Kiel Report

June 2026

Shorting America: Europe's financial leverage over the United States

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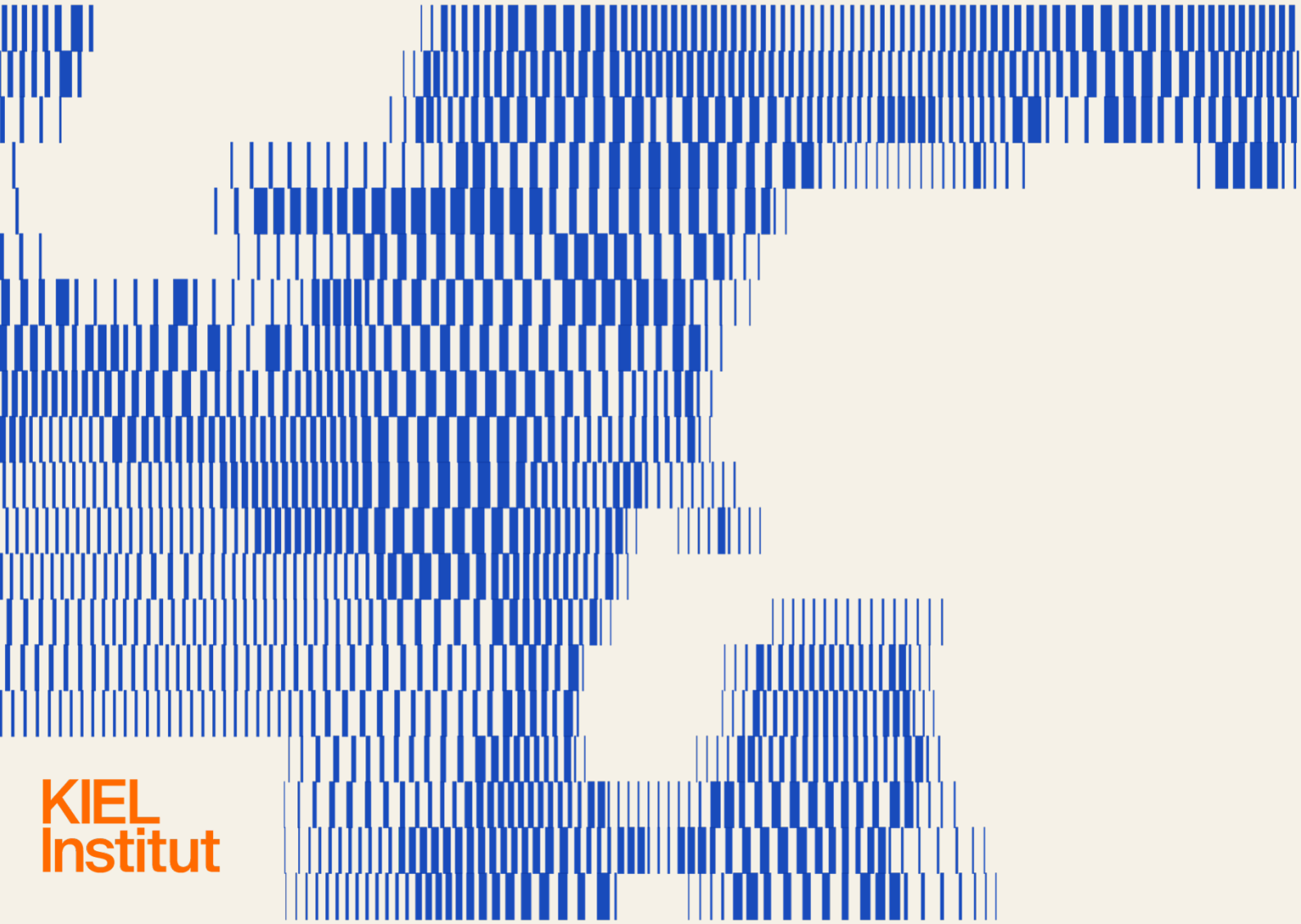
No. 7, ISSN 2944-0785
Kiel Institute for the World Economy



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Overview

- Europe holds financial leverage: It owns $9.6 trillion in U.S. assets, roughly 1.5 times the $6.4 trillion the U.S. holds in European assets; this asymmetry constitutes financial leverage that can be activated through existing regulatory instruments, should the occasion arise.
- Pulling the lever via regulation: Removing the zero risk-weight privilege on U.S. Treasuries under Solvency II and the Capital Requirements Regulation would raise the capital cost of holding U.S. government debt across European insurers, banks, and pension funds. This privilege is increasingly unjustified, given U.S. debt-to-GDP above 120 % and a prior sovereign downgrade.
- The impact is substantial: Conservative estimates imply a $200 billion in Treasury demand withdrawn over a decade, roughly a quarter of QT1 or a third of QE2. Expected yield effect of 11–14 basis points translates into $33–42 billion per year in added U.S. fiscal cost.
- The policy is self-reinforcing: Reallocating insurer capital toward European sovereign and bank bonds improves European banks' funding structures, reducing their dollar dependence and relaxing the very constraint that might otherwise deter participation in Treasury divestment.
- The transition is manageable: Partial hedging of European dollar positions acts as a shock absorber, allowing dollar depreciation and yield increases to materialize gradually rather than disruptively, while replacement flows from yield-seeking investors moderate but do not eliminate the structural shift in demand.

Keywords: Europe, USA, International Finance, Geoeconomics

JEL classification: F21 F51, F59, G15, G18, G21

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The views expressed are those of the authors and do not necessarily reflect those of the Bank of Greece or the Eurosystem. We thank, with no implication, Adrien d'Avernas, Amy Huber, Timothy Meyer, Moritz Schularick, and Christoph Trebesch for useful comments and suggestions. All errors are ours.

1 Introduction

Geopolitical tensions between Europe and the United States are threatening to fracture a long-standing alignment of interests and worldviews that has underpinned the post-war international order. Amid recent bilateral tensions, including trade sanctions and disputes over territorial questions, a natural question arises: can Europe meaningfully and credibly respond? Financial sanctions, beyond trade measures, are often dismissed as a vague possibility, despite evidence that they can amplify the costs of trade sanctions (Bayer, Gilch, and Saidi, 2025). This skepticism is rooted in a single, powerful fact: the dominance of the U.S. dollar.

