The Macroeconomics of Bank Interest Rate Risk*

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1. Introduction

Banks lend long term and finance themselves with short-term deposits. That means they pay the short rate on their liabilities and receive a fixed rate on their assets. Under the textbook view of banking, this maturity mismatch earns them the term premium but also creates exposure to interest rates. When the short rate rises, interest expense goes up while interest income stays constant, so profits fall and bank net worth declines. That means bank assets have positive duration, while deposits are short term and have zero duration. If there is a large and sudden increase in interest rates, this leads to bank runs and banking crises. Moreover, it creates a channel of monetary policy, because the central bank affects bank net worth by moving the short rate, and thereby affects bank solvency and banks' willingness to lend.

In this paper we argue that the textbook view is incorrect. The error is on the liability side. Deposits do not pay the short rate. When the short rate rises, deposit rates increase by far less than one-for-one, and banks keep the wider spread between the short rate and the deposit rate. They can do so because they have market power in local deposit markets, which allows them to keep deposit rates low as interest rates rise. Moreover, deposits are a service, and running a deposit franchise incurs large operating costs for branches, staff, and technology. These costs do not move with interest rates. A bank therefore receives a spread that rises with rates and pays a cost that does not, so its deposit business gains value when rates rise. That means the deposit franchise has negative duration. We call this the deposit franchise view.

The two views disagree about *why* a bank holds long-term assets. Under the textbook view, the bank takes on interest rate risk on the asset side to earn the term premium. Under the deposit franchise view, banks invest in long-term assets to hedge the interest rate risk of the deposit franchise. Which view is correct matters for three important questions in macroeconomics: what causes financial instability, how monetary policy reaches the real economy, and how technology affects bank value.

*This proposal is based on keynote lectures at the HKUST Finance Symposium, Hong Kong University of Science and Technology, 2026; the Macro Finance Conference, Federal Reserve Bank of San Francisco, 2025; the Spanish Finance Association, AEFIN 32nd Finance Forum, 2025; and the Bocconi–CEPR Corporate Finance Workshop, 2025. We thank the conference participants for helpful comments. The authors received no external funding for this project and have no conflicts of interest to disclose.

In the remainder of the article we present a simple model of the deposit franchise, which yields testable predictions that distinguish the textbook view from the deposit franchise view. We then provide several empirical tests, which support the deposit franchise view. We then examine the implications for financial stability, for the transmission of monetary policy, and for the exposure of the banking model to technology. Finally, the paper concludes.

2. Related literature

We emphasize that we draw heavily on our own prior work. The deposits channel was first proposed by Drechsler, Savov, and Schnabl (2017). The hedging and matching results are based on Drechsler, Savov, and Schnabl (2021). The analysis of the 2023 runs draws in part on Drechsler, Savov, Schnabl, and Wang (2026). The evidence on banks and the current monetary cycle is based on Drechsler, Savov, Schnabl, and Supera (2024), and the results on housing follow Drechsler, Savov, and Schnabl (2022). The evidence on banks' use of interest rate derivatives is from McPhail, Schnabl, and Tuckman (2026). The connection to inflation is from Drechsler, Savov, and Schnabl (2026). The paper would cite this work wherever it builds on it, and would be clear about which results already appear in the existing literature.

The contribution of the proposed paper is to bring these results together and connect them to the macroeconomic literature on financial stability, the transmission of monetary policy, and bank value, and to state the deposit franchise view in a form that can be tested against the textbook view that macroeconomic models continue to use.

The textbook view is not a straw man. It is embedded in the macroeconomic models used to study monetary policy, in which interest rate shocks move bank net worth and bank net worth moves lending (Bernanke and Gertler, 1989; Bernanke, Gertler, and Gilchrist, 1999; Van den Heuvel, 2006; Gertler and Karadi, 2011). The logic is that a rise in the short rate lowers bank profits through the maturity mismatch, which erodes bank capital, which in turn forces banks to lend less. The strength of the channel therefore depends directly on the size of the maturity mismatch, and the exposure these models imply is an order of magnitude larger than what we estimate.

The textbook view is also embedded in the literature on financial stability. For the purposes of this proposal we discuss three recent contributions that bear directly on our question, namely whether the deposit franchise hedges bank interest rate risk. All three argue that the deposit franchise does not effectively hedge bank assets.

Begenau, Piazzesi, and Schneider (2025) represent banks' fixed-income positions, including derivatives, as bond portfolios, and estimate interest rate and credit exposures from those positions. They provide a careful measurement of what sits on the asset side of the balance sheet. Their framework, however, does not price the deposit franchise, and they take the view that it cannot be priced. In their words, "since exposures through franchise values cannot be directly measured but must be modeled statistically, we run into the instability issues we have documented." This is in contrast to our approach of measuring the deposit franchise value.

