IMPLEMENTATION FRAMEWORK FOR THE COUNTERCYCLICAL CAPITAL BUFFER

Central Bank of Chile

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INTRODUCTION[1,2]/

The Countercyclical Capital Buffer (CCyB) is a macroprudential policy tool aimed toward enhancing the resilience of the banking system. The CCyB is a capital charge that applies evenly to all banks, and can be released, in whole or in part, upon the materialization of systemic risks.

This requirement was introduced into the banking regulation standards after the global financial crisis (GFC) of 2008-2009, within the framework of the Basel III reforms. In Chile, it was incorporated into the General Banking Law (hereafter LGB) in 2019, being the Central Bank of Chile (BCCh) in charge of setting it, upon a favorable report from the Financial Market Commission (hereafter CMF)[3]/.

Global experience in financial market operations highlights importance of having flexible and effective macroprudential tools in place to reduce the procyclicality of bank lending in adverse economic periods. Evidence shows that, during the pandemic, countries that had built up countercyclical capital buffers and released them quickly, exhibited a more stable flow of credit. This experience has led a growing number of jurisdictions to adopt a positive neutral level of CCyB that provides a buffer that can be released in episodes of severe financial stress[4]/.

Based on recent evidence and analytical developments, the Board of the Central Bank of Chile has decided to update its CCyB implementation framework, reinforcing its resilience approach, and to set a positive neutral level for the CCyB of 1% of risk-weighted assets (RWAs). This neutral level, which will prevail most of the time, allows for an available capital buffer that can be released promptly in times of macro-financial stress. The calibration of the neutral CCyB at 1% of RWAs considers the necessary policy response to withstand a wide range of macro-financial stress situations, so that possible increases in the requirement above its neutral level should be infrequent. This enables a predictable and stable management of said requirement.

This document reviews the policy framework applicable to the CCyB in light of international best practices and idiosyncratic aspects of our domestic financial system. It also provides the rationale and criteria to be followed by the BCCh for the implementation, decision making and communication of this macroprudential instrument, which is one of the tools at its disposal to fulfill its financial stability mandate.

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[1]/ This is a translation of a document originally written in Spanish. In case of discrepancy, the original version prevails.
[2]/ This document supersedes the version published in September 2021 and updates subsections 3.2.3 and 5.2.1 of the document "Financial Policy of the Central Bank of Chile," published in 2020.
[3]/Appendix 1 details the legal framework applicable to the operation of the CCyB as a requirement for the banking system as stipulated in Article 66 ter of the General Banking Law.
[4]/ At the onset of the sanitary crisis, 16 countries had accumulated positive CCyB levels, while 66 countries had the CCyB policy framework in place, but no accumulated buffer. Since the pandemic, several jurisdictions have adopted a positive neutral level for CCyB. In 2018 only two countries had set a neutral level for the CCyB, while in 2024, 19 countries have already adopted this policy definition. In October 2022, the Basel Committee on Banking Supervision (BCBS) expressed its support for countries' adoption of positive level of neutral CCyB. Recently, the IMF recommended in its FSAP and Article IV reports the adoption of this policy framework in some countries. The different jurisdictions agree on the usefulness of defining a positive neutral value that balances the benefits of having the CCyB available when hit by an adverse shock —whose origin may be even exogenous to the financial system— and the costs of setting up the capital charge; both elements associated mainly with its effects on credit.

1. Guiding principles for the implementation of the Countercyclical Capital Buffer

The CCyB is of precautionary nature, its main objective is to enhance the resilience of the banking system. Having an additional capital buffer that can be fully or partially released in the event of a severe stress scenario —resulting from the materialization of systemic risk—, mitigates the impact of such episodes on the supply of credit. In this way, it contributes to the BCCh's objective of financial stability, reducing the amplification of these shocks and facilitating a faster recovery of the economy.

The accumulation of this capital buffer occurs at times when macro-financial conditions indicate that its impact on lending is limited. Thus, a relevant element in this analysis is the banks' capacity to absorb a higher capital requirement with a low impact on their credit supply, considering the complete set of capital requirements imposed on the banking system. This allows balancing out the benefit of having a sufficient level of aggregate capital to sustain the resilience of banks, with the necessary provision of credit to the economy.

