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The European Money and Finance Forum

SUERF Policy Brief
No 706, October 2023

Asset Prices, Collateral and Bank Lending - The Case of Covid-19 and Real Estate*

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Keywords: Real estate, collateral channel, financial accelerator, banking, microdata.
JEL codes: G21, R3, C55.

Real estate is widely used as collateral by euro area firms. This raises the possibility that any market correction could have knock-on implications for firm's access to credit via a financial accelerator effect. This column uses a novel credit registry data set to study the role of the banking system in propagating the Covid-19 commercial real estate downturn to credit via this collateral channel. Our findings confirm the capacity for real estate market dynamics to determine credit dynamics via the collateral channel. However, we also show that existing assumptions about the role of the banking system in driving this dynamic may be overly simplistic.

Collateral plays a central role in how we understand economic fluctuations, such as the financial cycle. Put simply, rising asset prices increase collateral values, thus loosening financing constraints and increasing firms' borrowing capacity. Increased borrowing by firms in turn boosts economic activity and further increases asset prices, thus restarting the cycle by again increasing collateral values. Bernanke and Gertler (1989) showed that through this "financial accelerator" mechanism variation in collateral values can create financial cycle fluctuations, even in an otherwise stable system, and asset price shocks can translate into real economy shocks. This mechanism has played out most prominently via real estate markets, during the global financial crisis and in a number of developed economics in the 1990s.

In our recent working paper (Horan, Jarmulska and Ryan (2023)) we use - for the first time - a micro data set to study how firms' use of real estate as collateral affected their access to credit during the Covid-19 pandemic. We use a new credit registry data set, providing loan-level data on euro area bank lending to euro area firms. Our data set also provides collateral-level data on a monthly basis, allowing us to track 5 million pieces of real estate collateral across the euro area throughout the Covid-19 pandemic. This also allows us, to our knowledge for the first time, to also study the banking system's role in propagating the financial accelerator mechanism, for example via the revaluation of collateral following a large market shock.

*Authors' note: Views expressed in this column are those of the authors and are not necessarily those held by the ECB.

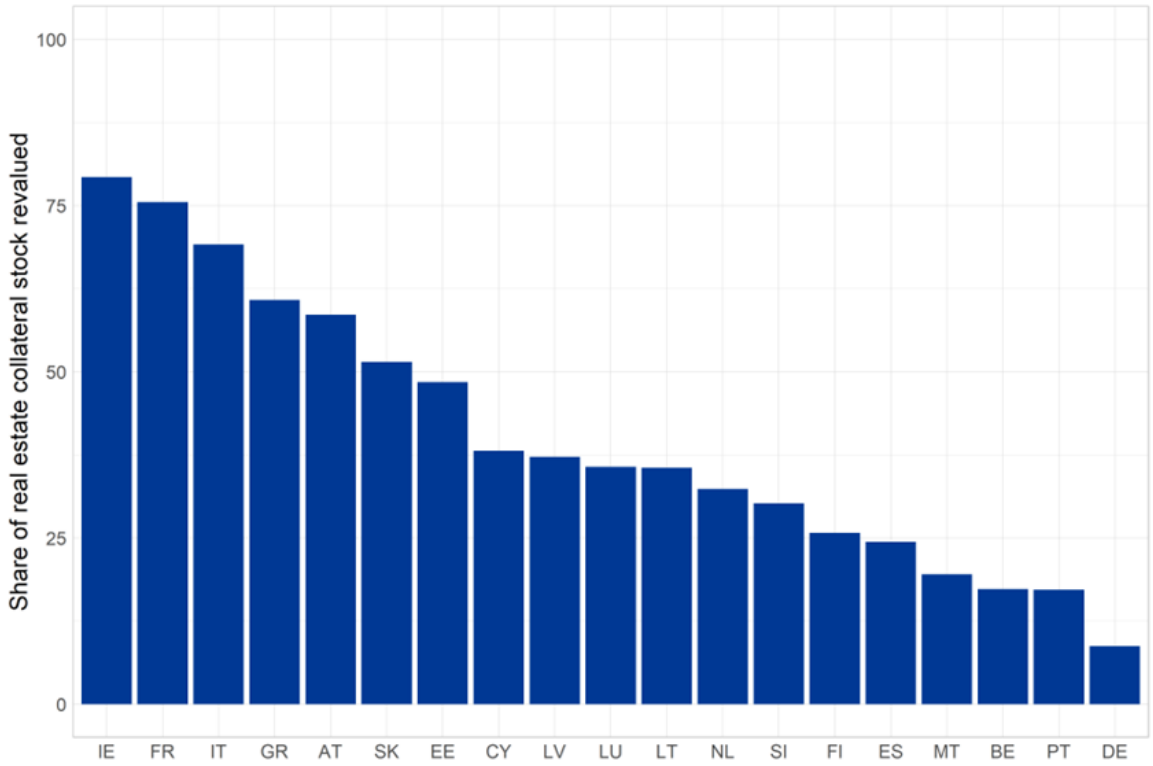
In the chart below we break down the stock of real estate collateral held by euro area banks, by the size of its revaluation over the course of the years 2019, 2020 and 2021 (Chart 1). Economic theory would suggest that following a shock like the Covid-19 pandemic, banks would have carried out widespread downward revaluations of collateral values. In this regard our results are surprising. Revaluation of real estate collateral by euro area banks appears to have remained largely unchanged during the pandemic compared to in 2019. This suggests that significant frictions may exist in this part of the financial accelerator mechanism, with institutional factors disincentivising the revaluation of real estate collateral. For example, revaluations may be costly to carry out and banks may wish to avoid revaluing collateral where a downward revaluation could have implications for factors such as their capital requirements or risk weights.