Jiang, Matvos, Piskorski, and Seru (2024) mark bank assets to market and measure fragility from asset losses together with uninsured leverage. They acknowledge that "banks may have a deposit franchise that could potentially mitigate a portion of the decrease in value on their asset side," but they do not measure it in their fragility measures. They therefore conclude that a large share of the U.S. banking system was at risk of self-fulfilling runs in early 2023. This is in contrast to our results.

DeMarzo, Krishnamurthy, and Nagel (2025) argue that the deposit franchise has zero duration once the cost of providing deposits is set to zero, so that "sticky deposits and low deposit rate betas do not imply negative duration." This is correct, and the point has been made before.[1] With no operating cost the franchise is a floating-rate claim and its value does not move with rates. But the costs of running a deposit franchise are large, and once they are included the franchise has negative duration. They also make an important assumption about deposit outflows, namely that deposits never run off, or that any outflows are replaced at no cost. As we argue in our analysis, runoff rates are positive, and they therefore increase the sensitivity of the deposit franchise to interest rates. Again, their results are in contrast to ours.

Finally, our approach is related to the question of what determines bank value, which was the subject of an earlier NBER Macroeconomics Annual paper. Atkeson, d'Avernas, Eisfeldt, and Weill (2019) ask why the ratio of market to book equity for U.S. banks was close to one until the 1990s, more than doubled between 1996 and 2007, and returned to about one after the financial crisis. They decompose the ratio into franchise value and the value of government guarantees, and find that much of the variation over time comes from the guarantees rather than from the franchise. Their franchise value is a level, measured as a residual from bank valuations. Our paper focuses on the deposit franchise view and how it affects bank interest rate risk, something they do not investigate.

3. A new theory of bank interest rate risk

3.1 Model setup

Banks operate a deposit franchise.[2] Running it costs c per dollar of deposits in branches, salaries, and technology, and paying c confers market power, so the bank sets a deposit rate of $\beta^{Exp} r$, where r is the policy rate and $\beta^{Exp} < 1$. Two properties follow. The bank borrows at a rate that is low and insensitive to the market rate. It also pays an operating cost that is large and insensitive to the market rate. Deposits are short term, but funding through a deposit franchise resembles funding with long-term fixed-rate debt.

[1] See Drechsler, Savov, and Schnabl (2017, footnote 4): "One might think that the deposits channel predicts that banks' net worth rises with the short rate since deposits become more profitable as banks charge higher spreads. However, the present value of deposit profits does not rise because the higher profits are discounted at a higher rate. The deposits franchise is thus similar to a floating rate bond; its cash flows increase with the short rate but its present value is unchanged."

[2] This is a sketch of the model. The main results are based on Drechsler, Savov, and Schnabl (2017), Drechsler, Savov, and Schnabl (2021), and Drechsler, Savov, Schnabl, and Wang (2026).

This changes what assets the bank should hold. It has to cover its deposit expense, so its income must be sensitive to r. It also has to cover its operating cost, so its income must be insensitive to r. Under free entry it holds a share β^{Exp} of its assets short term and the remaining $1 - \beta^{Exp}$ long term at a fixed rate.

3.2 Results

Because banks have market power, a rise in the policy rate widens the spread between market rates and deposit rates. Banks set deposit rates optimally, trading off the higher profits that come from a wider spread against the profits they lose as depositors leave.

The first result is that banks match the interest rate sensitivity of their income to the interest rate sensitivity of their expense, so their profits are insulated from shocks to current and expected future rates. Since bank net worth is the discounted value of future profits, net worth still moves with the interest rate. But this is a pure discount rate effect, not a change in the cash flows the bank earns (see Drechsler, Savov, and Schnabl, 2021).

The second result is an explicit formula for the value of the deposit franchise. The main ingredients are the deposit beta, the cost of deposit provision, and recurring deposit outflows. The franchise is worth the deposit spread net of operating costs, discounted at the interest rate plus the rate at which existing deposits run off,

$$DF = \frac{(1 - \beta^{Exp})\, r - c}{r + \delta}\, D,$$

where δ is the runoff rate and D is the deposit base (see Drechsler, Savov, Schnabl, and Wang, 2026).

The third result is the deposits channel of monetary policy. Because banks have market power, a rise in the policy rate widens the spread between market rates and deposit rates. Deposits become more expensive to hold relative to alternatives such as money market funds, and depositors reduce their balances. Banks lose deposit funding and contract lending. The deposits channel is the mechanism by which monetary policy reaches the real economy through bank liabilities (see Drechsler, Savov, and Schnabl, 2017).