The deactivation of the CCyB seeks to provide a greater degree of flexibility in the management of banks' balance sheets in the event of a macro-financial shock that could significantly deteriorate their profitability and level of capital. This deactivation generates de facto larger capital headroom for the entire system, reducing the probability that the level of capital will operate as a constraint, triggering an abrupt contraction in the supply of credit, amplifying the macroeconomic deterioration and holding back the economy's recovery process. In situations where the CCyB is deactivated, it will remain so for a sufficiently long period of time, until the supply of credit and the profitability levels of the banking system have been restored, in a manner consistent with the normalization of the economy. This is intended to support a more dynamic recovery of credit and, therefore, mitigate the impact of adverse shocks on economic activity.

For its decisions on the CCyB, the BCCh holds financial policy meetings where a broad set of indicators and quantitative background information on external and local macro-financial conditions are analyzed to assess the current and prospective status of risk conditions for the financial system. This background information, weighted by expert judgment, is used to determine the appropriate level of the CCyB.

2. The Countercyclical Capital Buffer's operation

The CCyB's operating framework is aimed towards building resilience of the banking system. A banking system with this type of buffer should exhibit a greater capacity to absorb potential losses. Crucially, its release should reduce the impact of shocks or the materialization of systemic risk on the supply of credit.

The CCyB level is determined by taking into consideration the assessment of macro-financial conditions and the state of risks for the financial system. It also considers all the other capital requirements for the banking system, bearing in mind that the costs of accumulating capital vary throughout the economic cycle. The CCyB's operating scheme applied by the BCCh is described in Table 1.

CCyB at its neutral level – Standard risk

The Board of the Central Bank of Chile has decided to establish a neutral level for the CCyB at 1% of risk-weighted assets. This neutral level has been determined based on a set of analytical elements, including stress testing, analysis of historical losses and provisioning expenses of the banking system, and economic modeling[5]/.

The neutral CCyB (NCCyB) is defined as the level that will prevail most of the time, while risk conditions for the financial system are at their standard level and no significant changes are foreseen. Among other elements, this scenario is one where the banking system shows solvency, activity and profit indicators in normal ranges and consistent with the macro-financial scenario. In addition, it corresponds to a context in which the credit market and the dynamics of financial asset prices show no significant deviations from their fundamentals.

Having a positive neutral level for the CCyB in place increases the effectiveness of this tool. On the one hand, it reinforces its precautionary nature by requiring banks to have this additional basic capital buffer most of the time, thus boosting their loss-absorption capacity. In this way, the NCCyB is available to be released in a timely manner by the authority, for the entire banking system, in the event of adverse events that are difficult to anticipate, which may originate not only locally but anywhere else in the world, even outside the financial system. On the other hand, having a positive NCCyB provides greater predictability to financial policy and provides greater certainty for banks' capital planning.

CCyB deactivation or release – Severe financial stress, materialized systemic risk, or unexpected shock

The Board will fully or partially release the CCyB whenever a severe financial stress scenario or a systemic risk materializes. In such an environment, there would be threats of a significant deterioration in banks' profitability, or even losses, which would reduce their capital levels, potentially turning regulatory capital into a major constraint for the supply of credit, with the resulting amplification of the shock to the rest of the economy. These periods of time are characterized by, among other elements, (i) a significant drop in prices of local and foreign financial assets, (ii) difficulty in accessing credit for households and businesses, (iii) banking sector weaknesses, including expectations of significant potential losses and an increase in the cost of capital. In such situations, the CCyB would be immediately deactivated.

CCyB below neutral – Recovery of the economy

For this macroprudential tool to function properly, in the event of having been deactivated or released, the CCyB will remain in this condition for a sufficiently long time, which will depend on the BCCh's assessment of the evolution of macroeconomic and financial conditions and the state of systemic risk. This will allow banks to internalize that they will have this additional headroom for a long enough time for their asset management and capital planning purposes. During this phase, some recovery in the banking sector and credit should be observed. Financial asset prices should also begin to align with their fundamentals.

