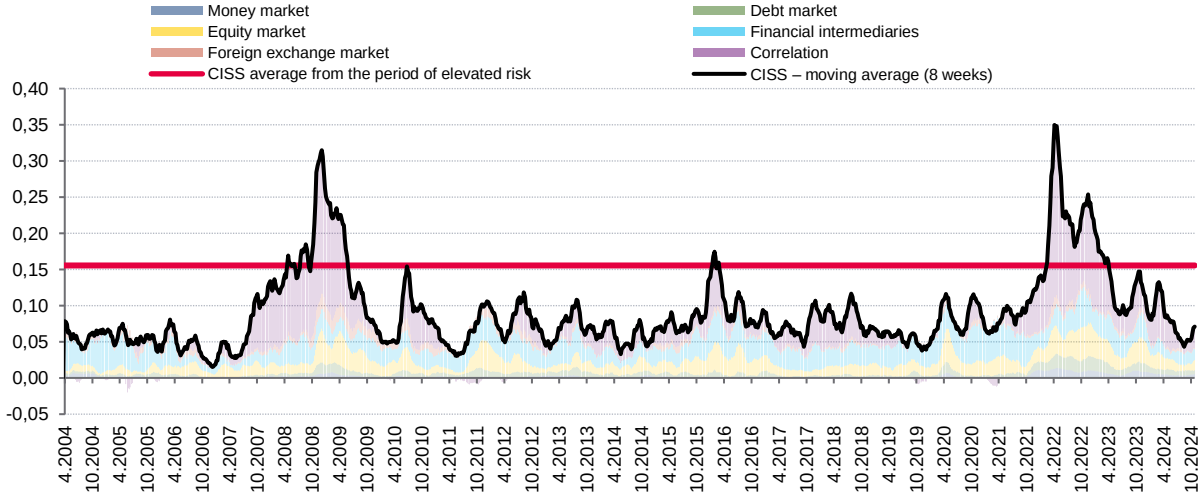
1. Macrofinancial developments and current financial system stress

Poland's macroeconomic situation is good and fosters financial stability. Real wages are growing, and unemployment remains low. Inflation exceeded the inflation target in 2024 Q3, but this happened as a result of one-off developments related, among others, to the regulatory decisions to restore higher energy prices. The sound macroeconomic situation ensures that the financial sector is supported in a stable manner in a healthy and thriving real economy. In the global economy, expectations persist about the materialisation of a soft landing and moderate economic growth scenario in the years 2024-2025 (3.2% in each year).[1]

Lending in Poland is recovering. Towards the end of 2024 Q3, the growth rate of all main types of credit was positive. In September, the overall growth rate of credit to the non-financial sector amounted to 3.4% year-on-year (compared to 2.4% year-on-year in 2024 Q2).

Current stress in the financial system is not a contraindication to activating a buffer. Since April 2023, the Composite Indicator of Systemic Stress (CISS)[2] has run below the average level from the period identified by the European Systemic Risk Board (ESRB) as a period of elevated risk (see Figure 1).

Figure 1. Composite Indicator of Systemic Stress in the financial system



Notes: The CISS measures the current state of financial sector turmoil, reflected in market quotations. The intensity of the turmoil in a given period is interpreted as an ex-post measure of systemic risk. The CISS was originally developed for the euro area and has been applied by both the ECB and the ESRB. The sub-indices that comprise the CISS include five areas of the domestic financial market: the equity market, the money market, the foreign exchange market, the debt market and the financial intermediaries market. *Correlation*, or the sixth variable, increases when stress begins to prevail in several sectors at the same time. Periodically, this variable may be negative; this refers to a situation in which stress in some areas is offset by a positive stress-free situation in other areas. Such a design of the CISS puts more weight on situations in which stress prevails in several market segments at the same time.
The red line is used to mark the average CISS value from the period classified by the ESRB as a period of elevated risk (August 2007 – November 2009). Data for the period running from 2 April 2004 to 25 October 2024.
Source: NBP and Bloomberg.

[1] In line with the IMF projection (see World Economic Outlook, IMF, October 2024.
[2] The ESRB recommends monitoring the CISS (ESRB 2014/1, Recommendation D, paragraph 2).