However, Europe possesses financial leverage over the United States, exercisable through its existing prudential architecture. In particular, we argue that removing the zero risk-weight privilege on U.S. Treasuries under Solvency II and the Capital Requirements Regulation (CRR) would withdraw an important source of demand for U.S. Treasuries, putting meaningful upward pressure on U.S. yields and fiscal financing costs. We develop this claim against a literature that has treated U.S. financial dominance as near-absolute.

The prevailing view is that U.S. dominance in global finance allows the United States to project power and to coerce. The mechanisms are layered. The Treasury market provides the deepest pool of safe assets; U.S. banks intermediate dollar funding through correspondent banking and swap markets; and dollar invoicing of trade generates network externalities in global payments. This "dominant currency paradigm" (Gopinath, Boz, et al., 2020) is self-reinforcing: Dollar invoicing creates strategic complementarities in firm pricing, and the resulting dollar exposures lower equilibrium funding costs, so trade and financial dominance compound (Gopinath and Stein, 2021). The dollar's central role has yielded an exorbitant privilege (Gourinchas and Rey, 2007; Eichengreen, 2012) in the form of persistently higher returns on foreign assets than liabilities. Even if this privilege has eroded recently (Atkeson, Heathcote, and Perri, 2025), it has effectively translated into coercive power, exercised through threats of dollar exclusion (Zarate, 2013) and what Farrell and Newman (2019) dub "weaponized interdependence." Clayton, Maggiori, and Schreger (2024) formalize the mechanism: Hegemons extract surplus through control of essential inputs, with power increasing in the size and inelasticity of reliance and strongly convex in the hegemon's control share, so that a U.S.-led alliance has a multiplicative, not additive, effect on U.S. power.

The power of the hegemon is not incontestable, however. One strand of the literature emphasizes adversary exit: the more the U.S. weaponizes the dollar, the more counterparties attempt to use alternatives (McDowell, 2023; Habib and Mehl, 2022; Bianchi and Sosa-Padilla, 2025). Russia substantially de-dollarized after 2014, reducing the bite of the 2022 sanctions. But adversary diversification is slow: Chahrour and Valchev (2024) estimate that only sustained renminbi-supporting policies, or sanctions maintained over more than a decade, would displace the dollar. A second strand emphasizes the conditioning role of the U.S. security umbrella. Eichengreen, Mehl, and Chițu (2019) show that countries are far more likely to hold reserves in the currency

of a hegemon with which they are militarily allied, and quantify that a U.S. security retrenchment would raise Treasury yields by roughly 80 basis points. U.S. financial dominance, in short, is contingent on the security architecture it has fostered.

These channels are both slow (gradual reserve diversification) and passive (operating through adversary exit or U.S.-side choices about the security umbrella). Neither captures the possibility that U.S. allies, through their existing holdings of U.S. assets, possess active and contemporaneous leverage. This leverage is institutional: European prudential frameworks shape the substantial Treasury holdings of European banks and insurers, and the same authorities that designed those frameworks can recalibrate them.

This report investigates that possibility, assessing the macroeconomic and financial consequences of a regulatory change affecting the incentives to hold U.S. dollar safe assets, widely considered the world's most popular safe-haven asset class, in a dynamic environment where this may not remain a perennial truth.[1] We start from the premise that financial leverage arises from asymmetric dependencies (Sigl-Glöckner et al., 2026): the capacity to impose costs without proportionate harm to oneself. On this dimension, Europe's position is stronger than commonly appreciated. Europe holds at least $9.6 trillion in U.S. assets, 1.5 times the $6.4 trillion that the U.S. holds in Europe.[2] We argue that this asymmetry, properly harnessed through the existing regulatory architecture, has material implications for U.S. Treasury yields.

Although European equity holdings of $6.6 trillion may amplify financial stress, they are not a reliable policy instrument–the market controls the trigger, not European policymakers.[3] Debt, by contrast, is susceptible to deliberate regulatory intervention. A large fraction of U.S. Treasuries are held by European private and official investors alike. While coordinated divestment by European governments and central banks would transmit directly to U.S. fiscal costs, we focus on (complementary) European levers to change the incentives of major financial institutions to hold U.S. Treasuries in the first place.

In this report, we analyze the consequences of removing the privileged capital treatment currently accorded to U.S. Treasuries under both Solvency II and the CRR. Under current rules, U.S. government debt receives a zero spread-risk charge for European insurers and a zero risk weight for European banks–a regulatory subsidy with no remaining macroprudential justification given the U.S. fiscal trajectory, with debt-to-GDP now exceeding 120 % and expected to deteriorate, and a sovereign rating that has already been downgraded. Removing this subsidy would increase the capital cost of holding U.S. Treasuries, generating incentives to divest across the European financial system.

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[1] We emphasize that we lay out a last-resort scenario, intended to inform discussions of European strategic autonomy. The analysis is meant to point out that, if needed, Europe has meaningful financial leverage available to it. The transatlantic relationship has been the bedrock of the unprecedented growth in standards of living and liberal democracy in the post-war era. The authors, both privileged to have studied at U.S. universities, view the current tensions with deep concern.

[2] Europe here comprises the EMU, Denmark, Sweden, the UK, and Norway. This choice is driven exclusively by data availability.

[3] Targeted equity-side actions can be implemented through a variety of tools, such as the EU Anti-Coercion Instrument to impose sanctions on governments that ``pressure the European Union or an EU Member State into making a particular choice.'' The Digital Services Act (DSA) and the Digital Markets Act (DMA) can be used to impose fines on specific firms, particularly those with close ties to the current administration. The DSA and DMA in particular are worthwhile endeavors for a host of additional reasons, but not the focus of this report.

We estimate that European insurers alone would divest approximately $48 billion in U.S. Treasuries over a decade. European banks, responding to a 20 % risk weight on previously zero-weighted assets, could shed up to $130 billion. European pension funds, even at a selling rate one-third that of insurers, would add a further $24 billion. The aggregate Treasury demand shock—on the order of $200 billion—suggests non-trivial effects on U.S. yields and fiscal financing costs, which we estimate to range between $33-42 billion per year in additional fiscal cost (between one-fifth and one-quarter of the current budget of the U.S. Department of the Army).

A recent episode is telling. After a single Danish pension fund decided to sell roughly $100 million in Treasuries in response to U.S. threats against Greenland, U.S. Treasury Secretary Bessent felt compelled to address the decision publicly at the World Economic Forum in Davos.[4] If a token sale by one mid-sized institutional investor draws a response at that level, a coordinated, regulation-driven shift across European insurers, banks, and pension funds would carry weight far beyond its first-year flow.

