

## Loan Evergreening: Recent Evidence from the U.S.

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**A**s an adjective, “evergreen” refers to something that retains interest or popularity over time. In the context of finance and banking, the term is also used to describe a situation in which banks try to revive a loan that is on the verge of default by granting further loans to the same borrower.

As economic activity came to a standstill in early 2020, governments worldwide tried to prevent mass bankruptcies and layoffs by providing firms with subsidized credit. A few months into the COVID-19 pandemic, concerns emerged that banks would “evergreen” loans. Like government programs, evergreening could help stabilize the economy in the short run, but it could also contribute to the creation and survival of less-productive “zombie firms,” tying up resources and inputs that other firms could more productively employ.

Banks may have incentives to keep lending to firms to avoid losses on past loans to those firms.

For the United States, such worries have been frequently dismissed, as evergreening is typically associated with economies experiencing severe depressions with under-capitalized banking systems: Japan in the 1990s is a prime example (Caballero, Hoshi, and Kashyap, 2008), while the U.S. was not thought to be in such a position (Gagnon, 2021). In our recent article (Faria-e-Castro, Paul, and Sánchez, 2022), we try to answer the following series of questions related to evergreening:

- (i) Is it a general feature of financial intermediation and not specific to crisis economies?
- (ii) Can we find recent evidence of evergreening in the U.S.?
- (iii) What are its macroeconomic consequences?

### A Simple Model of Evergreening

We start by developing a simple model of evergreening to argue that it can arise as a normal feature of financial

intermediation. In the model, there is a firm that starts out with some amount of existing debt. The firm may default on this existing debt, or it may repay and borrow new debt to invest in some productive project. The firm may borrow this new debt from a bank with which it has an ongoing relationship, meaning that the bank owns (i.e., is owed) the existing debt.

The bank faces the following trade-off: On one hand, it would like to offer a high interest rate on the new loan to maximize its profits. On the other hand, the bank understands that if it offers a high interest rate, the firm may not find investing in the project very attractive and may choose to default and exit instead. Since the bank wants to recover the existing debt it is owed, it may therefore have the incentive to offer a relatively lower interest rate than it would otherwise, something we identify as evergreening. Moreover, the incentive to offer a low interest rate becomes stronger as the amount of existing debt becomes larger or as firm productivity becomes lower.

### Empirical Evidence of Evergreening

Does this mechanism accurately reflect how banks make lending decisions in practice? To answer this question, we turn to the Federal Reserve’s FR Y-14 dataset, which provides us with detailed loan-level information for large U.S. banks.<sup>1</sup> Our theory generates two predictions that we aim to test empirically. That is, when deciding on new credit conditions, lenders (i) take into account the outstanding debt they have with a borrower and (ii) actively try to steer a firm’s default decision.

We exploit the fact that certain banks may have an incentive to underreport the risk of the same borrower due to the regulatory environment, and we argue that the extent of risk underreporting is a proxy for how much the bank “values” a certain loan and how strong the incentive is to evergreen. We find that large U.S. banks do tend to lend more and at relatively better terms to these under-reported borrowers. Consistent with our theory, we find that these results are driven by low-productivity firms and by banks holding a large share of a firm’s debt. We find these effects even outside of recessions, when U.S. banks

are well-capitalized and operating with relatively high capital ratios.

### Macroeconomic Consequences of Evergreening

We conclude by embedding our simple mechanism in a more complicated dynamic model that can speak to some of the macroeconomic consequences of evergreening. When calibrating the model to U.S. data, we show that evergreening arises in equilibrium and affects firm borrowing and investment decisions.

On one hand, evergreening allows lenders to recover their investments more frequently, and these benefits are passed on to borrowers through lower interest rates. As a result, incumbent firms borrow more and become larger. On the other hand, the firms who benefit from evergreening and therefore invest more tend to be less productive, which contributes to reducing aggregate total factor productivity. A calibrated version of our model suggests that productivity could be almost 1% lower due to evergreening.

We find that firms that benefit from evergreening tend to be more leveraged and less productive—features the literature typically associates with zombie firms (Schivardi, Sette, and Tabellini, 2022). However, these firms are also riskier and pay higher interest rates than non-evergreened firms, but lower rates than they would in a counterfactual economy without evergreening. This means that trying to classify firms as zombies depending on whether they pay lower interest rates than a benchmark safe rate may underestimate the extent of the problem. ■

### Note

<sup>1</sup> This dataset contains information collected in the context of capital assessment and stress-testing exercises for large U.S. bank holding companies. Find more information at <https://www.federalreserve.gov/publications/fr-y-14-qas/fr-y-14-qas.htm>.

### References

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