2. Cyclical risk intensity[3]

The adequate level of the countercyclical capital buffer (CCyB) is determined in accordance with Equation 1:

$$CCyB = max[MMCL - MRC, nCCyB] \quad (1)$$

where: MMCL stands for Minimum Macroprudential Capital Level; MRC stands for Macroprudential Regulatory Capital, which is equal to the Pillar 1 capital requirement of Tier 1 capital and the conservation buffer ($MRC = pillar_1 + CCoB$); and nCCyB means the positive neutral rate for the countercyclical buffer level.

The MMCL defines the minimum level of the capital ratio in the banking system which – taking into consideration other variables – reduces the model-estimated risk of a financial crisis to a satisfactorily low level. The higher the level of the capital ratio, the lower the risk of a crisis. Therefore, changes in the MMCL reflect changes in cyclical risk intensity. An increase in the MMCL means that the model variables imply an increase in cyclical risk intensity, while a decline in the MMCL indicates a decrease in risk intensity.

Cyclical risk intensity measured using the MMCL is steadily increasing. Despite the increase, the observed level of the MMCL is still within the range defined as a standard risk level[4] (see Figure 2).

The recorded increase in cyclical risk intensity results primarily from low-risk pricing on the global financial market. However, almost half of the increase in cyclical risk intensity recorded in the last year can be attributed to real increases in real estate market prices (see green bars in Figure 3). The situation on the domestic real estate market is taken into account in the model by including primarily the variables that reflect the (real) level of prices, and these have risen in the last quarters. A positive contribution of the domestic real estate market should not be considered as a signal of a worrying situation on this market. Risk is increasing, but we are dealing with an increase from a low level – in 2022 Q4, readings of risk were below the standard range of risk. In the same period,

[3] The results in this section of the study were elaborated based on an updated methodology for calibrating the countercyclical capital buffer: Financial Stability Committee (2024), *Methodology for setting the countercyclical capital buffer.*

[4] A standard risk level is defined as a range such that only periods of more than average turmoil in the domestic financial market or its immediate environment fall outside it. The following are outside the range of a standard risk level: (i) a rise in cyclical risk intensity readings in view of a forthcoming global financial crisis, (ii) a fall in cyclical risk intensity readings in view of the consequences of a global financial crisis, (iii) a fall in cyclical risk intensity readings in view of the euro area sovereign debt crisis, (iv) a fall in cyclical risk intensity readings in view of the COVID-19 pandemic, (v) a fall in cyclical risk intensity readings following the outbreak of war in Ukraine. As a result, within the standard range of risk, the central measure of cyclical risk intensity $\in \langle 8.1\%; 9.9\% \rangle$.

domestic macroeconomic variables limited the increase in cyclical risk intensity (see brown bars in Figure 3).

Figure 2. Cyclical risk intensity (MMCL)

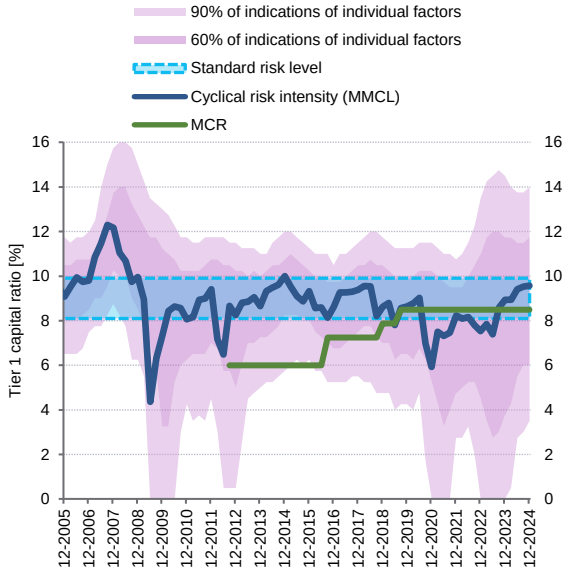
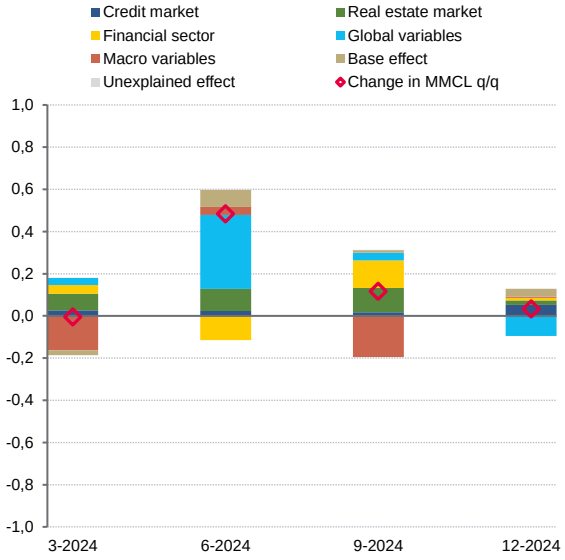


