

RESEARCH REPORT

Monetary transmission under different financial structures

Contract design and financial structure determine when monetary decisions reach borrowers. Evidence from four economies and an original debt-cohort calculation explain why financing costs can keep rising after market rates decline.

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A monetary decision does not reach every borrower through the same contract or at the same time. A policy rate can change immediately while an existing mortgage payment remains fixed. A corporate bond can lose market value without altering its issuer's next coupon. An exchange-rate decision can change the domestic cost of imported inputs without a matching change in a domestic policy interest rate. These distinctions are essential to comparing the United States, the euro area, Singapore, and Japan.

This report examines three connections between policy and spending: the instrument used by the monetary authority; the financial intermediaries and markets carrying the decision; and the dates on which households and businesses become exposed. Official documents establish concrete differences in those connections. An original debt-cohort calculation then shows why average borrowing costs can keep rising after rates on new borrowing have fallen. The calculation is illustrative and does not estimate a national monetary-policy multiplier.

The main conclusion is that transmission should be assessed as a sequence of prices, contracts, balance sheets, and decisions. Comparing the size of an announced rate change is insufficient. Financial structure changes the incidence and timing of the adjustment, while expectations and risk premiums can move financing conditions before the announcement itself. A delayed change in the debt stock's average cost can coexist with an immediate change in the price of a new investment.

Four institutional settings

The United States provides a clear distinction between the cost of a new mortgage and the cost carried by existing borrowers. In its July 10, 2026 Monetary Policy Report, the Federal Reserve described most outstanding mortgages as carrying rates below 4 percent, substantially below the then-prevailing 30-year fixed mortgage rate. The observation was part of its explanation of weak home sales and the incentive for borrowers to retain an existing low-rate loan. It is a dated description of that market, not an October mortgage quotation. [Federal Reserve, July 2026 report, residential investment.](#)

For the euro area, an ECB Economic Bulletin article in Issue 4/2025 examines mortgage contracts across countries and income groups. Its simulations show how longer interest-rate fixation and the starting difference between existing and new loan rates affect the persistence of household cash-flow adjustments. Its scope is the mortgage-payment channel; the article explicitly sets aside other direct channels and general-equilibrium effects. It should not be treated as an estimate of the entire response of consumption to monetary policy. [ECB, mortgage rates and consumption](#).

Singapore's framework differs at the instrument level. MAS manages the Singapore dollar nominal effective exchange rate against a trade-weighted basket, within a policy band. Its framework explanation identifies spot foreign-exchange intervention as the main implementation tool. A change in that framework cannot be translated mechanically into the same number of basis points as a Federal Reserve or ECB rate decision. The target object and the immediate price adjustment are different. [MAS, monetary policy framework, updated October 13, 2026](#).

Japan supplies an important distinction between an interest-rate reset and a repayment reset. The Bank of Japan's April 2026 Financial System Report discusses floating-rate housing loans for which monthly payments can remain fixed under contractual five-year arrangements. Changes in the interest component can therefore precede changes in the total monthly payment. Its evidence includes a regional-bank loan sample with stated dates and assumptions; that sample should not be read as a complete census of all Japanese mortgages. [Bank of Japan, April 2026 Financial System Report, Box 2](#).

These observations establish institutional differences rather than a ranking of which economy has the strongest transmission. An economy can have a muted immediate payment response and a substantial housing, exchange-rate, or valuation response. It can also have rapid repricing of loans but weak spending adjustment if borrowers hold ample liquid assets or expect temporary changes. Measuring one contract margin is necessary, but it leaves the broader response unresolved.

The instrument and the relevant market price

For an interest-rate system, short-term policy settings anchor part of the domestic interest-rate structure. Longer-term financing prices also incorporate expectations of future short rates, compensation for duration, credit risk, liquidity, and other contract features. A central bank can reduce its current rate while longer borrowing rates rise if markets revise those other components upward. The direction of the policy announcement and the direction of every loan price need not coincide.

That distinction matters for the interpretation of a policy surprise. If a decision is fully anticipated, part of its effect may already be incorporated into bonds, swaps, deposit offers, and exchange rates. Measuring market changes only after the announcement can then miss the adjustment. Conversely, a move in bond yields on the announcement date can reflect new information about the economic outlook as well as the unexpected component of policy. A simple before-and-after comparison does not separate those effects.

Japan's March 19, 2024 framework decision illustrates why the operating regime must be dated. The Bank of Japan moved away from its previous negative-rate and yield-curve-control framework and identified the

short-term interest rate as its primary tool. Describing Japan's later transmission as though that previous regime remained in place would assign the wrong starting point. This report uses the decision to establish the institutional transition, not to present its initial rate range as the current rate. [Bank of Japan, changes in the monetary policy framework](#).