[5]/ Appendix 2 describes the factors considered for calibrating the neutral countercyclical capital buffer.

Reconstructing resilience after the release of CCyB

Upon its release, the reconstruction process towards the NCCyB will proceed gradually as the financial system's recovery consolidates and the banking system is deemed to have the capacity to increase its capital without significantly affecting the provision of credit. In particular, the macro-financial environment that would allow the reconstruction towards the NCCyB to begin is one in which the banking system's balance sheets, risk indicators and profitability have already reached their normal levels. In this context, lending dynamics and asset prices would be expected to be back in line with their fundamentals.

At least one year after its release, the BCCh will evaluate whether it is appropriate to begin the rebuilding of the NCCyB, considering a pace coherent with macro-financial conditions. If the rebuiliding is initiated, the timeline for the reconstruction phase of the NCCyB will be announced, this frame of time will be of at least one year in length.

CCyB greater than NCCyB – Significant increase in systemic risk

Exceptionally, in case of a significant increase in systemic risk above its standard level, the CCyB could be set above the NCCyB, to enhance capacity to respond to a stress event, while at the same time contributing to reduce vulnerabilities. Raising the CCyB above its neutral level would only occur in scenarios of severely increased vulnerabilities and systemic risk, characterized by, among other factors, (i) credit growth significantly away from its fundamentals, (ii) very high household and corporate leverage, (iii) overvaluation of assets reflecting greater risk-taking, and/or (iv) external risks far exceeding usual levels. All this in a context where the banks' balance sheets show exceptionally high levels of activity and profits.

Also, if risk conditions threatening the financial system are assessed to return to a standard level, the CCyB could be lowered to regain its neutral level.

3. Elements of analysis for the determination of the CCyB

The process of decision about the CCyB in its different phases follows a forward-looking approach, it is based on a framework of quantitative analysis, accompanied by the monitoring of a broad set of variables and qualitative elements along with expert judgment.

The decision on the CCyB level seeks to balance various elements. On the one hand, it considers the state of the economy, potential vulnerabilities and risks to the financial system. On the other hand, it relates to the dynamics of credit, and the capacity of banks to accommodate changes in capital requirements with limited effects on credit.

The quantitative analysis process consists of using different modeling strategies, including forward-looking exercises, stress tests and macro-financial models, among others. The exercises with respect to borrowers (firms and households) seek to identify vulnerabilities that may affect their ability to repay and ultimately affect the overall banking system. Stress tests assess the impact of a plausible stress scenario, which reduces banks' capital buffers and poses a risk of abrupt contraction of their credit supply. Meanwhile, the implementation of macro-financial models allows designing counterfactual scenarios, considering feedback effects between macroeconomic and financial variables, as well as the interaction between monetary policy and the CCyB. Finally, the analysis considers the empirical evidence that emerges from the ex-post evaluation about the use of the tool, particularly on elements stemming from administrative data.

The Central Bank of Chile will weigh the result of risk monitoring, quantitative and qualitative analysis with the role of expert judgment to determine the appropriate level of the CCyB and the timeframe for its buildup. Likewise, the BCCh will take into consideration the analysis and feedback from the CMF regarding the level of this capital requirement and the timeframe for its implementation, as well as its interaction with other micro-prudential requirements and the results of the supervisory process.

Likewise, the BCCh will always consider the appropriateness of addressing situations of a significant increase in systemic risk, as well as its materialization, through the use of the CCyB in a manner consistent with all the other policies adopted by both the BCCh and the CMF.

4. Communicating CCyB decisions

For the BCCh it is crucial to communicate to the market and the general public its policy framework and general strategy for implementing the CCyB, as well as the motivation behind decisions on its activation or deactivation, the level and timeframe of enforceability adopted by the BCCh, and the delivery of elements to inform about future decisions.

The BCCh Board's decision regarding the CCyB takes place at its financial policy meetings, which are held no less than twice a year. This decision must have the prior favorable report of the CMF when applicable, as provided for in the General Banking Law (LGB).

There is also room to hold extraordinary financial policy meetings, these are particularly important for the decision to deactivate or release the CCyB in case of sudden occurrence of a systemic risk event or an episode of financial stress.

