SUERF
The European Money and Finance Forum

SUERF Policy Briefs
No 165, August 2021

Assessment of the effectiveness of the macroprudential measures implemented in the context of the Covid-19 pandemic



By Lucas Avezum, Vítor Oliveira and Diogo Serra[1]
Banco de Portugal

Keywords: Macroprudential policy, capital buffer, Covid-19.

In this Policy Brief, we assess the effectiveness of the macroprudential capital buffers' release on loans granted to households, implemented in the context of the Covid-19 pandemic. We obtain causal estimates by exploring differences in the availability of regulatory buffers prior to the pandemic shock among European countries and accounting for the time-varying effect of unobservable confounding variables with the synthetic control method. We find evidence that the buffers releases contributed, on average, to mitigate the procyclicality of credit to households, specifically for house purchase and for small businesses purposes. For the aggregate household lending, we find that the average treatment effect for both the release of the CCyB and that of the SyRB were positive. However, the results suggest that, for credit associated to small businesses purposes, only the release of the CCyB had an effect.

[1] *lavezum@bportugal.pt, vmboliveira@bportugal.pt, dserra@bportugal.pt.*

The views expressed in this article are those of the authors and do not necessarily reflect the views of Banco de Portugal nor of the Eurosystem.

In 2020, we have witnessed an unprecedented exogenous shock that has disrupted social and economic life across the globe caused by a pandemic of a coronavirus (COVID-19). The containment measures that the great majority of countries across the globe has implemented in order to protect human lives and safeguard public health resulted in a synchronized global sudden stop in economic activity. This makes the global Covid-19 crisis unique, as it negatively impacted both supply and demand (Boissay and Rungcharoenkitkul, 2020).

In addition to the aforementioned measures targeted at preserving public health, several authorities (governments, central banks, regulatory authorities) have put forward other type of policy measures, of a fiscal, monetary and regulatory nature, to mitigate the well-known long-lasting adverse effects the former ones and of the pandemic itself on the economy. In what regards measures taken by the regulatory and supervisory authorities to safeguard financial stability, the materialization of risks caused by the pandemic prompted the implementation of several measures aimed at complementing the aforementioned fiscal and monetary policy responses, ensuring that the balance between preserving financial stability and sustaining economic activity is maintained. These measures include the temporary flexibility in complying with part of the capital requirements and Pillar 2 guidance, with a view to encouraging institutions to make use of their capital buffers, and the release of some macroprudential buffers. The principle of building up capital (and liquidity) buffers to deal with systemic risk materialisation underlies regulatory changes in the wake of the previous international financial crisis, with the purpose of preventing procyclical behavior of the financial system during troubled times, which could exacerbate the effects of an adverse shock. Therefore, by reducing requirements and increasing management buffers, capital releases are expected to incentivise banks in supporting the non-financial private sector.

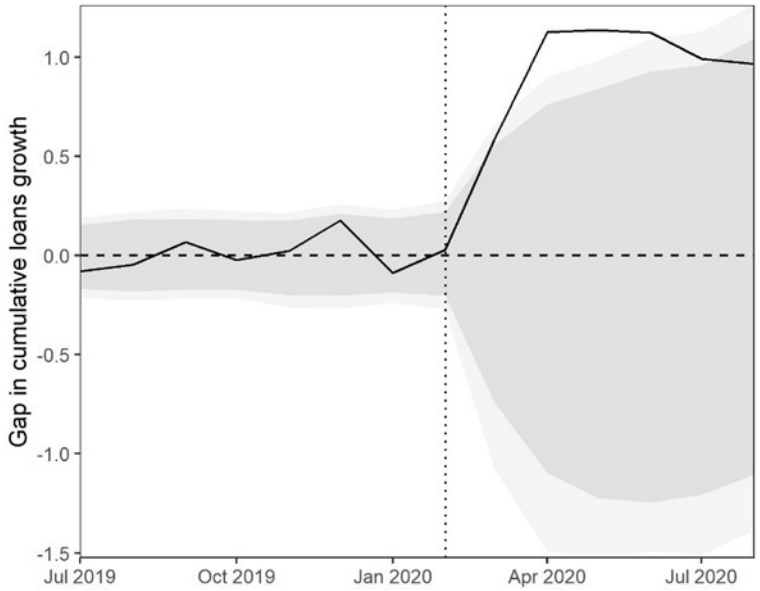
In recent work, we provide evidence on the effectiveness of releasing macroprudential capital buffer on loans granted to households in the context of the Covid-19 pandemic (Avezum, Oliveira and Serra, 2021). Effectiveness is measured as the average difference between household loan growth in countries where macroprudential requirements were released versus an estimated counterfactual scenario of no buffer release.[2] Specifically, the analysis reviews the impact of releasing the Countercyclical Capital Buffer (CCyB) and the Systemic Risk Buffer (SyRB). The assessment focuses on the household sector to minimize the confounding effects that might arise from the interaction with state-guaranteed-loans, which have been mostly intended to support NFCs. Furthermore, to improve the identification, the analysis excludes those European countries with extensive public support measures which could have impacted households beyond buffer releases.