3.3 Predictions to distinguish the textbook and deposit franchise views

1. *Interest rate sensitivity of bank equity.* Bank assets have a duration of about three to four years, and banks have a leverage of about ten, i.e., debt is about nine times equity. The textbook view therefore predicts that a one percentage point rise in rates reduces bank equity by about 30%–40%, the product of duration and leverage. The deposit franchise view predicts far less. Banks choose assets that hedge the franchise, so their equity should behave like that of nonfinancial firms, which hedge their cash flows. That implies a decline of 2%–4% (see Bernanke and Kuttner (2005) for the impact of FOMC shocks on nonfinancial firms).

2. *Cash flow hedging.* Under the textbook view interest expense follows the short rate while interest income does not. The net interest margin (NIM) and return on assets (ROA) should then fall as rates rise, and may even turn negative. The deposit franchise view predicts that the two sensitivities are equal, so the NIM and ROA should be flat across rate cycles.

3. *Duration of deposits.* Under the textbook view deposits reprice at once, so their duration is zero, and bank liabilities have a duration of a few months against assets of about three to four years. The deposit franchise view predicts a negative duration, given by the formula above. We can therefore compute the duration of deposits directly and ask whether it offsets the duration of assets.

4. Empirical evidence on bank interest rate risk

The evidence favors the deposit franchise view on all three counts.

4.1 Bank stocks barely respond to interest rate shocks

Under the textbook model, the first prediction is that banks should be highly sensitive to interest rate shocks, with bank net worth dropping around 30–40% in response to a 1% increase in interest rates. Yet bank stocks fall by only about 4% for each percentage point rise in the one-year rate around meetings of the Federal Open Market Committee. This is no larger than the response of the market or of the typical nonfinancial industry (Table 1, Figure 1). We find the same result when conducting the analysis at the bank level. Under the textbook view, banks holding longer-duration assets should be more exposed, and significantly so. In the data they are no more exposed than banks holding shorter assets (Table 2, Figure 2).

4.2 Banks hedge their cash flows

Under the deposit franchise view, the NIM and ROA should be stable as interest rates move. This is the case, as shown in Figure 3. Over the past seventy years the federal funds rate has ranged from zero to above sixteen percent, while the NIM has stayed within a band of about a percentage point and a half. Its changes are uncorrelated with changes in the policy rate, and ROA behaves the same way.

For comparison, we construct the NIM and ROA assuming banks hold a Treasury portfolio with an average duration of four years and finance themselves at the short rate. As shown in Figure 4, the NIM and ROA would be highly volatile and banks would make large losses when rates are rising.

Again, the result also holds when looking at individual banks. Using standard data on bank balance sheets and income statements, we estimate an individual deposit beta and asset beta for each bank from quarterly changes in interest expense and interest income on contemporaneous and lagged changes in the federal funds rate, following Drechsler, Savov, and Schnabl (2021) and other work on bank assets. We find that the asset beta tracks the deposit beta almost one-for-one, while the NIM beta and ROA beta are unrelated to the deposit beta (Table 3,

Figure 5).

4.3 Duration of bank deposits

The third prediction is that the deposit franchise has negative duration. We can compute the duration of bank deposits directly using three main inputs, following Drechsler, Savov, Schnabl, and Wang (2026): the deposit beta, the cost of providing deposits, and the rate at which deposits run off (Figure 6). We also compute the duration of bank assets following Drechsler, Savov, Schnabl, and Wang (2026). We expect the aggregate and bank-level results to show matching between asset duration and deposit franchise duration (Table 4, Figure 7). The deposit beta is the central input, and we estimate it at the bank level and separately for each monetary policy cycle (Table 5). This analysis remains to be done.

5. Macroeconomics of bank interest rate risk

5.1 Financial stability

5.1.1 Measures of bank fragility

A basic question is how bank exposure to interest rate risk affects the likelihood of runs. The two views give different answers.

Under the textbook view, every bank is exposed. A rise in rates lowers the value of bank assets and leaves deposits unchanged, so net worth falls. If the shock is large enough, net worth turns negative and depositors run. Fragility is a property of the balance sheet itself, and it applies to every bank in proportion to its asset duration.

Under the deposit franchise view the source of fragility is different. Banks are hedged against interest rate risk, so a rate increase does not by itself deplete net worth. What makes them fragile is that the deposit franchise value is an intangible asset. The deposit franchise is worth something only while depositors stay, and a run destroys it. This gives three conditions for a run. The deposits must be runnable, which means they are largely uninsured. They must generate franchise value, which means their deposit beta is less than one.[3] And interest rates must be high, since that is when the franchise is worth most. Under these conditions, a run can occur if the runnable franchise value exceeds the bank's net worth.