Chart 1: Real estate collateral revaluation by euro area banks remained largely unchanged following the outbreak of the Covid-19 pandemic

Note: Revaluations for the year are calculated as a change of value from the beginning of the year or the earliest entry, to the end of the year or the latest entry. Revaluation size is calculated as the proportional change from the initial value for a given collateral item in the year. Data refers to collateral held against loans to non-financial corporations only.

Moreover, these frictions appear to have a clear national component, with the share of collateral revalued each year varying widely across euro area countries (Chart 2). This suggests that the same asset price shock could have markedly different implications for credit dynamics in different euro area countries. This is particularly important in the current market environment where all countries are subject to the same shocks from monetary tightening.

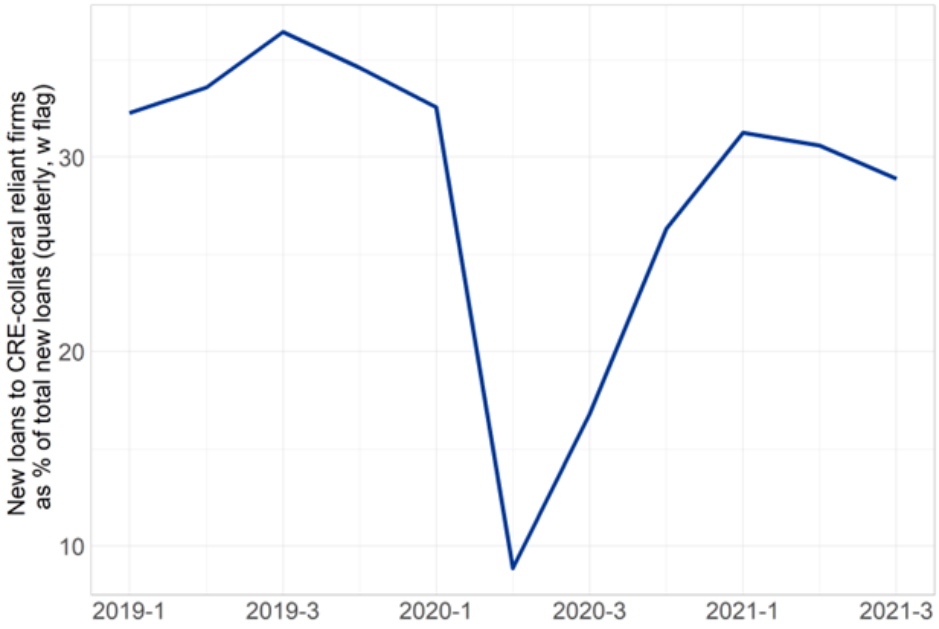
Chart 2: Revaluation behaviour shows clear national trends, with the share of collateral revalued in a given year varying dramatically across countries