Results suggest that macroprudential buffer releases contributed to mitigating the procyclicality of credit provision to households. Between March and August 2020, credit to households grew, on average, 0.99 percentage points more in countries where buffers were released, when compared to the estimated counterfactual scenario of no release (Figure 1). The intervention period considered starts in March 2020, when most national authorities announced the release of capital buffers. Given implementation lags on the side of banks, it is reasonable to observe a weak effect in March. As a wide range of policy measures were implemented (or relaxed) in 2020, it is reasonable to expect that uncertainty on the estimated effect could increase on impact. Combined, these considerations suggest that the estimated effects during the months of April, May and June should be the most reliable for analysing the impact of buffer releases on lending. Results are in fact statistically significant at the 5% level for the second quarter of 2020 and are robust to a number of tests and further

[2] The counterfactual scenarios are obtained using the synthetic control method of Abadie and Gardeazabal, 2003 and Abadie, Diamond, and Hainmueller, 2010. The confidence intervals are obtained by bootstrapping placebos, following Acemoglu et al. (2016) and Berger et al. (2020).

analyses. At the same time, cautiousness is warranted given the modest magnitude of most of the macroprudential releases and the difficulty to identify macroeconomic effects during crisis periods. Nevertheless, the identified results suggest that capital buffer releases supported lending growth during the peak of the COVID-19 pandemic.

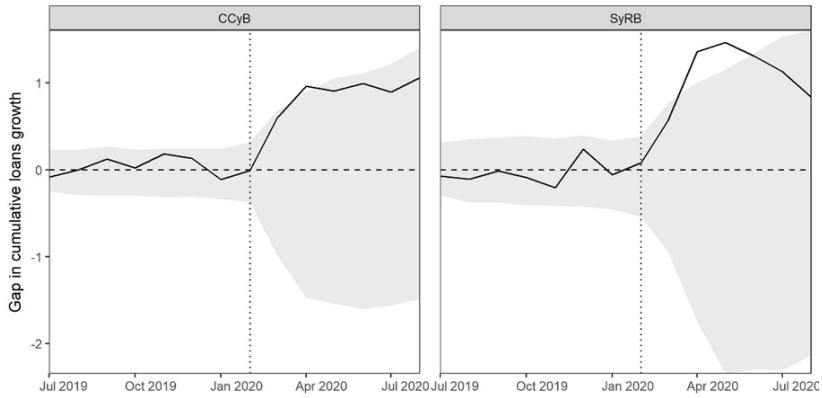
Figure 1. Impact of buffer releases on household lending



Sources: SDW, OECD data and authors' calculations.
Notes: The gap in cumulative loans growth (black line) is the average difference between the loan growth in countries where a buffer release was implemented and the estimated counterfactual scenario where the buffers were not released. The vertical dashed line separates the pre- from the post-buffer release periods. The dark and light shaded area contain the confidence interval at 10% and 5% level, respectively. The confidence intervals are obtained by bootstrapping placebos, following Acemoglu et al. (2016) and Berger et al. (2020). Therefore, we conclude that a result is significant if the gap in cumulative loans growth is outside the confidence interval.