The 2023 banking crisis separates the two. Banks held around 17 trillion dollars of loans and securities, and their value declined by around ten percent, which is roughly the size of their equity. Under the textbook view this means the financial system was effectively bankrupt and all banks were in financial distress, a crisis of the same order as 2008. Measured this way, a large share of banks had negative net worth in February 2023 (Table 6). Under the deposit franchise view the crisis was significantly smaller, because many banks had an offset in the form of their insured deposit franchise. Counting that franchise, which survives a run, a small fraction of

[3]This distinguishes the deposit franchise view from general concerns about runs by uninsured depositors. Wholesale funding is uninsured, but it has a deposit beta of one and so generates no franchise value. Under the deposit franchise view it therefore does not give rise to runs of this kind.

banks had negative value. Those that remain are the banks that have a large uninsured deposit business, or that took more interest rate risk than their franchise could hedge. Silicon Valley Bank, Signature Bank, and First Republic are these banks (Table 7). For the rest of the system there was no run equilibrium. The valuation of the deposit franchise and the analysis of the 2023 runs would be estimated following Drechsler, Savov, Schnabl, and Wang (2026).

5.1.2 Cash flow hedging versus present value hedging

When a bank hedges its interest rate risk it has to choose between hedging its cash flows and hedging the present value of its net worth. It cannot do both, since the former implies constant profits, while the latter requires higher profits when interest rates go up. Empirically banks appear to hedge cash flows, since margins (NIM and ROA) are flat across rate cycles.

That means bank net worth has positive duration, and its value falls when rates rise. However, this duration is not due to the textbook model, and the difference matters. Under the textbook view the duration of net worth comes from a mismatch in cash flows: the bank pays more and earns the same, so profits fall. Under the deposit franchise view, profits do not fall but remain constant. What changes is the rate at which a stream of positive profits is discounted. The duration of bank net worth is much larger under the textbook view than under the deposit franchise view: around 40% versus 2% for a one percentage point rise in rates.

This distinction is important since it affects the assessment of financial stability. A bank cannot become insolvent from a pure discount rate effect, because the cash flows being discounted are unchanged and remain positive. This exposure alone is therefore not a financial stability concern. It is the same exposure that any nonfinancial firm has, since the present value of future profits falls when rates rise. In this respect banks look like nonfinancial firms.

5.1.3 Narrow banking

The framework also bears on the case for narrow banking, the proposal that banks hold only short-term safe assets against their deposits. Under the textbook view this removes interest rate risk. Under the deposit franchise view it creates it. A bank funded with low-beta deposits pays an operating cost that does not move with rates and earns a spread that does. If it holds only short assets, its income falls with the policy rate while its costs do not, and it loses money when rates are low. The maturity mismatch is what protects it. If banks have market power over deposits, narrow banking would leave them more exposed to interest rate risk rather than less. We would quantify this by computing the counterfactual variation in bank profits and in bank equity under narrow banking, in the aggregate (Figure 8) and bank by bank (Table 8).

5.2 The transmission of monetary policy

Under the textbook view, monetary policy affects bank lending through the bank net worth channel. When the central bank raises rates, bank assets lose value while short-term liabilities reprice immediately. Net worth falls, bank capital is depleted, and banks contract lending.

Under the deposit franchise view, monetary policy affects banks through the deposits channel.

When rates rise, the spread on deposits widens, deposits become expensive to hold, and some depositors move their investments to alternatives such as money market funds, Treasury bills, or other assets. Deposits are the funding banks cannot easily replace, so lending contracts. What contracts lending is the loss of deposits, not the loss of capital.

The current monetary cycle provides a sharp illustration. There were large deposit inflows when the Federal Reserve lowered rates during Covid, and large outflows when it raised rates by more than five percentage points between March 2022 and July 2023. The magnitudes were in line with previous rate cycles. Banks invested a significant share of the inflows in long-duration mortgage securities, and reduced those holdings when the deposits left. Mortgage credit moved with them, and the price and quantity of mortgage credit went in opposite directions in each phase, which identifies a shift in supply rather than in demand (Figure 9, Table 9; analysis to be performed).

5.3 The impact of technology

A key parameter in the deposit franchise view is the low deposit beta. As shown in Drechsler, Savov, and Schnabl (2017), the optimal deposit beta trades off the benefit of a wider spread against the cost of depositors leaving. The solution therefore depends on the elasticity of deposit demand by households, and in particular on the quality and cost of the substitutes available to them. This is where technology enters. Technology matters for the deposit franchise because it changes the competition that banks face for deposits, and it is competition that determines the deposit beta.