Singapore requires another adjustment to the analytical starting point. MAS explains that an open capital account constrains the ability to target both its exchange-rate framework and an independently chosen domestic interest rate inconsistent with global conditions. Singapore's domestic funding rates remain important to borrowers, but their movement is not a separate policy-rate decision equivalent to those in the other cases. [MAS, monetary policy formulation, section 3.5](#).

The relevant comparison therefore begins with the price a decision directly seeks to influence, followed by the market prices that connect it to domestic activity. For Singapore that includes the exchange value of the currency and imported prices. For the other cases it includes the yield curve and bank funding costs as well as exchange rates. The comparison remains conditional on the shock: domestic demand, imported energy inflation, and a global increase in risk premiums do not call forth identical financial responses.

Contract dates determine exposure

Three dates should be recorded separately for every material liability: final maturity, interest-rate reset, and cash-payment reset. A loan can have a 30-year maturity while its rate changes much sooner. A floating-rate contract can adjust its interest charge while keeping the scheduled payment temporarily unchanged. A fixed-rate bond can mature after several years and leave the issuer exposed to a large refinancing requirement on that date. Average maturity alone does not reveal these different exposures.

Hedging creates a further layer. A company may issue floating-rate debt and enter a swap that fixes its economic cost. Another may issue fixed-rate debt and swap it into floating exposure. A maturity table that excludes derivatives can misstate sensitivity. The hedge's duration, reference index, collateral provisions, and counterparty matter. A hedge can reduce earnings exposure while increasing short-term cash demands if market movements require collateral.

The same distinction applies to the lender. A bank can hold a fixed-rate loan financed by deposits whose rates adjust at the bank's discretion and whose balances can move. The borrower's payment stability then corresponds to interest-rate and funding exposure elsewhere in the system. That exposure may be hedged, securitized, or borne by a long-term investor. It does not disappear merely because the household's monthly payment is unchanged.

The following matrix identifies the questions suggested by the official institutional evidence. It describes channels to investigate rather than measured national coefficients. The corporate column does not assign a single financing structure to every firm in an economy.

Setting	Immediate policy connection	Household contract issue	Corporate and intermediary issue
United States	Short rates and expectations affect broader market pricing	Existing fixed-rate loans differ from new borrowing and moving decisions	Bond maturities, bank lines, derivatives, and funding costs need separate schedules
Euro area	A common monetary stance passes through heterogeneous national credit markets	Fixation periods and starting coupons vary across borrowers	Bank pricing, credit standards, collateral, and market access can differ
Singapore	The exchange-rate framework affects traded prices and domestic conditions	Local loan resets coexist with externally influenced funding rates	Currency of revenue, imported costs, foreign debt, and hedging affect incidence
Japan	Short-rate policy operates after the 2024 framework transition	Applied rates and total payments can reset on different dates	Loan repricing, deposit costs, securities exposure, and borrower resilience interact

A usable corporate exposure schedule should therefore connect each liability with its post-hedge rate, currency, payment rule, and maturity. It should also identify cash assets whose income reprices. A highly indebted firm with large short-term deposits can experience a different immediate cash-flow effect from a firm with the same gross debt and no liquid assets. Gross debt is a starting quantity, not a complete measure of monetary sensitivity.

An original debt-cohort calculation

Consider a hypothetical debt stock of 100 units. Forty units have floating rates; twenty have fixed rates that reset at the beginning of year one; another twenty reset at the beginning of year two; and the remaining twenty stay fixed through the two-year horizon. Initially every cohort pays 3 percent annually. Principal is held constant, with no amortization, defaults, fees, hedges, new borrowing, or interest compounding. The exercise isolates repricing and is not a mortgage-payment model.

At the beginning of year one, the rate applying to floating debt and newly resetting debt rises to 5 percent. At the beginning of year two, that rate falls to 4 percent. The first reset cohort remains fixed at 5 percent during year two; the second resets from 3 to 4 percent. Floating debt pays 4 percent in year two. These assumptions specify the entire calculation and distinguish the market rate from the rate on each contractual cohort.

Cohort	Principal	Initial annual interest	Year-one interest	Year-two interest
Floating	40	1.20	2.00	1.60
Fixed, reset in year one	20	0.60	1.00	1.00
Fixed, reset in year two	20	0.60	0.60	0.80
Fixed throughout	20	0.60	0.60	0.60
Total	100	3.00	4.20	4.00

Year-one interest rises by 1.20 units because sixty units reprice upward by two percentage points. In year two the total falls by 0.20 units. The floating cohort saves 0.40, while the newly resetting cohort adds 0.20. The aggregate average cost remains 4 percent, one percentage point above its initial level, even after the market rate has fallen from 5 to 4 percent. A rate cut has provided relief relative to year one without returning the stock to its starting cost.