Both the CCyB and the SyRB releases seem effective in sustaining lending to households. Investigating both releases separately is useful as only the CCyB was conceptually designed to be released; this feature, and the general lack of experience with macroprudential releases, could make banks expect authorities to allow a shorter window to replenish the SyRB and could be thus less effective in relative terms. Nevertheless, between March and August 2020, credit to households grew on average 0.90 and 1.11 percentage points more in countries where the CCyB and SyRB were released, respectively, when compared to the counterfactual (Figure 2).

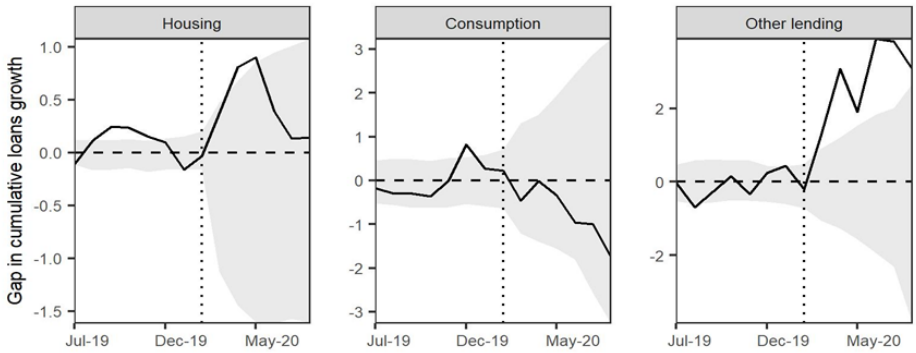
Figure 2. Impact on household lending by type of capital buffer



Sources: SDW, OECD data and authors' calculations.
Notes: The gap in cumulative loans growth (black line) is the average difference between the loan growth in countries where a buffer release was implemented and the estimated counterfactual scenario where the buffers were not released. The vertical dashed line separates the pre- from the post-buffer release periods. The dark and light shaded area contain the confidence interval at 10% and 5% level, respectively. The confidence intervals are obtained by bootstrapping placebos, following Acemoglu et al. (2016) and Berger et al. (2020). Therefore, we conclude that a result is significant if the gap in cumulative loans growth is outside the confidence interval.

The effect of releasing capital buffers on lending to households appears to be driven by lending for house purchase and other lending. On average, between March and August 2020, lending for house purchase grew 0.46 percentage points whereas other lending grew 2.85 percentage points more in countries where buffers were released (Figure 3). The result for lending for house purchase suggests that the overall impact of buffer releases was driven by lending for house purchases (Figure 1). Buffer releases appear to have contributed to mitigating the pandemic's impact on households' real estate investment decisions. Furthermore, the strong result on other lending suggests that released buffers also allowed banks to meet the demand for liquidity in the form of loans granted to households for small business and debt consolidation purposes. Conversely, the effect of buffer releases on credit for consumption was not statistically significant (Figure 3). This result may reflect the impact that containment measures and the uncertainty surrounding the course of the pandemic had on private consumption and, consequently, on credit demand for this segment.

Figure 3. Impact of capital buffer releases on the segments of household lending



Sources: SDW, OECD data and authors' calculations.
Notes: The gap in cumulative loans growth (black line) is the average difference between the loan growth in countries where a buffer release was implemented and the estimated counterfactual scenario where the buffers were not released. The vertical dashed line separates the pre- from the post-buffer release periods. The dark shaded area contains the confidence interval at 10% level. The confidence intervals are obtained by bootstrapping placebos, following Acemoglu et al. (2016) and Berger et al. (2020). Therefore, we conclude that a result is significant if the gap in cumulative loans growth is outside the confidence interval.

Conclusion

In this Policy Brief we assess the effectiveness of the macroprudential measures implemented in the context of the Covid-19 pandemic, in particular the impact of the capital buffers' release on loans granted to households.

We find evidence that macroprudential buffers releases contributed, on average, to mitigate the procyclicality of credit to households. Compared to countries that did not release buffers, credit growth to households was 0.99 percentage point higher in countries where there was a buffer release. Our results suggest that the release of capital buffers contributed, first, to mitigate the impact that the containment measures and the uncertainty with respect to the development of the crisis had on households' investment decisions, and, second, to provide finance to loans to households for business purposes, but had a muted effect on loans for consumption. In addition, for aggregate household lending, we find that the average treatment effect was positive for both the countries where the CCyB was released and for the countries where the SyRB was released. However, the results suggest that for credit associated to households' business purposes only the release of the CCyB had an effect.