The decisions taken will be informed by means of a statement at the end of each financial policy meeting and the publication of the respective minutes, which will be complemented with the analysis and risk assessment presented in the Financial Stability Report (IEF).

5. Transition to the neutral level

The transition to the neutral level of the CCyB will be determined once the initial implementation of the new Basel III capital requirements is completed in December 2025, according to the timeline described in Appendix 3. In particular, the first meeting in 2026 will assess the beginning of the convergence towards the NCCyB, a definition that will be adopted if prevailing macro-financial conditions allow, and considering a minimum period of one year for its gradual buildup.

Table 1

CCyB framework of operation

Risk scenario	CCyB level	Elements to consider
Standard risk	CCyB at neutral level, most of the time	Banks' balance sheets show activity and results within normal ranges.
		Credit market functioning properly.
		Asset price dynamics in line with fundamentals.
Significant increase in systemic risk	CCyB increases exceptionally above neutral	Credit growth notoriously far from fundamentals.
		Very high leverage of households and firms.
		Overvalued assets.
		External risks considerably higher than usual.
		Banking system's balance sheets show unusually high activity and results.
Systemic risk or unforeseen shock materializes	Full or partial release in CCyB below neutral level	Adverse shock to the economy of local or external origin.
		Significant drop in financial asset prices.
		Difficult access to funding by households and firms.
		Banking system shows weaknesses, e.g., substantial expected losses and higher cost of capital.
Recovery	CCyB is still below neutral level or at zero	The economy and the banking industry begin to recover.
		Balance sheets, risk indicators and banks' profitability on recovery path.
		Credit supply shows signs of recovery.
		Asset prices begin to align with their fundamentals.
Reconstruction of NCCyB	Gradual increase in CCyB toward neutral as the recovery consolidates	Signs of economic recovery consolidating.
		Banks' balance sheets, risk indicators and profitability restored.
		Banks are now able to raise capital without significantly affecting credit.

Source: Central Bank of Chile.

APPENDIX 1: Legal framework for CCyB implementation

As established in the LGB, in line with Basel III standards, in addition to the minimum capital requirements[6]/, banks must build additional core capital buffers to strengthen their capacity to cushion and absorb losses in the event of shocks. In case of a shortfall in these buffers, restrictions on dividend distribution are put in place to foster its progressive reconstruction.

Article 66 bis of the LGB establishes a capital conservation buffer, which consists of an additional core capital requirement equivalent to 2.5% of each bank's RWA, net of mandatory provisions. Although this requirement is of a permanent nature, from a purely legal perspective, banks could operate without such additional capital, in which case they would face restrictions on the distribution of dividends established in Article 56 of the LGB, scaled according to the effective level of capital that the bank maintains, notwithstanding any other powers that the CMF may exert in this respect[7]/.

In turn, article 66 ter of the LGB regulates the CCyB and establishes that the BCCh, in consideration of the phase of the business cycle, may determine the activation or deactivation of an additional core capital requirement of a countercyclical nature, generally applicable to banks incorporated in the country. The BCCh defines the activation or deactivation of the CCyB and, after a favorable report from the CMF, sets this additional core capital requirement between 0 and 2.5% of risk-weighted assets, and the term that banks will have to comply with this requirement, which may not be less than six months. If a bank has a partial or total deficit of this additional core capital, it will face restrictions regarding the distribution of dividends as established in Article 56 of the LGB (see Table 2).

Table 2

Limits to dividend payout pursuant to article 56 in General Banking Law (LGB) in case of a deficit of additional capital as referred to in articles 66 bis and 66 ter

Level of additional capital deficit	Maximum fraction of profits the bank is allowed to pay out
Equal to or less than 25%	Maximum allowed: **60%** of net profit for the year
More than 25%, but equal to or less than 50%	Maximum allowed: **40%** of net profit for the year
More than 50%, but equal to or less than 75%	Maximum allowed: **20%** of net profit for the year
More than 75%	No dividend payment allowed

Source: Central Bank of Chile.