Figure 3. Decomposition of changes in cyclical risk intensity (MMCL)



Notes (left panel, Figure 2): The model-based reading of cyclical risk intensity (MMCL) declines in crisis situations because when a negative shock occurs, cyclical risk is discharged; hence, a forward-looking model indicates that the required macroprudential level of capital is lower. The purple ribbons marked 60% and 90% denote the ranges in which 60% and 90% of indications from the individual variables considered when determining the MMCL fall, respectively. The broader the ribbons, the greater the uncertainty related to the reading of the MMCL.
Notes (right panel, Figure 3): The figure shows the impact of individual variables[5] on changes in the MMCL shown in Figure 2. The last, current reading made in 2024 Q4 is based on data for the end of 2024 Q2.
Source: NBP.

There is currently no rationale for setting the CCyB over the target nCCyB rate of 2% adopted in the *Strategy on the application of the countercyclical capital buffer in Poland* [6] with a transitional stage at the rate of 1%**.** Two rates implied from the model are taken into consideration to determine an adequate rate of the countercyclical capital buffer ($CCyB$, see Equation 1).

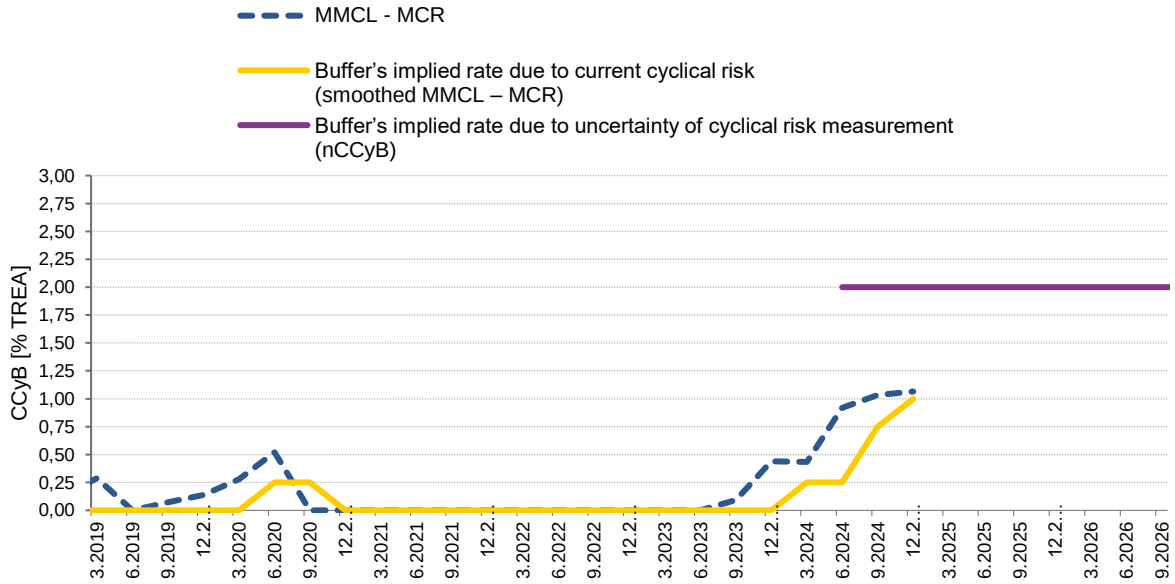
[5] The list of indicators which make up each of the categories shown in the figure: (i) credit market – broad credit aggregate for the private non-financial sector, broad credit aggregate to GDP, narrow credit aggregate for the private non-financial sector, narrow credit aggregate to GDP, DSR for the private non-financial sector, broad credit aggregate for households, broad credit aggregate for non-financial corporations; (ii) real estate market – real estate prices to rental cost, real estate price index, real estate prices to income, value added of the real estate market to the sum of value added in a given year; (iii) base effect – value of the Tier 1 capital ratio to TREA in the last year; (iv) financial sector – value added of the financial market to the sum of value added; (v) global variables – VIX – Chicago Board Options Exchange Volatility Index; (vi) macro variables – balance of current account to GDP, GDP, broad money aggregate, M3 money aggregate, government debt to GDP, value added of the public sector to the sum of value added in a given year.