Critically, the feasibility of this strategy is self-reinforcing. Removing the zero risk-weight privilege simultaneously renders European sovereign bonds and highly-rated European bank bonds more attractive on a risk-adjusted basis. If insurer capital is reallocated toward European banks' long-term debt, their structural dependence on U.S. dollar funding diminishes—relaxing the constraint that may deter European banks from participating in Treasury sales. The regulatory change we consider would operate on two margins simultaneously: increasing the cost of holding U.S. assets while reducing the cost of unwinding them.

We outline the main channels through which this policy transmits to asset markets. Falling demand for U.S. Treasuries puts upward pressure on their yields, while the repatriation of capital away from dollar assets exerts depreciation pressure on the exchange rate. Importantly, a significant fraction of European dollar holdings is hedged against currency risk. This hedging acts as a natural shock absorber: As institutions sell their Treasury positions, the simultaneous unwinding of dollar hedges generates partially offsetting flows, allowing both the dollar depreciation and the yield increase to materialize gradually rather than abruptly. This adjustment is further cushioned by two forces: rising U.S. yields attract yield-seeking foreign investors, and the compression of hedging costs from reduced swap demand lowers the barrier to entry for new buyers. These replacement flows moderate the transition but do not eliminate the underlying shift in demand. In the new equilibrium, the removal of a persistent, structurally reliable source of foreign demand for U.S. debt implies, all else equal, a durably depreciated dollar and a higher level of U.S. interest rates, with direct consequences for U.S. fiscal costs.

Our thesis adds to a growing collection of ideas outlining the way Europe can break forward. Eichengreen, Mehl, and Vansteenkiste (2026) argue that recent U.S. policy has started to erode the four principles of reserve currency status (size, stability, liquidity, and security), and outline several pathways through which the euro can expand its international role. These lean on expanding the international appeal of the euro across

[4] CNBC, January 21, 2026.

all dominant currency uses: grow euro invoicing through trade agreements, strengthen cross-border payment infrastructure, increase the supply of euro-denominated safe assets, complete the Capital Markets Union (Savings and Investment Union) to generate the depth and liquidity that global investors require, and develop uniform European security in earnest. Andreopoulos and Tordoir (2026) focus on increasing the euro's reach by extending European Central Bank (ECB) credit lines to a larger set of countries. The benefit of this approach is that this policy is easy to implement as it lies within ECB remit. The ECB has already expanded the use of repo lines to EU accession countries and European microstates, and the authors argue for further access and use of swap lines.

Our report complements these approaches but differs in both instrument and objective: Rather than building the euro's international role from within, we identify how existing European regulatory architecture could be used–without requiring new institutions, treaty changes, or long-run structural reforms.

2 The architecture of transatlantic financial holdings

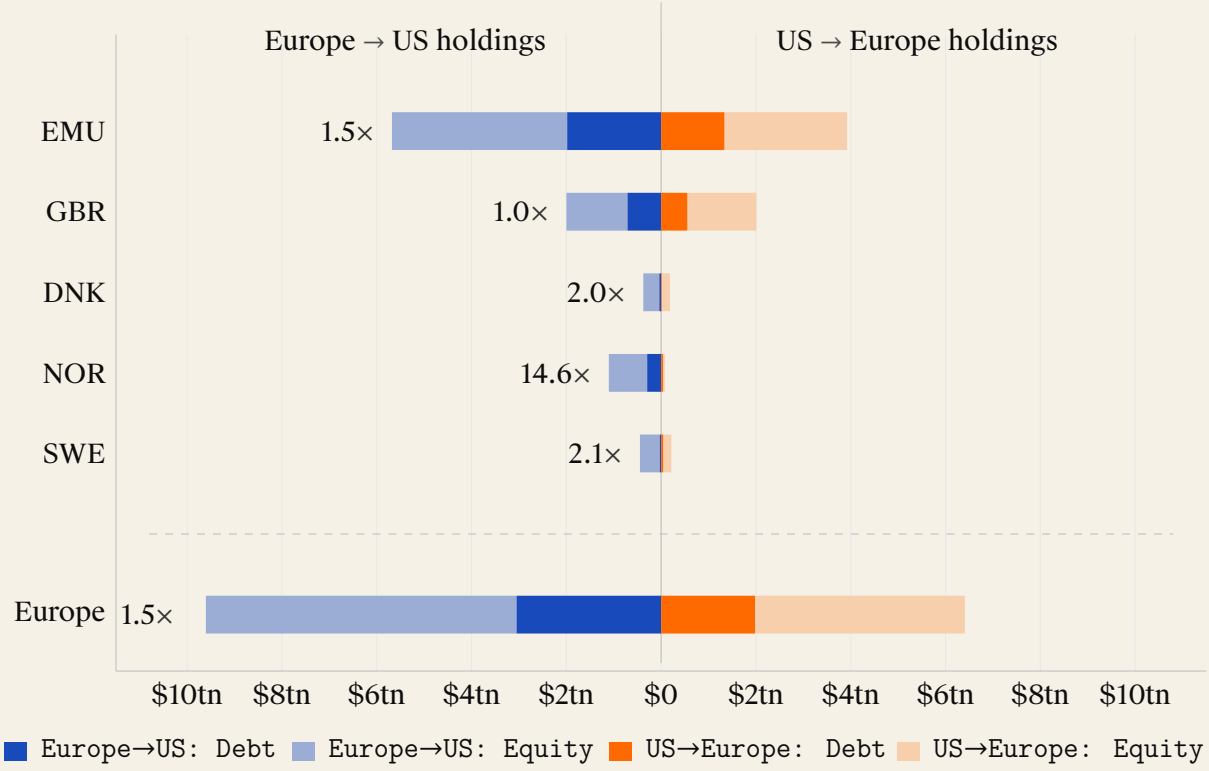
Our main data source is the IMF Portfolio Investment Positions by Counterpart Economy dataset (PIP, formerly Coordinated Portfolio Investment Survey, or CPIS), a semi-annual harmonized cross-country data gathering exercise on cross-border asset holdings. While authoritative, this dataset has some drawbacks, since national authorities fill it on a voluntary basis, and with some lag. We augment the raw data as follows. First, for the United States as investor, we use annual data from the U.S. Treasury International Capital (TIC) System, following the literature, as TIC is generally the preferred source for U.S. foreign portfolio holdings. Second, we leverage the fact that TIC includes monthly updates, also for U.S. holdings by foreigners, allowing us to estimate holdings as of December 2025 (PIP data end in 2024).