The history of money market funds illustrates the point. Money market funds were created in 1971 to circumvent Regulation Q, which capped deposit rates and so held deposit betas below what competition would have delivered. Households searched for alternatives, and money market funds grew from less than one percent of deposits at the end of 1978 to more than eleven percent by 1982. Their growth was one of the forces behind the deregulation of deposit rates in 1982 (Drechsler, Savov, and Schnabl, 2026).

Recent advances in technology are a potential threat of the same kind. Online banking, crypto alternatives, stablecoins, central bank digital currencies, open banking, and new payment systems are all candidates. They all lower the cost to a household of moving money out of a deposit account. They therefore increase competition for deposits and raise the deposit beta.

From a regulatory point of view, increased competition of this kind could erode deposit spreads and reduce bank values. It would also weaken the hedge, since a higher deposit beta shortens the duration of the deposit franchise and leaves bank assets too long. To be clear, the same change could be beneficial from the point of view of households, who would earn more on their deposits.

We can evaluate the impact of these changes in technology by examining the deposit beta. Even though the technologies are themselves quite different, the deposit beta is a good sufficient statistic for their effect on bank competition. We therefore propose to measure the extent to

which deposit betas have changed over the recent monetary cycles, in the aggregate (Figure 10) and bank by bank (Table 10). This analysis remains to be done.

6. Data and timeline

We plan to use only publicly available data, either freely available or available for purchase and already widely used by researchers. Specifically, we plan to use bank regulatory filings, namely the Call Reports and the FR Y-9C, going back to 1959; the FDIC Summary of Deposits for branch locations and branch-level deposits; RateWatch for branch-level deposit rates; CRSP for bank stock returns; the Federal Reserve H.6 and H.8 releases and the Financial Accounts of the United States for aggregate deposits and bank balance sheets; standard fixed-income indices for the revaluation of bank assets; and HMDA together with agency issuance data for the mortgage market. For the contribution of interest rate derivatives we would use the published estimates of McPhail, Schnabl, and Tuckman (2026) rather than the underlying confidential data.

The tables and figures that follow are preliminary results, except where they are marked as placeholders. We can produce a first draft by January 2027.

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Tables

Table 1: Sensitivity of bank equity to interest rates. Predicted values follow from the two views as described in the text. The estimated values are the response of value-weighted portfolio returns to changes in the one-year Treasury rate on days of scheduled FOMC meetings. Source: Drechsler, Savov, and Schnabl (2021).

	Change in equity per 100 bp
Textbook view, predicted	−40%
Deposit franchise view, predicted	−2% to −4%
Estimated, bank industry portfolio	−4.2%
Estimated, market portfolio	−3.7%

Table 2: Bank-level sensitivity of equity to interest rates. The response of individual bank stock returns to changes in the one-year Treasury rate around FOMC meetings, estimated as a function of asset duration. To be produced.

PLACEHOLDER

Bank-level response of equity to interest rate changes around FOMC meetings, estimated as a function of asset duration.

Under the textbook view, banks with longer-duration assets should have a steeper negative response.

To be produced.

Table 3: Bank-level interest rate sensitivity. For each bank, we estimate the deposit beta (sensitivity of interest expense to the federal funds rate), the NIM beta, and the ROA beta from quarterly changes on contemporaneous and three lagged changes in the federal funds rate. We then relate each to the deposit beta in the cross section. Source: Drechsler, Savov, and Schnabl (2021).

Dependent variable	Coefficient on deposit beta	R^2	
NIM beta	−0.024	0.001	No relation
ROA beta	0.061	0.001	No relation

Table 4: Interest rate exposure of the U.S. banking system: duration of assets, of deposits, and of interest rate derivatives, and the change in value per one hundred basis points as a share of bank equity. To be produced. The duration of the deposit franchise would be computed by applying the methodology of Drechsler, Savov, Schnabl, and Wang (2026). The contribution of interest rate derivatives would use the estimates of McPhail, Schnabl, and Tuckman (2026).

PLACEHOLDER

Duration of bank assets, of deposits, and of interest rate derivatives,
with the change in value per one hundred basis points
expressed as a share of bank equity.

To be produced.

Table 5: Deposit beta at the bank level and across monetary policy cycles. To be estimated, following the methodology of Drechsler, Savov, and Schnabl (2017, 2021).

PLACEHOLDER

Deposit rate pass-through at the bank level,
reported separately for each monetary policy cycle
and by insurance status.

To be estimated.

Table 6: Bank value with and without the deposit business, as a percent of assets. The first measure counts assets net of deposits only. The second adds the value of the insured deposit relationship, which survives a run. The third adds the uninsured relationship, which does not. Each block reports the share of banks with non-positive value. To be produced.