[6] In accordance with Resolution No 72/2024 of the Financial Stability Committee of 22 March 2024 on the adoption of a strategy on the application of the countercyclical capital buffer, the Committee states that, "(…) the desired neutral rate of the countercyclical buffer should amount to 2%." (See Financial Stability Committee (2024), *Strategy on the application of the countercyclical capital buffer in Poland*).

The first one is the buffer's implied rate due to current cyclical risk, defined as a smoothed[7] $MMCL - MCR$. The rate has grown progressively in previous quarters and now amounts to 1% (see Figure 4). The other rate is the buffer's implied rate due to uncertainty of the measurement of cyclical risk, or the nCCyB target level of 2%.

An adequate level of the buffer is the higher of the two implied rates (2%). In accordance with Resolution No 74/2024 of 14 June 2024, the FSC recommended achieving the target rate of the nCCyB in two stages: at the first stage, by setting the buffer at the rate of 1%, and raising it to 2% after one year. This recommendation was reflected in the *Ordinance of the Minister of Finance of 18 September 2024 on the countercyclical buffer*. The ordinance sets the applicable countercyclical capital buffer at the rate of 1%. The new rate will apply from 24 September 2025.

Figure 4. Adequate level of the CCyB



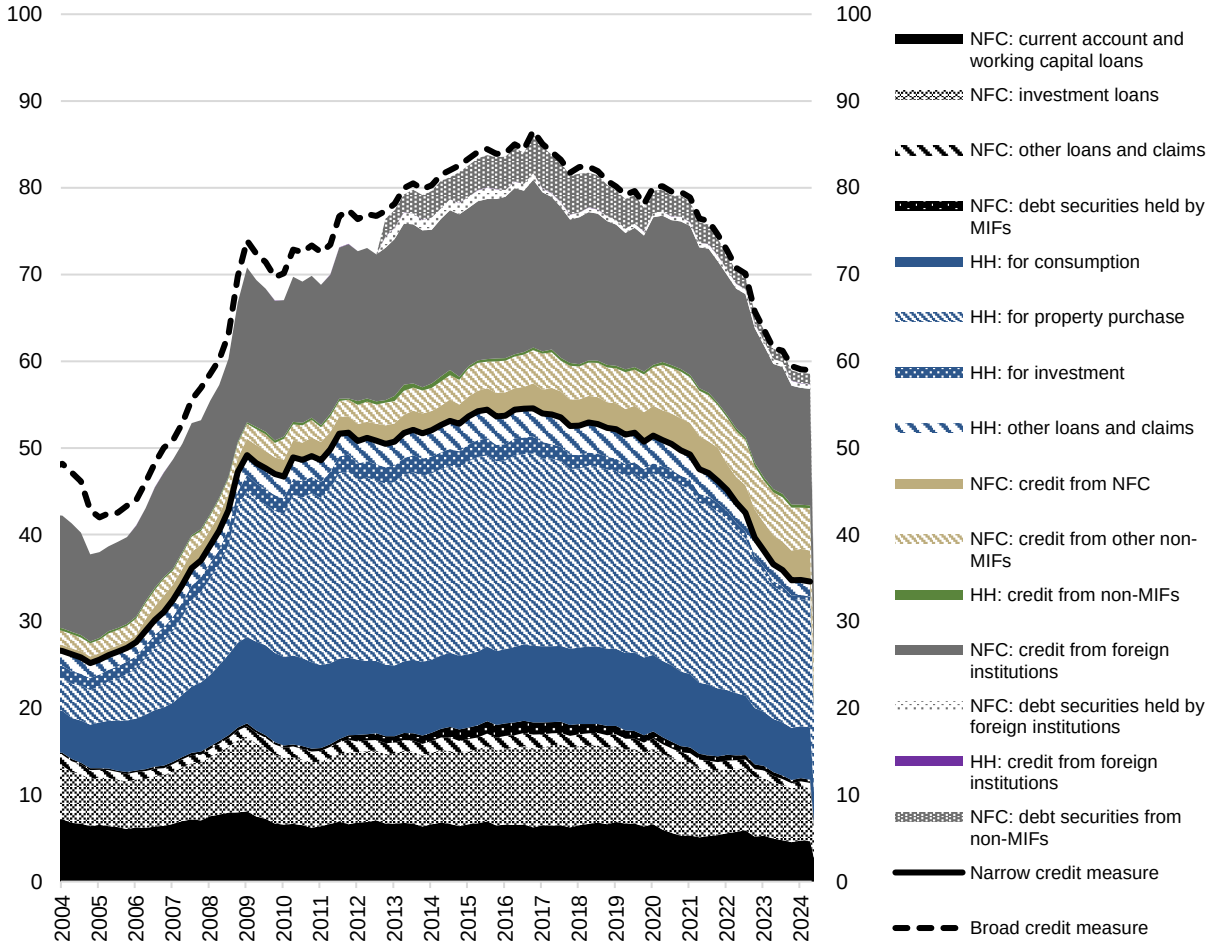
Notes: Data presented since 2019, when the capital conservation buffer became effective at the current level of 2.5%, which results in a constant-over-time level of the MCR. The last current reading made in 2024 Q4 is based on end-of-2024-Q2 data.
Source: NBP.