[6]/ This includes capital requirements for banks of systemic importance, pursuant to article 66 quater of the LGB.
[7]/ According to Chapter 21-12 of the CMF's Updated Rules Compilation (RAN) "Additional Basic Capital, articles 66 bis and 66 ter of the General Banking Law (LGB)," banks must fully comply with the additional capital requirements of these LGB articles to be classified as Level A solvency.

APPENDIX 2: Considerations for NCCyB calibration

This appendix provides a brief description of the methods considered by the BCCh for calibrating the neutral level of the CCyB.

In international practice, a growing number of jurisdictions have adopted positive neutral levels for the CCyB, defining such levels by using different methodologies. In this context, the BCCh staff reviewed several methods considered by other jurisdictions, in addition to a methodology based on a structural model.

The calibrations summarized below coincide conceptually in being quantifications of the loss of bank capital in episodes of financial stress, which are difficult to anticipate and of significant magnitude. In each case, they refer to unexpected losses, which are therefore not covered by provisions and have the potential to erode capital, thus affecting the ability to continue to grant credit. The unexpected nature of these events is consistent with the objective of having a positive neutral CCyB.

The financial stress events considered for calibrating the neutral CCyB are characterized by (i) a slowdown in economic activity, (ii) a significant increase in the cost of financing for banks and different economic agents, (iii) the losses experienced by banks increase due to an unexpected deterioration in the repayment capacity of their debtors. All these elements make it more likely that bank capital will become an active constraint, for the banking system, hampering the provision of credit to households and firms. In Chile's recent history these events have been the Asian Crisis, the Global Financial Crisis and the Covid-19 pandemic.

Method #1: Analysis of historical maximum bank losses in periods of financial stress[8/]

In this method, the neutral CCyB is related to the level of capital necessary to restore the capital headroom lost during periods of financial stress. For this purpose, the maximum cumulative losses of banks in such periods are computed. In the case of Chile, the maximum losses observed for each bank during three periods of stress are considered: the Asian crisis, the GFC and the Covid-19 pandemic. These events are chosen because they are examples of unanticipated financial stress events of significant magnitude. Losses are calculated as the maximum decline in return on assets (ROA) over RWA during these episodes. The results indicate that a CCyB between 0.2% (Covid-19), 1% (GFC) and 1.6% (Asian crisis) of RWAs would cover up to 90% of banks with accumulated losses during a crisis episode.

[8/] References: de Haan, L., & Kakes, J. (2020). "*European banks after the global financial crisis: Peak accumulated losses, twin crises and business models*". *Journal of Banking Regulation*, 21(3), 197-211 y *De Nederlandsche Bank* (2022). "*Analytical framework for setting the Countercyclical Capital Buffer in the Netherlands*".

Method #2: Results of stress tests in a moderate stress scenario[9]/

Similar to the previous methodology, the NCCyB is also related to capital losses, simulating a moderate stress episode, in which the NCCyB would compensate for the losses that could materialize in a scenario in which systemic risks are at standard levels. Using this methodology based on the stress tests conducted by the BCCh, a less severe scenario is simulated which, although could lead banks to have a procyclical behavior in the provision of credit, does not compromise their solvency. In this exercise, banks would have losses equivalent to 1.0% of RWA in one year, which yields a neutral value for the CCyB.

Method #3: Losses to buffers[10]/

This method uses an econometric model for the loss of capital (i) beyond the prediction of their usual determinants and (ii) at the extreme or left-tailed values of the banks' earnings distribution. The econometric model considered allows estimating quantiles of the conditional distribution of the banks' ROA, controlling for idiosyncratic characteristics, time fixed effects and financial conditions. The NCCyB is proxied by the size of these unexpected losses that are assimilated to the unexpected capital destruction of banks in extreme scenarios. The results suggest that the neutral CCyB should be between 0.4 and 0.6% of RWAs.

Method #4: Provision expenditure during periods of stress[11]/

This methodology is similar to the maximum loss methodology described above, but is based on information on bank provisioning expenses in episodes of financial stress. This emphasizes that the most direct impact of a shock is on the provisioning expense that banks must report, which will eventually translate into lower operating income.