A second hypothetical structure changes the result. Keep the debt stock at 100 and the same rate path, but assign ten units to floating debt, ten to the first reset, fifty to the second reset, and thirty to fixed debt throughout. Initial interest remains 3.00. Year-one interest is $0.50 + 0.50 + 1.50 + 0.90 = 3.40$. Year-two interest is $0.40 + 0.50 + 2.00 + 0.90 = 3.80$.

In that second structure, the average cost rises during the year in which the market rate falls. A 0.10 saving on floating debt is outweighed by a 0.50 increase on the larger cohort resetting from its old 3 percent rate to the new 4 percent rate. The difference between the two examples is the distribution of contracts, not the policy path. Neither set of weights is assigned to an actual country or borrowed from the official studies.

The arithmetic also clarifies the appropriate counterfactual. For the second structure, holding the year-two market rate at 5 percent would produce interest of $0.50 + 0.50 + 2.50 + 0.90 = 4.40$. The decline to 4 percent therefore lowers year-two interest by 0.60 relative to that alternative, although observed interest still rises from 3.40 to 3.80. A rising debt-service measure is not sufficient evidence that easing had no effect.

From debt service to expenditure

An interest-payment change is not identical to a consumption or investment change. Borrowers may use savings, reduce purchases, sell assets, or adjust principal repayment. They may also anticipate a future reset and begin adjusting beforehand. Income growth can offset part of the change in required payments. An analysis that observes only the current payment date may therefore miss both earlier behavioral adjustment and differences in borrowers' ability to absorb the cost.

Interest income changes on the other side of the contract. Households with deposits or other interest-bearing assets can gain when rates rise. Their spending response need not offset borrowers' response one for one. The

groups differ in liquidity, wealth, income, and spending needs. Some interest flows to foreign investors or financial institutions rather than to domestic households. The national effect requires tracing the recipients and their behavior rather than netting all interest mechanically.

Payment-smoothing rules require particular attention. If the interest rate rises while a scheduled payment remains fixed, the portion repaying principal can shrink. Current cash flow may look stable while the future balance remains higher than otherwise. Whether unpaid interest can arise, how later payments adjust, and what limits apply depend on the contract. A generic label such as floating rate is insufficient to determine that schedule.

This distinction helps interpret the Japanese evidence without treating every loan as identical. The relevant issue is not merely whether a mortgage carries a variable rate, but how its applied rate, principal repayment, and payment amount interact. The Bank of Japan discusses the lagged and cumulative consequences of repayment rules in the April 2026 report. That evidence supports examining contractual timing; it does not establish that repayment smoothing removes the household's economic exposure. [Bank of Japan, Box 2 and associated notes](#).

A fixed-rate contract has its own behavioral consequences. A household can be protected from a direct increase in its existing payment yet face a much higher cost of moving to a different home. The resulting reduction in transactions can affect agents, builders, renovation, and labor mobility. Protection of one cash-flow margin can therefore coexist with a contraction elsewhere. This is why an assessment confined to the payment on existing debt can understate the breadth of transmission.

For companies, an internal cash-flow effect and an investment valuation effect should also be distinguished. A firm with no debt can face a higher hurdle rate for a new project. A firm with long-term fixed debt can have stable interest expense but weaker customer demand. A firm with floating debt can experience higher costs while benefiting from a stronger market for its products. Net investment cannot be inferred from the debt schedule alone.

Bank funding, credit supply, and market access

A bank's lending price reflects more than its short-term funding rate. Credit losses, operating costs, capital requirements, liquidity, and the expected duration of the relationship matter. A decrease in a reference rate can be offset by a wider borrower spread. The offered quantity can also change through collateral requirements, covenants, loan maturity, and approval decisions. Examining only the average rate on loans that are actually made can miss borrowers who no longer receive an offer.

Loan demand and credit supply must be separated. Falling loan growth can reflect firms postponing investment because sales are weak, lenders tightening standards, or both. Borrowers can repay bank loans after issuing bonds, leaving bank credit lower without reducing total financing. Conversely, firms can draw committed lines during stress, temporarily raising observed lending while banks become less willing to extend new credit. Balance changes require interpretation in light of the transactions behind them.

The same rate shock can affect banks differently according to asset and liability timing. Rapid loan repricing can initially support interest income where deposit costs adjust slowly. Competition or deposit outflows can later raise funding costs. Fixed-rate securities can generate valuation losses, with their relevance depending on accounting, hedging, and whether sales become necessary. Those mechanisms can change the transmission to credit supply as the cycle progresses.

Market financing can provide an alternative for some firms, but access is uneven. A large issuer may refinance in advance of maturity or choose among currencies. A smaller firm may depend on a relationship bank and have fewer hedging options. Even a market-financed borrower can depend on banks for revolving facilities, payment services, or derivatives. A binary classification of an economy as bank based or market based therefore obscures relationships that matter during stress.