[7] Smoothing consists in applying the rule according to which a change in the buffer's implied rate should be maintained for two consecutive quarters. The application of the rule helps to formulate a directional expectation for the model's indications concerning an adequate rate of the CCyB in the next quarter. The MMCL level has remained stable over the last two quarters. Therefore, **we do not expect the buffer's implied rate due to current cyclical risk (see yellow line inFigure 4) to change in the next quarter.**

3. Position in the credit cycle and the ESRB-recommended indicators

The early warning model is based on information flowing from many variables, therefore it helps to make a complex assessment of cyclical risk intensity. However, an analysis of individual indicators allows to better illustrate the nature of changes in cyclical risk intensity. A review of selected indicators the monitoring of which is recommended by the European Systemic Risk Board (ESRB/2014/1) is presented below.

Figure 5. Breakdown of the ratio of credit to the private non-financial sector to GDP (%)



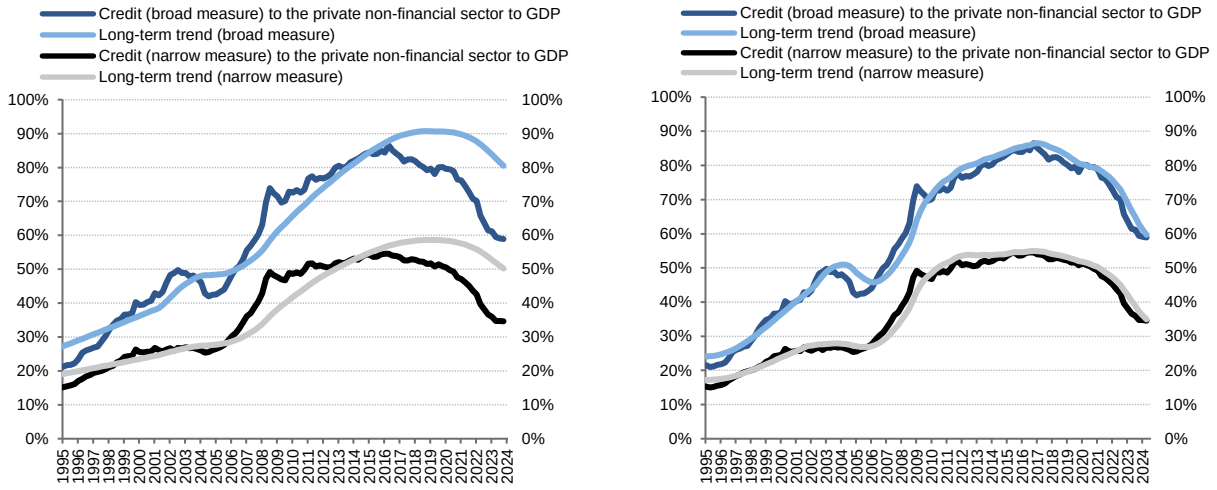
Abbreviations: NFC stands for non-financial corporations, HH stands for households and MFI stands for monetary financial institutions.