PLACEHOLDER

Bank value with and without the deposit franchise,
reported at multiple dates across the 2022–2023 rate hiking cycle,
with the share of banks that have non-positive value under each measure.

To be produced.

Table 7: Value of the largest banks in February 2023, with and without the deposit franchise, against the share of their deposits that is uninsured. To be produced. The deposit side would follow the methodology of Drechsler, Savov, Schnabl, and Wang (2026).

PLACEHOLDER

Value of the largest banks in February 2023 under the three measures
of Table 6, reported against the uninsured share of deposits,
identifying the banks for which the value that survives a run is at or below zero.

To be produced.

Table 8: Bank-level counterfactual analysis of narrow banking: the variation in profits and in net worth that each bank would face if it held only short-term assets against its deposits. To be produced.

PLACEHOLDER

Counterfactual variation in profits and in net worth under narrow banking,
reported bank by bank and sorted by deposit beta
and by the share of deposits that is uninsured.

To be produced.

Table 9: Deposit betas and deposit outflows during the 2022–2023 rate hiking cycle. Deposit betas reported separately for insured and uninsured deposits, by quarter and by deposit type. Deposit outflows measured as the change in deposit balances relative to peak, by insurance status. To be produced.

PLACEHOLDER

Deposit betas and deposit outflows during the 2022–2023 rate hiking cycle,
reported by quarter, deposit type, and insurance status.

Analysis to be performed.

Table 10: Change in deposit betas across monetary policy cycles, bank by bank. Deposit betas estimated separately for each bank in each cycle and compared across cycles, to measure whether pass-through has risen and for which banks. To be produced.

PLACEHOLDER

Bank-level deposit betas estimated cycle by cycle,
and the change in each bank's beta across cycles.

Analysis to be performed.

Figures

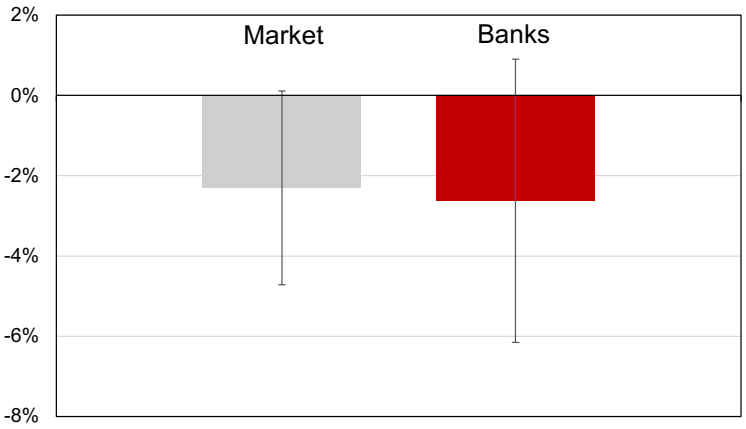


Figure 1: Response of the market index and of a bank index to changes in the one-year Treasury rate around FOMC meetings, with confidence intervals. Bank stocks are no more exposed than the market as a whole, and an order of magnitude less exposed than the textbook view implies. This analysis is an extension based on Drechsler, Savov, and Schnabl (2021), Figure 2.

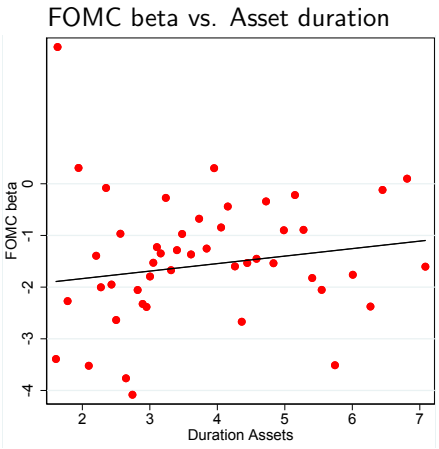


Figure 2: Response of bank equity to interest rate news around FOMC meetings, plotted against the duration of bank assets. There is no relation. The textbook view implies a steep negative one, since banks holding longer assets would be bearing more interest rate risk. Source: Drechsler, Savov, and Schnabl (2021).