Third, we restate official residency-based portfolio positions from PIP using two related methodologies, to account for assets held in tax havens and the role of onshore-offshore financial centers in the EMU. For non-EMU investors, we use the issuer-nationality restatement of Coppola et al. (2021). For EMU investors, we use the restatement approach of Beck et al. (2026), which combines issuer-nationality reassignment with a look-through of Irish and Luxembourg fund holdings.[5]

Figure 1 summarizes transatlantic aggregate holdings. The underlying data on bilateral holdings are shown in the Data Appendix (Tables A.1 and A.2). Table A.1 reports

[5] The downward restatement is non-trivial for the EMU, whose holdings fall by about a third. It reflects the unique nature of mutual funds registered in Ireland and Luxembourg. While the earlier literature had assumed that these primarily intermediated intra-EMU flows (e.g., a German investor would buy shares in an Irish mutual fund holding U.S. assets), Beck et al. (2026) show that non-EMU investors account for an important chunk of the underlying holdings. This implies that official data overstate EMU holdings of U.S. assets. It also means that some of these removed positions belong to non-EMU European investors, especially the UK, but, as Beck et al. (2026) stress, immediate UK holdings mix genuine UK ownership with custodial intermediation on behalf of non-UK residents. As such, we treat non-EMU European holdings as likely understated, but cannot be certain of the true extent of underreporting. See the Data Appendix for a detailed discussion of our data construction.

Figure 1: Transatlantic Financial Holdings Asymmetry



As of December 2025.
Sources: IMF Portfolio Investment Positions by Counterpart Economy (PIP) and U.S. Treasury International Capital (TIC) System. Holdings restated from residence to nationality following Coppola et al. (2021) and Beck et al. (2026). Europe comprises EMU, GBR, DNK, NOR, SWE. Ratios indicate Europe→US total divided by US→Europe total.

European holdings of U.S. securities. We focus on the EMU as a whole (also following Coppola et al. (2021)), together with the UK, Denmark, Sweden, and Norway. The other non-euro EU countries have less accurate data, but account for a negligible share of total EU holdings. On aggregate, European countries hold $3.1 trillion of U.S. debt and $6.6 trillion of U.S. equities. The EMU as a whole accounts for two-thirds of overall debt and a little over half of overall European equity positions, but even the smaller jurisdictions hold sizable positions. Interestingly, Denmark and Sweden hold much larger relative equity positions than the EMU or the UK.

We also show data broken down by sector, isolating non-financial corporations (NFCs), the insurance and pensions sectors, the general government, and households. PIP sectoral data are incomplete and the totals reported understate actual holdings. The reason is that PIP data follow the direct holder approach; when a German pension fund buys shares in a U.S. equity mutual fund domiciled in Ireland, PIP should report this as a German asset held in Ireland. In turn, Irish investment fund holdings of U.S. assets should rise by the same amount. Indeed, the vast majority of the deviation in EMU holdings between the sectoral and total holdings is attributable to investment fund holdings in Ireland and Luxembourg. Beck et al. (2026) use security-level holdings data to improve upon PIP, and we follow their methodology, which substantially increases holdings by all sectors. A sizable chunk of total holdings are still attributed to investment funds, and not their ultimate owners, and so the figures reported for

households, NFCs, and insurers/pension funds are highly understated.

Table A.2 considers U.S. holdings of European securities. Overall, U.S. investors hold approximately $2.0 trillion in European debt and $4.4 trillion in European equities, roughly two-thirds the corresponding European positions. This underscores the asymmetry as Europe is a large net creditor to the U.S. across both asset classes. The EMU and the UK account for the vast majority of U.S. investments, with Denmark and Sweden accounting for the rest; the U.S. exposure to Norway is minimal, in sharp contrast to Norwegian holdings of U.S. assets (over 14 times larger), consistent with the prominent position of Norway's Government Pension Fund Global. Sectoral decompositions of U.S. holdings are not available in the TIC data; PIP includes holdings only for NFCs as well as Insurers and Pension Funds, which we include for completeness.

3 Removing the zero risk-weight privilege for U.S. treasuries

Current treatment. Under both Solvency II and CRR (banking regulation), sovereign bonds issued by OECD countries receive exceptionally favorable capital treatment:

- Insurance (Solvency II): The standard formula assigns a zero spread-risk charge to bonds issued by EEA sovereigns and non-EEA OECD sovereigns, including the United States. European insurers can hold U.S. Treasuries without setting aside any capital against spread risk, regardless of rating or duration.[6]
- Banking (CRR): Under the standardized approach, exposures to non-EEA OECD central governments denominated in the domestic currency of that government receive a zero risk weight. U.S. Treasuries denominated in USD therefore attract a 0 % risk weight on European banks' banking books.

The rationale is the historical assumption that OECD sovereigns are "risk-free." In practice, it creates a regulatory subsidy for European institutional holdings of U.S. government debt.

Alternative treatment. Remove the zero risk-weight privilege for non-EEA sovereigns and apply standard credit-risk treatment based on external ratings and duration. As a benchmark, we treat U.S. Treasuries (rated AA+ by S&P and Fitch, Aa1 by Moody's) as equivalent to A-rated sovereign bonds for capital purposes. This applies a rating several notches below the actual U.S. sovereign rating.[7]

[6] Insurance regulation applies for the EEA under Solvency II, not just the EU.

[7] Using the A-rated benchmark also accounts for the possibility of further U.S. rating downgrades, which major agencies have flagged as a risk given the U.S. fiscal trajectory (debt-to-GDP now exceeding 120%), frequent debt-ceiling-related shutdowns of the federal government, and proposals for mandatory conversion of foreign U.S. debt holdings to very long-term bonds.

Insurance (Solvency II): spread-risk charge. Under the Solvency II standard formula, the spread-risk capital charge for a bond depends on its credit quality step and modified duration. For an A-rated bond (credit quality step 2), the stress factor is 1.4 % per year of modified duration for the first 5 years, declining to 0.7 % per additional year beyond that. We assume a total modified duration of 7 years for European insurers' U.S. Treasury holdings,[8] consistent with the average maturity of outstanding marketable U.S. Treasury debt and the preference of institutional investors for longer-dated government bonds. This yields a spread-risk stress factor of $5 \times 1.4\,\% + (7 - 5) \times 0.7\,\% = 8.4\,\%$.

Banking (CRR): risk weight. We consider a risk weight range of 20 % as the relevant benchmark for non-EEA OECD sovereigns, which is the risk weight assigned to sovereign bonds with a rating of A+ to A- (CRE20 Standardised approach: individual exposures, Basel Committee on Banking Supervision).