Notes: Last observation for 2024 Q2. The ratio of credit to the private non-financial sector to GDP includes debt of non-financial corporations and households due to loans and borrowings and debt securities. The ratio calculated on the basis of the narrow credit measure includes debt towards banks and cooperative savings and credit unions, and additionally – on the basis of the broad credit measure – debt towards other domestic non-monetary entities and foreign entities. The area chart runs in some parts below the black dashed line of the credit (broad measure) to GDP ratio, because in these periods – due to missing data – debt due to debt securities was not divided into debt towards banks and cooperative savings and credit unions and debt towards other domestic non-monetary entities. In these periods, the empty area presents, collectively, the debt of NFC due to debt securities. The data that enable a detailed breakdown have been available since 2012 Q4.

Source: NBP.

In 2024 Q2, the ratio of credit to the private non-financial sector to GDP (broad credit aggregate) amounted to 58.9%.[8] This represents a 2.5 p.p. decrease year-on-year. On the other hand, the level of private non-financial sector debt towards domestic monetary financial institutions (i.e. banks and cooperative savings and credit unions, or narrow credit aggregate) amounted to 34.6% of GDP, which represents a 2.0 p.p. decline year-on-year. In nominal terms, the broad credit aggregate increased in 2024 Q2 by 2.0% compared to the corresponding quarter of 2023. By contrast, in the corresponding period, the narrow credit aggregate increased by 0.6%. According to forecasts[9], the credit-to-GDP ratio will remain in the downward trend that has been observed since 2017 (see Figure 5). This points to the low intensity of cyclical risk related to excess credit growth.

Figure 6. Standardised credit gap (left panel) and credit gap compliant with the length of the financial cycle in Poland (right panel)



Notes: Last observation for 2024 Q2. Credit gap estimations were obtained using the one-sided recurrent Hodrick-Prescott (HP) filter, which ensures that to calculate a trend only information available in every moment in time is used. This approach is compliant with Recommendation (ESRB/2014/1).
Sources: NBP and Statistics Poland.

The credit gap is a standard indicator used for cyclical risk analysis. The standardised credit gap[10] was -21.6% (see **Błąd! Nie można odnaleźć źródła odwołania.**). The credit gap computed based on the narrow credit measure amounts to -15.6%. The value of the credit gap, after taking into account the length of the financial cycle in Poland, was estimated at -0.7% for the broad credit

[8] The ratio of credit to the private non-financial sector to GDP includes debt of non-financial corporations and households due to loans and borrowings and debt securities. The ratio calculated based on the narrow credit measure includes debt towards banks and cooperative savings and credit unions, and additionally – on the basis of the broad credit measure – debt towards other domestic non-monetary entities (among others, enterprises, financial intermediaries) and foreign entities.

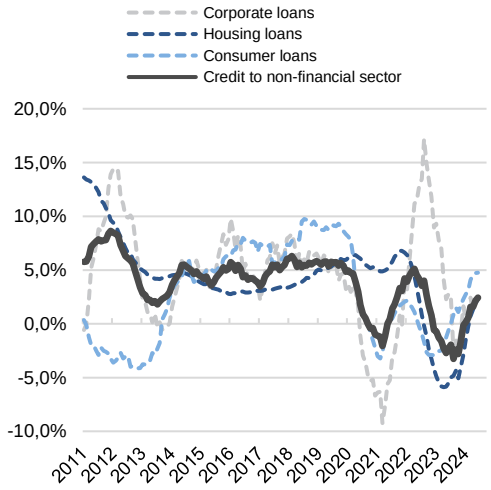
[9] In line with the forecast presented in Narodowy Bank Polski (2023), *Financial System in Poland 2022*, the narrow credit-to-GDP measure is falling below 30% by the end of the forecast horizon, i.e. by the end of 2025.

[10] The standardised credit gap is a deviation in the value of credit to the private non-financial sector to GDP ratio from the long-run trend. In compliance with Recommendation (ESRB/2014/1), the long-run trend was specified using a recursive HP filter with the smoothing parameter λ=400,000, which corresponds to fluctuations lasting 20 years and more.

measure and -0.3% for the narrow credit measure.[11] A negative credit gap points to a low intensity of excess credit growth-related risk.