Note: The chart shows the share of collateral revalued over the course of 2020. National patterns are almost identical in 2019 and 2021. Data refers to collateral held against loans to non-financial corporations only.

Next, we examine how firms' use of real estate collateral and banks' treatment of it affected lending outcomes during the crisis. Due to the absence of widespread revaluation of collateral following the outbreak of the crisis, we first see how lending outcomes differed depending on firms' use of real estate as collateral in general. We find that lending relationships which had relied on real estate collateral prior to the pandemic received significantly less credit following the pandemic's outbreak. This finding is clear even when we simply examine dynamics in lending to the two groups, with the share of loans to real-estate-collateral-reliant firms dropping sharply from over 30% of quarterly new loans to less than 10% with the outbreak of the pandemic (Chart 3).

Chart 3: Following the outbreak of the Covid-19 pandemic the share of new lending to firms reliant on real estate collateral dropped sharply



Note: Bank-firm relationship are categorised based on their real estate collateral reliance pre-Covid-19 and are categorised as "reliant" if they are above the 75th percentile value for the share of collateral coming from real estate. Only loans to firms with existing banking relationships pre-Covid-19 are included. Data refers to collateral held against loans to non-financial corporations only.

Of course, it is entirely possible that firms which used real estate as collateral may have experienced a particularly severe shock from the Covid-19 pandemic. For example, firms owning shopping centres or office buildings which were directly affected by lockdowns may have seen a very sharp drop in revenue which may have been the main driver of credit dynamics, as opposed to collateral values themselves. Indeed, the existing empirical literature consistently flags bias arising from this source of endogeneity as a problem which cannot be fully addressed (see for example Chaney et al (2012)).

However, the granularity of our data set allows us to very effectively control for this by applying the method laid out in Kwaja and Mian (2008). We examine firms which have lending relationships with multiple banks and compare outcomes across these relationships for each firm. This allows us to fully control for all characteristics of a given firm and see how outcomes varied depending on whether or not a borrowing relationship had relied on real estate collateral prior to Covid. We find that, for a given firm, when a lending relationship had relied on real estate as collateral it received approximately one third less credit following the outbreak of the pandemic.

Next, we see if the revaluations which did take place had implications for lending outcomes. Again we apply the Kwaja and Mian (2008) method, comparing outcomes for a given firm across their real-estate-collateralised lending relationships We find a clear relationship between collateral revaluation and the likelihood of new loans being made, with negative revaluation associated with a lower likelihood of new lending in that banking relationship and positive revaluation associated with a higher likelihood. This dynamic is amplified in cases where borrowers are highly leveraged. The sizes of these effects are also economically significant, with negative revaluation reducing the likelihood of a new loan being made by 21 per cent. Where borrowers are highly leveraged this figure increases to 42 per cent. The effect of revaluations on the size, interest rate and maturity of new lending is less clear, although we provide some evidence that downward revaluations were associated with smaller new loans.

Taken together our findings suggest that the collateral channel of the financial accelerator remains alive and well. In particular, our results confirm the capacity for real estate market dynamics to determine credit dynamics via the use of real estate as collateral. However, we also show that existing assumptions about the role of the banking system in driving this dynamic may be overly simplistic. In particular, bank revaluation behaviour deviates substantially from a simple mapping of asset price dynamics onto collateral values which may be implied by a textbook understanding of the financial accelerator model.

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