4 Quantifying the selling response

4.1 Insurance companies

Key assumption. No empirical study estimates the selling elasticity of *European* insurers with respect to Solvency II capital charges, because the zero risk weight for OECD sovereigns has never been changed under Solvency II–there is no natural experiment to exploit. We therefore rely on estimates from the U.S. insurance literature, under the assumption that European insurers respond to capital charge increases in a comparable manner to their U.S. counterparts. This assumption comes with caveats: Solvency II is more market-consistent than the U.S. NAIC framework (which should make European insurers *more* responsive to capital charges), but Solvency II also includes long-term guarantee measures (matching adjustment, volatility adjustment) that dampen mark-to-market volatility for buy-and-hold investors (which could make them *less* responsive).

We furthermore abstract from other institutional investors, such as pension funds, that may also tilt their asset portfolios in response to regulatory constraints. This renders our estimates for the side of institutional investors in total, among which insurance companies are an important but not the only group of fixed income investors, as rather conservative.

Elasticity estimate. Becker, Opp, and Saidi (2022) estimate insurers' asset-side response to variations in capital requirements, in particular the 2009 NAIC reform that eliminated capital requirements for non-agency mortgage-backed securities. Their baseline (Table 6, column 3) estimates that for every one percentage point increase in the

[8] See Delegated Regulation (EU) 2015/35, Article 176, for the precise calibration of spread-risk stress factors by credit quality step and duration bucket.

risk-based capital (RBC) charge, the annual probability of an insurer selling *any fraction* of its holdings increases by 0.701 percentage points. We convert this into an expected annual selling volume as follows:

1. **Annual selling probability per 1pp capital charge increase**: $0.701 \times 0.01 = 0.00701$ in probability terms.
2. **Fraction sold conditional on a selling event**: We assume 50 %. This is conservative: Becker, Opp, and Saidi (2022) document that conditional on selling, insurers frequently liquidate large fractions of their positions, and almost always well above 50 %.
3. **Annual fraction of holdings sold per 1pp capital charge increase**: $0.00701 \times 0.5 = 0.35\,\%$.

A natural concern with the above calculation is that it assumes a constant marginal elasticity. If the selling response were highly nonlinear, extrapolating from the marginal estimate (0.701) could be misleading. To address this concern, we can use the multiple threshold regression discontinuity (RD) estimates in Becker, Opp, and Saidi (2022). One caveat is that they are based only on non-agency mortgage-backed securities and not on other types of bonds.

An 8.4 percentage point increase in capital charges corresponds at most to moving from NAIC-1 to NAIC-4 for life insurers, or from NAIC-1 to NAIC-5 for property and casualty insurers, which approximates our increase in capital charges of 8.4 percentage points. Summing the threshold-specific coefficients across these transitions yields a cumulative selling probability increase of approximately 0.05-0.06 (controlling for any time-varying differences across credit rating categories) up to 0.09-0.11 for both insurer types. As these estimates are upper bounds, they can be considered close to the linear extrapolation of the marginal estimate: $0.701 \times 0.084 = 0.059$. The agreement between the two approaches suggests that the selling response is approximately linear across the relevant range of capital charges, and that our extrapolation is not an artifact of local curvature at a single threshold.

Application to European insurer holdings. A conservative estimate is that insurers and pension funds in the EEA hold about $250 billion of U.S. Treasury and Agency debt, with another $150 billion for the UK. For insurers on their own, these numbers are around $100 billion and $65 billion, respectively.[9]

Applying the Solvency II spread-risk charge increase of 8.4 percentage points:

- Annual selling rate: $8.4 \times 0.35\,\% = 2.9\,\%$ of holdings per year.
- Cumulative selling over ten years: $10 \times 2.9\,\% = 29\,\%$ of holdings.[10]

[9] See the Data Appendix for a detailed explanation of the sources of these data.

[10] This assumes annual selling probabilities are independent across years, which is a simplification. In practice, insurers that sell early reduce their exposure and incentive to sell subsequently; conversely, insurers that do not sell immediately face a persistent capital charge, increasing cumulative pressure. We treat these effects as roughly offsetting.

- Applied to identified insurer holdings: ($100bn×29 %) = $29 billion over ten years, and another $19 billion for the UK.

Substitution toward European bank bonds. The forced reallocation away from U.S. Treasuries creates a natural question: Where does the capital go? We argue that European bank bonds are a likely–and strategically desirable–destination.

European insurance companies are already significant holders of bank bonds. EIOPA data show that the total bond portfolio of EEA insurers is approximately €3.5 trillion, of which roughly one-third is in EEA-issued corporate bonds (€1.26 trillion). Financial institutions–predominantly banks–are the largest issuers in the European corporate bond market, accounting for approximately 40–50 % of outstanding investment-grade EUR-denominated corporate bonds. This implies European insurers currently hold on the order of €500-600 billion in European bank bonds.

Under such a change, any difference in the capital treatment of U.S. Treasuries and EUR-denominated European bank bonds vanishes. European bank bonds gain a further advantage because they carry *no currency risk charge*: For EUR-based insurers holding EUR-denominated bonds, the Solvency II currency risk sub-module (25 % charge on unhedged FX exposure) does not apply. U.S. Treasuries, by contrast, would attract either the full FX mismatch charge (if held unhedged) or hedging costs (if hedged).

If all of the ($29bn + $19bn =) $48 billion in redirected insurer capital flows into European bank bonds, the effects on bank funding are non-negligible. Total outstanding long-term debt (bonds with maturity >1 year) issued by euro area banks is approximately €3 trillion. An additional $48 billion in demand from insurers would represent a 1.6 % increase in the investor base for European bank long-term debt. To the extent that our numbers are well-calibrated for the insurance sector, while we conservatively set the capital reallocation by other institutional investors equal to zero, there exists the real possibility that our considered regulatory change could help compress spreads and reduce banks' cost of term funding.

Such a change could also be viewed in light of recent proposals by U.S. regulators to substantially ease bank capital rules.[11] A European measure that reduces reliance on U.S. assets and also supports demand for European bank bonds, all the while adhering to the prudential framework, is well within the bounds of ordinary economic policy. To the extent it shifts portfolio demand toward EU-issued instruments, it also helps level the playing field by modestly improving EU banks' funding mix and lowering their marginal cost of capital relative to their U.S. counterparts.