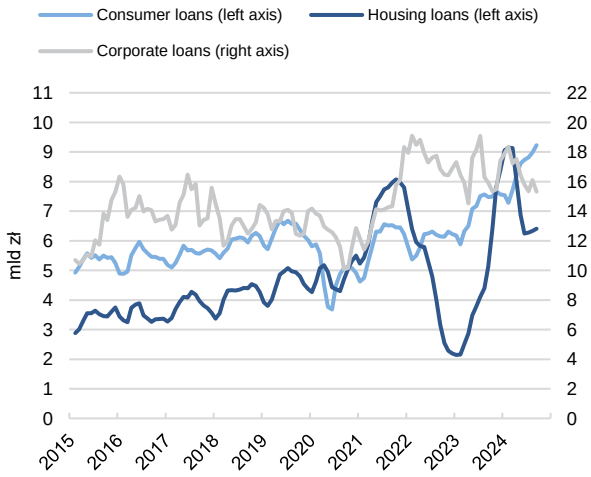
Towards the end of 2024 Q3, the growth rate of all main types of credit was positive. The overall growth in credit to the non-financial sector amounted to 3.4% year-on-year in September 2024 (see Figure 7). The production of new housing loans, following dynamic growth, stabilised at the level of PLN 6 billion a month (see Figure 8).

Figure 7. Growth in selected categories of credit to the non-financial sector, y/y



Notes: Last observation for September 2023.
Source (both figures): NBP.

Figure 8. Value of new loans (3-month moving average)



Notes: Under new corporate loan statistics, current loans are not included.

The variables whose monitoring is recommended by the European Systemic Risk Board (ESRB/2014/1, Recommendation C, paragraph 2) are shown in Table 1. The levels of the variables compiled in Table 1, observed in 2024 Q2, do not indicate that there is a need to change the level of the countercyclical buffer over the level defined by the nCCyB.

Table 1. Summary of selected indicators monitored for the purposes of making decisions on the level of the CCyB

Indicator	2024 Q1	2024 Q2
Credit to private non-financial sector to GDP (broad credit aggregate)	59.1%	58.9%
Credit to private non-financial sector to GDP (narrow credit aggregate)	34.8%	34.6%
Standardised credit gap (broad credit measure)	-22.5%	-21.6%
Standardised credit gap (narrow credit measure)	-16.3%	-15.6%
Credit gap taking into account the characteristics of the financial cycle in Poland (broad credit measure)	-2.1%	-0.7%
Credit gap taking into account the characteristics of the financial cycle in Poland (narrow credit measure)	-1.3%	-0.3%

[11] In this approach, the long-run trend was determined using a recursive HP filter with a parameter λ corresponding to fluctuations lasting 10.5 years (see Lenart, Ł. and Pipień, M. (2015) and Pipień, M., Wdowiński, P. and Kaszowska, J. (2018)).

Dwelling prices to income (index; average for 2015 = 100)	99.4	101.2
Hedonic housing price index* (2006 Q3 = 100)	281.1	290.6
Current account balance as % of GDP	1.8%	-0.2%
Debt Service Ratio	6.7%	6.7%
Contribution of the financial sector to GDP	5.4%	5.5%
Growth of the real broad credit measure (y/y)	-2.2%	-0.4%
Growth of the real narrow credit measure (y/y)	-4.0%	-1.8%
VIX (Volatility Index) – measure of the implied volatility of options for the S&P 500 index	13.7	14.0

Notes: *(Harmonised) Hedonic House Price Index – price index per sq metre of a secondary market apartment with 2006 Q3 basis = 100 for seven cities (including Warsaw). It reflects the change in prices purged of qualitative changes (e.g. an increase/decrease in the share of higher quality (more expensive) apartments).
Source: NBP, Bank for International Settlements, Statistics Poland, Eurostat and Thomson Reuters.

4. Summary

The early warning model points to a successive increase in cyclical systemic risk. The magnitude of the increase in the intensity of cyclical risk implies the level of the buffer at 1.0%. This gives no grounds for raising the level of the countercyclical buffer over the adopted level of the nCCyB (at the target rate of 2%, with a transitional stage at the rate of 1%).

Lending is recovering, but loan growth remains relatively slow. The analysis of a number of additional indicators supports the conclusion about the lack of rationale for raising the level of the buffer over the rate defined by the nCCyB.