For an international company, the consolidated balance sheet adds another complication. Local operating companies may borrow from a treasury subsidiary, while the group hedges centrally. Local interest expense then reflects an internal allocation as well as external financing. A country comparison should identify whether it measures resident borrowers, consolidated groups, or the location of issuance. The geographical label on a bond does not necessarily identify the economy bearing its ultimate cash-flow exposure.

Exchange rates and the distribution of adjustment

An appreciation can reduce the domestic-currency price of imported inputs, subject to invoicing and pass-through, while reducing the domestic value of foreign-currency revenue. A company importing components and exporting final goods can face both effects. Its exposure depends on the currencies and timing of contracts and the ability to change selling prices. A simple designation as exporter or importer is too broad to determine its net response.

Singapore makes this channel central to the policy comparison. The trade-weighted currency matters for a broad set of external prices, while an individual firm's exposure may be concentrated in one currency. A movement in the effective exchange rate does not imply an identical movement against every trading partner. The relevant business test compares the firm's currency basket with its revenues, purchases, debt, and hedges over the same horizon.

The exchange-rate channel also operates in the United States, euro area, and Japan, even though it is not expressed through Singapore's policy framework. Foreign-currency debt can create a balance-sheet effect separate from trade competitiveness. Changes in collateral values and margins can then amplify funding pressures. An estimate of the domestic response that excludes those positions may understate the exposure of particular firms without necessarily understating aggregate debt service by the same amount.

Transmission analysis should finally distinguish financial conditions from the shock that prompted policy. A global risk event can weaken demand and raise financing spreads while a central bank eases. Observed activity may deteriorate despite a policy response that moderates the decline. Establishing the response attributable to policy requires a credible counterfactual and attention to anticipation, information effects, and concurrent

measures. Contract accounting describes the exposure accurately but cannot supply that causal identification on its own.

Matching the observation to the question

A monitoring system should keep new-business prices and outstanding-stock prices in separate series. The first is relevant to a marginal financing choice; the second helps explain aggregate interest expense. A new-business average can also change when the composition of borrowers changes, even if the price offered to a particular borrower does not. Matching contracts by term, collateral, credit quality, and fixation period helps separate that composition effect from repricing.

The payment schedule should then be compared with income over the same interval. Annual income and a monthly payment measured at a single date do not establish how much cash was available during the year. For a firm with seasonal receipts, the timing of debt service can matter even when the annual total is manageable. For a household, a reset immediately before a period of lower income can require a larger liquidity adjustment than an identical reset at another date.

Those distinctions also define the limits of the illustrative calculations. They hold debt constant and omit amortization so that cohort timing remains visible. Extending them to a forecast would require scheduled principal, new borrowing, actual reset dates, index spreads, and borrower-specific income. The resulting projection would still be conditional on a rate path rather than a prediction of the next monetary decision.

Currency funding and the liquidity horizon

Cross-border funding requires a calendar beyond the final maturity of debt. A company can hedge the exchange value of a future payment while depending on a short-dated contract that must be renewed. If the cost or availability of that renewal changes, the firm faces a funding problem even when the underlying commercial exposure is broadly matched. The relevant schedule records hedge renewal, collateral, and payment dates as well as the debt itself.

Banks and firms can also hold liquid assets in a currency different from their immediate obligations. Converting those assets may be straightforward in ordinary conditions but more costly during stress. A consolidated liquidity total can therefore conceal a currency-specific shortfall. This is distinct from insolvency: an entity may have assets exceeding liabilities yet face difficulty meeting the required currency payment on time. The distinction affects which policy or private response can address the problem.

These mechanisms do not imply that every exchange-rate movement generates a funding crisis. They identify the exposures needed to evaluate a particular shock. A scenario should specify the currencies affected, the size of the assumed move, the market or contractual trigger for collateral, and the liquid resources available during the relevant days or months. That information gives a concrete interpretation to broader claims about international monetary spillovers.

Conclusion

The four settings demonstrate why the policy instrument, financial structure, and contract calendar must be considered together. American fixed-rate mortgages distinguish new borrowing from existing payments. Euro-area fixation patterns create heterogeneous household timing. Singapore's exchange-rate framework changes the immediate object of the comparison. Japanese repayment arrangements show that rate exposure and payment exposure can occur on different dates.

The original cohort calculations make the central implication explicit: easing can lower costs relative to an unchanged-rate counterfactual while the average cost of existing debt continues to rise. Policy assessment and corporate planning should therefore follow both new prices and the debt stock's contractual adjustment. Neither announcement size nor average maturity is an adequate substitute for that evidence.

For the euro-area credit relationship, see [A common monetary policy across heterogeneous economies](#). For the distinction between a policy announcement and financial conditions, see [Balance-sheet policy and the interpretation of monetary restraint](#).

Source addresses

The links below retain the source addresses cited in the analysis. References should be read within their stated periods and scope.

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