4.2 Amplification through banks

A key premise underlying European reluctance to contemplate financial sanctions against the U.S. is that European banks depend heavily on U.S. dollar funding, which in turn constrains their ability to divest from Treasuries. Should insurers and other

[11] Reuters, March 19, 2026.

institutional investors—as laid out above—step in to provide stable long-term funding by absorbing European bank bond issuance, this dependence could be reduced, relaxing a potentially binding constraint on European banks' capacity to sell U.S. Treasuries.

Against this background, we next consider European banks' reaction to removing the zero risk-weight privilege for U.S. Treasuries. There exists evidence that banks react similarly to changes in capital requirements as insurance companies do. For instance, Gropp et al. (2019) consider the 2011 European Banking Authority (EBA) capital exercise, which unexpectedly required a subset of European banks to increase their Core Tier 1 ratio from approximately 5 % to 9 %—a four percentage point increase. They find that treated banks responded by reducing risk-weighted assets by approximately 16 percentage points relative to control banks, primarily through asset-side reductions, including securities, rather than equity issuance.

We leverage this insight, namely that banks react primarily by cutting their risk-weighted assets. Therefore, a 20 % risk weight on Treasuries would increase risk-weighted assets by 0.20 multiplied by the amount invested in Treasuries. If banks can costlessly substitute into zero-risk-weight sovereign bonds, such as Bunds,[12] they can fully offset this increase by divesting all Treasury holdings. This provides a natural upper bound of a 100 % reduction in Treasuries. Actual adjustments are likely smaller due to portfolio frictions. In particular, this scenario assumes that banks do not necessarily minimize balance sheet contraction by cutting high risk-weight assets first, but are willing to reshuffle their asset portfolios in an attempt to hold the total capital charge constant.

Euro area banks hold at least $350 billion in U.S. Treasuries and agency securities on their banking books.[13] The UK's position as a financial center makes such a calculation more complicated, but $300 billion represents a very conservative lower bound.[14]

Imposing a 20 % risk weight (vs. current 0 %) could therefore lead EU banks to divest up to (20 % × $350bn =) $70 billion of Treasuries, with another $60 billion for UK banks.

Impact on U.S. borrowing costs. Assessing the yield impact for U.S. Treasuries and, thus, U.S. fiscal cost is difficult, but comparisons with other asset market interventions in the U.S. may provide some guidance. For instance, Eren, Schrimpf, and F. D. Xia (2026) estimate that Quantitative Tightening 1 (QT1, 2017–2019) led to an effective increase in the government bond supply facing private investors, raising long-term yields by 43 basis points. The total sum of European insurance companies' and banks' divestments, ($48bn + $70bn + $60bn =) $178 billion, is close to one-quarter of the roughly $700

[12] This can be justified, as FX-hedged Treasury-Bund spreads have frequently been negative for euro investors.

[13] BIS Locational Banking Statistics report total USD-denominated assets of approximately $7 trillion for EU and UK banks. These data do not provide a breakdown by sector. The most recent ECB Financial Stability Report estimates €300 billion only for SSM-supervised banks headquartered in the euro area, hence excluding subsidiaries of non-euro area banks and less significant euro area institutions, which makes this figure a lower bound.

[14] The Bank of England reports that UK-owned MFIs held $38 billion of public sector U.S. debt in 2025Q4. This figure excludes subsidiaries of foreign banks in the UK, but includes foreign subsidiaries of UK banks. Since we are interested in holdings within regulatory reach, we would like to include the former and remove the latter. Barclays U.S. reports $16 billion in Treasury holdings and HSBC $20 billion (and another $30 billion in agency debt, which is however most likely not included as public sector U.S. debt in the report). Regarding EU subsidiaries of UK banks, these are in fact not included in the ECB estimates, so including them would be desirable. The only concern then would be U.S. Treasury holdings by UK-bank subsidiaries in Asia, which is why we use a conservative estimate.

billion reduction in the Federal Reserve's balance sheet under QT1 (or one-third of QE2 during which only long-term Treasuries were purchased), implying a yield impact of approximately 11 basis points under linear scaling.

Jansen, Li, and Schmid (2025) provide another useful benchmark for quantifying the yield impact of European divestment. In particular, they estimate a granular demand system for the U.S. Treasury market with risk-averse arbitrageurs. Their permanent-demand multipliers are the relevant object here, since a regulatory repeal of the zero risk weight constitutes a persistent shift in European institutional demand rather than a transient flow. For a $100 billion permanent demand reduction concentrated at the long end, which roughly matches our estimated demand reduction, their model implies a yield impact of roughly 14 basis points at the 10-year maturity—close to the extrapolation based on Eren, Schrimpf, and F. D. Xia (2026).[15]

Applied to approximately $30 trillion in outstanding marketable U.S. debt (as of March 2026), these estimates translate to a range of $33-42 billion per year in additional fiscal cost, which for comparison is between one-fifth and one-quarter of the current budget of the U.S. Department of the Army. This should be viewed as a lower bound, though. Unlike QT1, which was gradual and pre-announced, the regulatory regime change we consider would represent a persistent shift in demand, and forward-looking markets would price the expected path of European divestment rather than the initial flow alone. As the Greenland episode discussed in the introduction illustrates, even modest signals of European divestment are already politically salient, and a coordinated EU-wide regulatory change would carry considerably greater weight. Moreover, these direct fiscal costs do not account for the broader macroeconomic effects of higher long-term rates on U.S. corporate borrowing costs and investment.

4.3 Other private investors

Up to now, we have largely ignored holdings of pension funds, and have focused on a (conservative) benchmark for insurers and banks. We have done so because, to our knowledge, no estimates comparable to those in Becker, Opp, and Saidi (2022) exist for pension funds' response to regulatory changes. In reality, European pension funds hold even larger amounts of U.S. government debt than insurers; we estimate that EEA pension funds hold $150 billion and close to $85 billion for UK pension funds. In many respects, insurers and pension funds have very similar balance sheet profiles. Their liabilities are long-term and so they seek long-duration assets to match them; however, they are typically less bound by asset-specific capital charges, so the same shock may not produce similarly strong asset portfolio rebalancing. But as their asset holdings are large, even a selling rate of 1 % of their holdings per year, or 10 % over ten years (almost one-third of the selling rate of insurers), would lead to sizable effects over a decade: $15 billion for the EEA and $8.5 billion for the UK.

[15] Linearly scaled to our $178 billion aggregate, the Jansen, Li, and Schmid (2025) multiplier would imply a terminal yield impact closer to 25 basis points.

4.4 Foreign exchange and hedging channels

A wind-down of such large positions is bound to have substantial effects in asset markets, including the foreign exchange (FX) market. The direct effect of USD asset sales exerts dollar-negative spot pressure, but there are other forces, which we consider in this section.