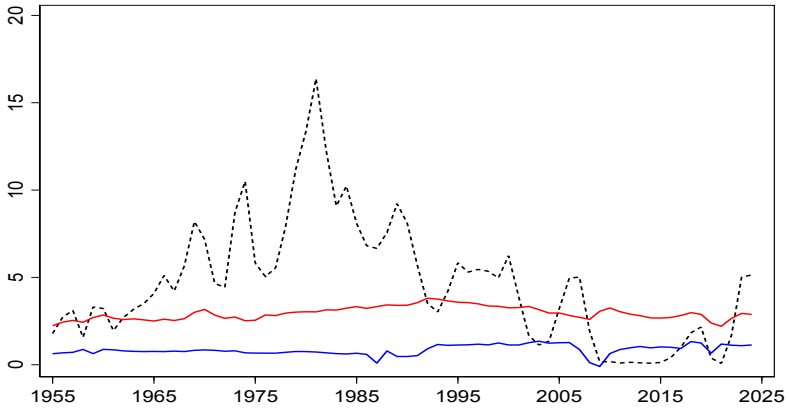


Figure 3: Federal funds rate, net interest margin, and return on assets, 1955–2025. The margin varies within a narrow band across seventy years in which the policy rate ranged from zero to above sixteen percent, and its changes are uncorrelated with changes in the policy rate. Source: Drechsler, Savov, and Schnabl (2021).

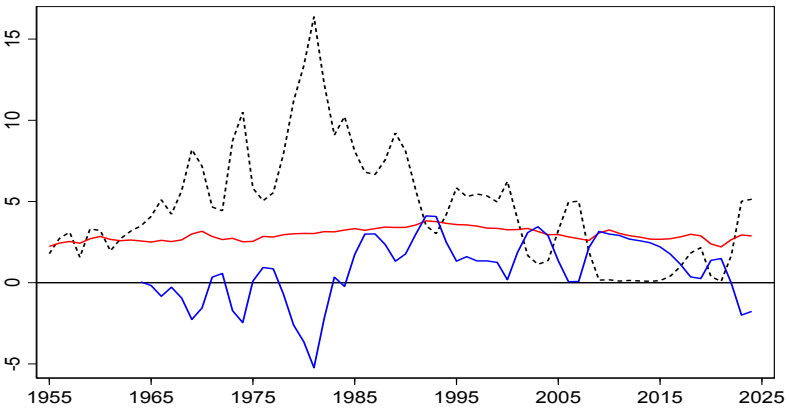


Figure 4: Net interest margin of the banking system compared with that of a Treasury portfolio constructed to have the same maturity mismatch but no deposit market power, 1955–2025. The constructed portfolio is what the textbook view predicts for banks. Its margin is far more sensitive to rates. Source: Drechsler, Savov, and Schnabl (2021).

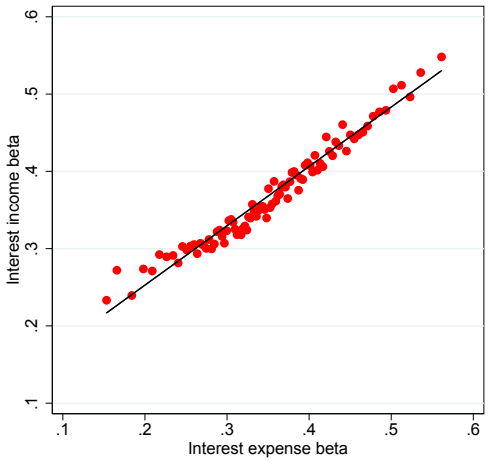


Figure 5: Sensitivity of interest income to the policy rate against sensitivity of interest expense, across U.S. commercial banks. The relationship is close to one-for-one: banks with less rate-sensitive deposits hold less rate-sensitive assets. Source: Drechsler, Savov, and Schnabl (2021).

PLACEHOLDER

Duration of the deposit franchise and duration of bank assets,
plotted against the level of interest rates.

The deposit franchise duration is computed from the deposit beta,
the cost of providing deposits, and the deposit runoff rate.

To be produced.

Figure 6: Duration of the deposit franchise and of bank assets as a function of the level of interest rates. The deposit franchise view implies that the two are of similar magnitude and opposite sign, so that the sum is close to zero across the range of rates observed historically. To be produced.