Using an ordinary least squares regression, loan growth is modeled as a function of provisioning expense, the macroeconomic cycle and controls for non-linear behavior in situations of financial fragility. The model makes it possible to identify additional provisioning expense in times of financial stress as a fraction of RWA, thus identifying the amount of capital that would offset this expense. The CCyB that would mitigate the unexpected expense in provisions is close to 1% of RWAs.

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[9]/ References: Martínez, J. et al. (2017). "Pruebas de tensión bancaria del Banco Central de Chile: Actualización". Documento de Trabajo N° 801, *Central Bank of Chile* and Estrada, Á., Pérez Montes, C., Abad, J., Broto, C., Cáceres, E., Ferrer, A., Galán, J., Ganics, G., García Villasur, J., Hurtado, S., Lavín, N., Marbet, J., Martorell, E., Martínez Miera, D., Molina Iserte, A., Pablos, I., & Pérez Quirós, G. (2024). Análisis de los riesgos sistémicos cíclicos en España y de su mitigación mediante requerimientos de capital bancario contracíclicos. Documentos Ocasionales/Banco de España, 2414.

[10]/ Reference: Behn, M (2024). *A positive neutral rate for the countercyclical capital buffer – state of play in the banking union*, ECB 2024. Lang and Forletta (2020). *Cyclical systemic risk and downside risks to bank profitability*. ECB Working Paper Series No 2405.

[11]/ Reference: Bikker, J. A., & Metzemakers, P. A. (2005). "*Bank provisioning behaviour and procyclicality. Journal of International Financial Markets*", *Institutions and Money*, 15(2), 141-157.

Method #5: Results of the macro-financial model[12]/

This method is based on the structural model in Calani et al. (2022). The model assigns a prominent place to bank credit subject to financial frictions and default in equilibrium. The financial sector amplifies and feeds back real and financial shocks to credit, investment, output and ultimately consumption. Different policy rules for the CCyB are considered for this exercise. If the level of the CCyB suggested by the policy rule is less than zero, the non-implementability of this level (due to the zero lower bound contemplated in the current regulation) implies a welfare loss for the economy. Under this logic, the notion of a positive neutral CCyB is introduced as the way to give the authority policy space above this zero lower bound.

Central moments of simulations of economies with and without a neutral positive CCyB are compared. Thus, the model considers the trade-off between benefits from the release (ability to react to negative shocks) with costs of keeping the tool active most of the time (reduced credit). A welfare function that considers the present value of the utility flow of the representative consumer is used for this purpose. The exercise suggests that the value of the neutral CCyB should be around 1.5% of risk-weighted assets.

Table 3 presents the results of each method.

Table 3

Summary results for the neutral CCyB (% of RWAs)

Method	CCyB range	Mean
Historical losses	0.2 - 1.6	0.9
Stress test	1.0	1.0
Losses to buffer	0.4 - 0.6	0.5
Provision expenditure	1.0 - 1.2	1.1
Macro-financial model	1.5	1.5
Mean		1.0
Median		1.0

Source: Central Bank of Chile.

[12]/ Reference: Calani, M., García, B., Gómez, T., Guarda, S., & Paillacar, M. (2022). *A Macro Financial Model for the Chilean Economy*. Documento de Trabajo No. 953, Banco Central de Chile.

APPENDIX 3: Basel III standards implementation timeline

Table 4

Basel III implementation timeline

Regulation/Year	2020	2021	2022	2023	2024	2025
Core capital (% of RWA)	4.5%	4.5%	4.5%	4.5%	4.5%	4.5%
Capital discounts (1) (% discount)	0%	0%	15%	30%	65%	100%
Effective net worth (2) (% of RWA)	8%	8%	8%	8%	8%	8%
Conservation buffer (% of RWA)		0.625%	1.125%	1.125%	2.50%	2.50%
Systemic charge (% of charge)		0%	25%	50%	75%	100%
RWA composition						
Credit RWA	Basel I	Basel III				
Operating and market RWA	-	Basel III				

(1) These are components that belong to equity but are discounted for reasons of regulatory limits. Since Basel III, these components represent a greater magnitude of capital.
(2) The minimum does not change; however, the composition will be different due to differences in the implementation timeline of the discounts.
Source: Central Bank of Chile.


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