Notably, several classes of investors tend to hedge all or large parts of their foreign currency portfolios. While the FX hedging market is large, with daily turnover in FX derivatives reaching $9.6 trillion in 2025 (BIS Triennial Central Bank Survey of Foreign Exchange), with the USD on one side of the trade accounting for almost 90 % of transactions, there is much less evidence on the share of assets hedged and how this activity varies by country and sector. In a recent paper, Du and Huber (2024) have tried to fill that gap; we draw heavily on their work and update it to the best extent possible.

Table 1: Foreign Holdings of U.S. Dollar Securities and Their Hedge Ratios

Currency Area	Sector	Asset Class	USD Hedge Ratio
Denmark	Insurers and pension funds	Total	72 %
		Bonds	~ 100 %
		Equity	66 %
	Mutual funds	Bonds	~ 100 %
		Equity	~ 0 %
Euro Area	All active investors	Total	33 %
Netherlands	Pension funds	Total	39 %
United Kingdom	All active investors	Total	25 %
Norway	All active investors	Total	~ 24 %
Sweden	Insurers and pension funds	Bonds	~ 100 %
		Equity	~ 25 %
Canada	All active investors	Total	10 %
Switzerland	All active investors	Total	30 %

Sources: Du and Huber (2024), augmented by the authors' own calculations. Details are provided in the data appendix. The sectors shown represent potential active hedgers and include insurers, pension funds, and mutual funds. The official sector is assumed not to hedge, while banks are assumed to be fully hedged. For Denmark, mutual funds are additionally included.

The data are shown in Table 1, for three sectors considered as active hedgers: insurers, pension funds, and mutual funds. The official sector is assumed to not hedge at all, and banks are assumed to hedge fully. There is substantial heterogeneity in hedging behavior. On the one hand, Norway has low hedging, but in fact the headline number masks the fact that by far the largest asset holder in Norway, the sovereign wealth fund, reportedly does not employ hedging strategies at all (Du and Huber, 2024), but is not included here (as it is part of the official sector). On the other extreme, Danish pension funds and insurers hedge 72 % of their exposures. Within that total, it appears that they hedge almost all of their bond holdings and a sizable portion of their equity holdings.[16] Substantial differences arise even within countries and sectors. The case

[16] A bond-equity split is not directly available, but from Danish investment funds (for which hedging by asset class is available) we can infer that hedging is almost 100% of bond exposure but almost

of the Netherlands, where the two largest pension funds hold more assets than the next 15 combined (Du and Huber, 2024), is instructive: one of them hedges 26 % of its USD exposure, the other 65 %.

Most countries and sectors occupy an intermediate zone, but the main principle does seem to be that investors tend to hedge a large fraction of their bond holdings, with little to no hedging of equity. This is because dollar volatility is small relative to equity volatility, and hedging costs make equity hedging less attractive, whereas the opposite holds for debt securities. But hedging does seem to be far from complete in general, even for bonds. One reason is the cost of hedging, which has risen substantially since the Global Financial Crisis, primarily as a result of reduced balance sheet capacity of large global banks, the main suppliers of currency hedging (Du and Schreger, 2022). In particular, the short-term dollar interest rate has been consistently lower than the synthetic dollar interest rate for euro holders, resulting in a violation of the Covered Interest Parity and a so-called negative cross-currency basis.[17]

While exact measurements are difficult due to sparse data, Table 1 shows that at least one-third of total exposures are hedged, with much larger fractions for bonds. We estimate a lower bound of at least $1.5 trillion in hedged positions by European investors, which creates structural EUR/USD swap demand.[18] The hedging data for U.S. investors is scant, but generally it appears that they hedge substantially less (Du and Huber, 2024).[19]

Hedging and the exchange rate. Ex-ante hedging of assets is in principle currency-neutral. When an EUR investor wants to purchase a USD-denominated bond, she typically enters an EUR/USD swap; she pays EUR and receives USD in the spot market. She simultaneously enters a EUR-long/USD-short forward position; at the end of the contract, she will receive USD cash from the maturing bond, pay USD spot to cancel the forward liability, and receive EUR spot at the agreed exchange rate. The simultaneous matched nature of the swap means that these transactions do not affect the spot or the forward exchange rates.[20]

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none of their equity exposure. Assuming then that insurers and pension funds also hedge 100% of bond exposures, and given that equity exposure is about 4.5 times bond exposure, this suggests that pension funds and insurers hedge around two-thirds of their equity exposures.

[17] A synthetic dollar involves borrowing in euros, converting the cash in dollars in the spot market, and investing the proceeds in an interest-yielding dollar asset. No-arbitrage rules dictate that normal and synthetic dollar rates should be identical, but in practice they are not, meaning that it is relatively more expensive for euro holders to hedge dollars.

[18] Given a little over $3 trillion bond holdings and assuming 50% hedge ratio or more.

[19] Sialm and Zhu (2022) find that only 18% of U.S. foreign mutual fund holdings are hedged. Chen and Zhou (2025) find that such investors in fact often use derivatives to increase their emerging markets exposure (i.e., negative hedging).

[20] The same mechanics apply if the buyer enters only the forward position and does the spot conversion on her own. The intermediary will need to procure the EUR to create the EUR forward. It will do so by borrowing USD in the money market, exchanging it for EUR in the spot market. The assumption here is that we start from a steady state with no currency risk.

4.5 Asset market implications

A coordinated wind-down of European USD asset positions by European investors creates at least four distinct asset market effects: (i) it raises yields on U.S. debt; (ii) the higher bond supply is dollar-positive; (iii) it leads to hedge unwinding, which is also dollar-positive; and (iv) as long as liquidated cash is converted to EUR, the repatriation effect is dollar-negative. The debt market effect (i) is clear; in the currency markets, we believe the negative effect (iv) to dominate the first two effects (ii) and (iii).