Our study is the first, to the best of our knowledge, to find a difference in the effect of the release of cyclical and structural buffers on lending. The uncertainties related to capital generation in stressed period and the expectation banks may have that supervisors will require structural buffers to be build up in a shorter period than the CCyB may explain the different effects. Hence, taking into account the policy concern of limiting the procyclical nature of lending and capital requirements, the evidence provided in this study points to the need to further discuss an adjustment of the capital regulation framework to allow for more releasable capital buffers.

References

Abadie, A. and Gardeazabal, J. (2003). The Economic Costs of Conflict: A Case Study of the Basque Country. *The American Economic Review, 93 (1)*.

Abadie, A., Diamond, A. and Hainmueller, J. (2010). Synthetic Control Methods for Comparative Case Studies: Estimating the Effect of California´s Tobacco Control Program. *Journal of the American Statistical Association, 105 (490)*.

Acemoglu, D., Johnson, S., Kermani, A., Kwak, J., and Mitton, T. (2016). The value of connections in turbulent times: Evidence from the United States. *Journal of Financial Economics, 121(2), 368-391.*

Avezum, L., Oliveira, V., and Serra, D. (2021). Assessment of the effectiveness of the macroprudential measures implemented in the context of the Covid-19 pandemic. *Banco de Portugal, Working Papers* Available at: https://www.bportugal.pt/sites/default/files/anexos/papers/wp202107_0.pdf (Accessed: 21 July 2021).

Berger, E., Butler, A., Hu, E. and Zekhnini, M. (2020), Financial Integration and Credit Democratization: Linking Banking Deregulation to Economic Growth. *Journal of Financial Intermediation 45:100857*

Boissay, F. and Rungcharoenkitkul, P. (2020). Macroeconomic effects of Covid-19: an early review. *BIS Bulletin, no 7, April*.

About the authors

Lucas Avezum *is an Economist in the Macroprudential Policy division, in the Financial Stability Department at Banco de Portugal and a PhD candidate in economics at Tilburg University. His current research interests include financial stability, macroprudential policy, and banking.*

Vítor Oliveira *holds a permanent position as Senior Economist in the Macroprudential Policy division, in the Financial Stability Department at Banco de Portugal. He also holds a non-permanent position as Assistant Professor or Finance in Universidade Autónoma de Lisboa. His current research interests include financial system, in particular the banking system, studying its main risks (idiosyncratic and systemic risks), its regulatory policies (micro- and macroprudential) and the links to the real economy. He has published articles in international journals, such as the International Journal of Central Banking, Financial Markets, Institutions and Instruments, The Journal Network Theory in Finance and Studies in Economics and Finance. His education includes a Master degree in Finance at the Lisbon School of Economics and Management (ISEG-UL) and a Ph.D. degree in Finance in the same University.*

Diogo Serra *is an Economist in the Macroprudential Policy division, in the Financial Stability Department at Banco de Portugal. His current research interests include financial stability and macroprudential policy. His education includes a Master's degree in Economics at the Nova School of Business and Economics (Nova SBE) and a Bachelor's degree in Economics at the Faculty of Economics of University of Coimbra (FEUC).*

SUERF Publications

Find more **SUERF Policy Briefs** and **Policy Notes** at www.suerf.org/policynotes

SUERF
The European Money and Finance Forum

SUERF is a network association of central bankers and regulators, academics, and practitioners in the financial sector. The focus of the association is on the analysis, discussion and understanding of financial markets and institutions, the monetary economy, the conduct of regulation, supervision and monetary policy.

SUERF's events and publications provide a unique European network for the analysis and discussion of these and related issues.

SUERF Policy Briefs (SPBs) serve to promote SUERF Members' economic views and research findings as well as economic policy-oriented analyses. They address topical issues and propose solutions to current economic and financial challenges. SPBs serve to increase the international visibility of SUERF Members' analyses and research.

The views expressed are those of the author(s) and not necessarily those of the institution(s) the author(s) is/are affiliated with.

SUERF Secretariat
c/o OeNB
Otto-Wagner-Platz 3
A-1090 Vienna, Austria
Phone: +43-1-40420-7206
www.suerf.org • suerf@oenb.at