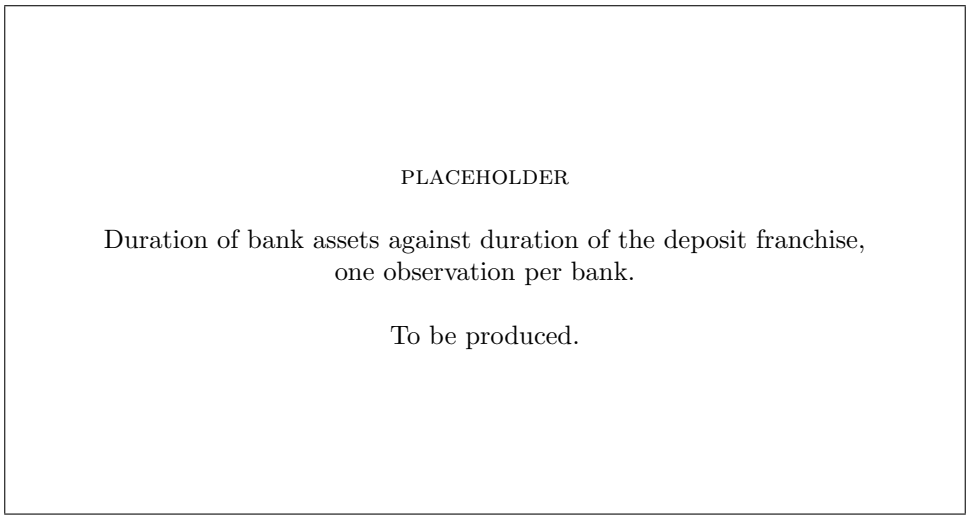


Figure 7: Duration of bank assets against the duration of the deposit franchise across U.S. commercial banks, one observation per bank. The deposit franchise view implies that banks with a longer deposit franchise hold longer assets, so that the two line up along the forty-five degree line. To be produced.

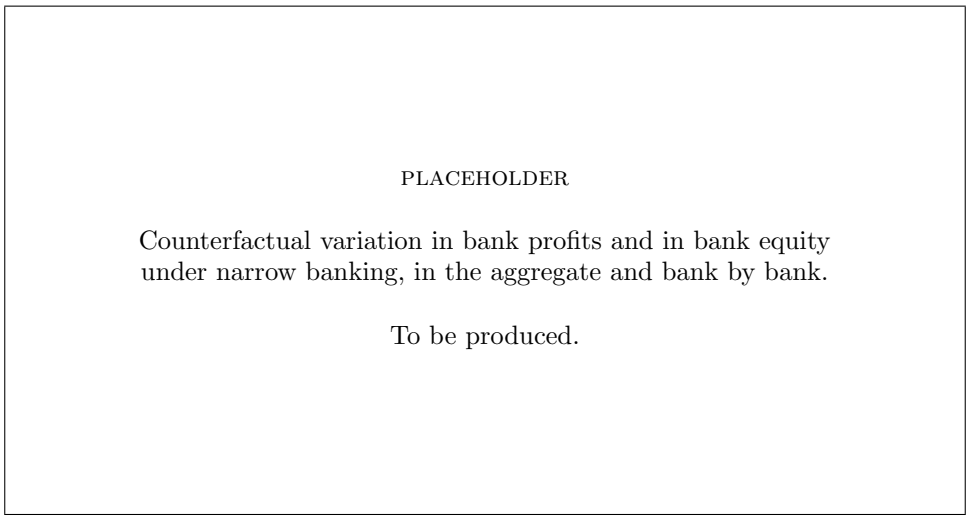


Figure 8: Counterfactual variation in aggregate bank profits and in aggregate bank net worth under narrow banking, plotted against the level of interest rates. To be produced. Narrow banking is modeled as a bank that funds itself with low-beta deposits and holds only short-term assets.

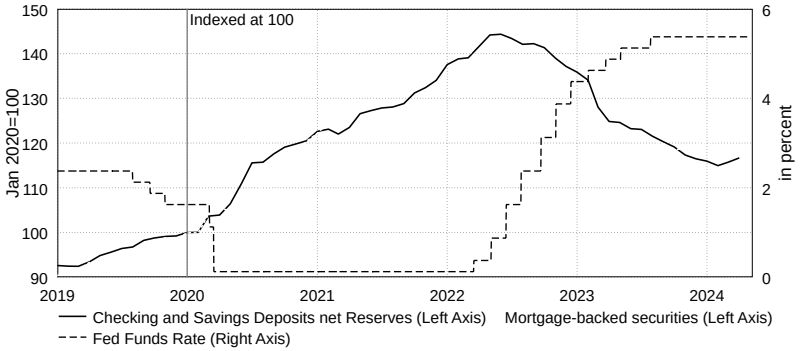


Figure 9: Checking and savings deposits net of reserves and bank holdings of mortgage-backed securities, indexed to January 2020, against the federal funds rate. Deposits that flowed in during 2020 and 2021 were invested in long-duration securities, and the process reversed when those deposits left. Source: Drechsler, Savov, Schnabl, and Supera (2024).

PLACEHOLDER

Aggregate deposit beta estimated separately for each monetary policy cycle since the 1980s, alongside the level of the federal funds rate.

Analysis to be performed.

Figure 10: Aggregate deposit beta by monetary policy cycle. The deposit beta is estimated separately for each tightening cycle since the 1980s, to measure whether pass-through has risen over time. To be produced.