Mechanism. When European investors start selling their USD assets, there is immediate downward pressure on the USD, but it is softened by the fact that USD-denominated bonds held by banks and non-bank financial intermediaries are at least partially hedged. Why? Raising capital charges induces selling. But if the position was hedged, the investor simultaneously unwinds the hedge and closes the short USD forward. The dealer on the other side had been hedging that forward by selling USD spot. Upon unwinding, that sale stops. The hedge unwind is thus USD-positive, offsetting the USD-negative selling pressure.[21]

However, the empirically more relevant case of selling a partially unhedged position is USD-negative. Assuming the investor repatriates the USD cash by converting to EUR in the spot market, there will be an immediate excess supply of USD in the spot market, leading to a dollar depreciation. The sale of the unhedged portion will not be fully counteracted by the mechanism just outlined.[22]

The logic is similar regarding effects on Treasury yields: higher bond supply means that banks and other specialized investors need to warehouse more duration and demand a risk premium, which in turn pushes yields up (Greenwood et al., 2023). At the same time, the dealers unwinding their hedging positions means less pressure in the hedging market and, thus, a tighter basis, as well as a higher yield net of hedging costs.[23] Both of these effects raise demand from other foreign investors.[24]

Existing hedging rules should be maintained while positions are being wound down, allowing insurers to let hedge ratios decline gradually as existing swaps roll off rather than unwinding them abruptly. Hedging, therefore, acts as a shock absorber: it cushions

[21] This follows from the above mechanism: after selling the USD asset, the investor repatriates the proceeds by selling USD spot for EUR (USD-negative). Her hedge (short USD forward) is canceled at net value; the dealer, who had hedged that forward by holding a short USD spot position, buys back USD spot (USD-positive). There is no net increase in demand for either currency, so no effect in FX spot or forward. This is the case even if this occurs before forward contract maturity; the forward positions simply reverse.

[22] Shin, Wooldridge, and D. Xia (2025) detail the case where ex-post hedging of existing positions is USD-negative. They argue that higher hedging demand due to tariffs starting in April 2025 were a primary cause for the dollar slide. Liao and Zhang (2024) present a model of the FX market whereby higher volatility induces more hedging, a larger appreciation of the forward than the spot relative to interest rate differentials and, hence, a more negative basis.

[23] The tighter basis is the result mainly of lower demand for hedging, removing strain from dealer balance sheets, but also because it implies lower demand for dollar funding in money markets. This results in lower short-term rates and, thus, a steeper yield curve and lower short rate differentials, making hedging cheaper.

[24] Khetan (2025) documents that global non-U.S. banks themselves borrow in the synthetic dollar market whenever wholesale funding is not available, almost exclusively in very short tenors. This reflects their own hedging needs, in addition to their lending activity. Indeed, daily synthetic borrowing by global banks is an order of magnitude higher than the borrowing by non-banks, even though there is lending to non-banks in longer tenors.

the impact of coordinated divestment on both the dollar and–to a lesser extent–on Treasury yields.

Naturally, the forward-looking nature of currency markets implies that markets internalize the lower future demand for dollar assets, and hence the spot-exchange rate will adjust downwards on announcement. But we do not expect the exchange rate to move to its new steady state immediately.

The quantitative easing (QE) literature is instructive in this regard: Dedola et al. (2021) find that the ECB's asset purchase announcement led to an exchange rate depreciation on impact, but only about a third of the total effect materialized on announcement day, with the euro drifting steadily lower over the subsequent three quarters.[25] A similarly front-loaded but drawn-out adjustment is the plausible path here. More broadly, the relevant metric for market impact is not only the annual flow relative to the stock of outstanding U.S. Treasuries. Rather, it is the permanent removal of a structurally captive source of demand, priced on announcement.

The spillover effects on European asset markets are likely manageable. The first-order consequence of the policy is a rise in U.S. Treasury yields; the dollar should depreciate moderately, though not sharply, given the multiple countervailing forces documented above. On the European side, preferred-habitat investors repatriating capital will need to replenish duration, structurally raising demand for European sovereign and bank debt. Yields on European bonds may rise temporarily, but the net effect on yields is likely modest and plausibly negative for European bank debt, where insurers' redirected demand provides a direct and durable bid.

The deeper European advantage is not merely the size asymmetry–at least $9.6 trillion versus $6.4 trillion, with the imbalance holding for both debt and equity–but the combination of that asymmetry with a regulatory coordination capacity the U.S. cannot match. The EU can move Solvency II and CRR simultaneously and deliberately (and the UK would have to mirror the EU changes); the U.S. has no centralized lever over its institutional investors' foreign holdings. Europe's financial exposure to the United States, long treated as a source of vulnerability, is more accurately understood as a policy lever that existing regulatory architecture makes tractable to use, should the need arise.

A natural question is the timing of such a regulatory change. The case for acting does not require a geopolitical trigger: From a prudential standpoint, one would be hard-pressed to continue justifying a zero risk weight for a sovereign with debt-to-GDP above 120 % and a prior rating downgrade. Correcting this distortion can thus be considered sound regulatory policy in any geopolitical climate, rendering the financial leverage it generates a mere byproduct. At the same time, implementing a regulatory change of this magnitude carries political ramifications, and policymakers may rationally prefer to time it to a moment of maximum diplomatic relevance. A phased implementation would allow European institutions to unwind positions gradually, limiting disruptive yield spikes while still shifting the structural equilibrium in the Treasury market. But a

[25] Their analysis is especially relevant in our context because, unlike most of the literature, they do not resort to a simple event study methodology. Instead, they estimate the impact of the expected balance sheet increase, which takes place over several months, similar to our setting.

concentrated implementation, timed to a specific diplomatic moment, would maximize the signaling value and the immediate market impact. The two approaches need not be mutually exclusive, as European policymakers retain discretion over the pace and scale of any such implementation.

5 Conclusion

This report argues that Europe holds significant and underappreciated financial leverage over the United States—leverage that can be activated through existing regulatory architecture without requiring new institutions, treaty changes, or explicit coordination of government asset sales. We consider the effects of removing the zero risk-weight privilege currently accorded to U.S. Treasuries under Solvency II and the Capital Requirements Regulation, applying instead the standard credit-risk treatment that the U.S. sovereign's fiscal trajectory increasingly warrants. The aggregate Treasury demand shock we estimate—on the order of $200 billion across insurers, banks, and pension funds over a decade—is comparable to roughly one-quarter of QT1 (or one-third of QE2) in the U.S.

Crucially, however, the market impact of such a policy is not well measured by the annual flow relative to the outstanding stock. What matters is the credible, permanent removal of a class of structurally reliable buyers. Because asset prices are forward-looking, the announcement of a regulatory regime change reprices the entire expected path of future demand—not merely the first year's selling. The yield consequences are therefore front-loaded relative to the flows. Moreover, in quantity-driven models of term premia (Greenwood et al., 2023), even modest shifts in the composition of duration holders move risk premia, implying that the permanent exit of a structurally captive buyer class has effects well out of proportion to the annual flow. For the exchange rate, announcement effects are only part of the mechanism: Because the policy is implemented gradually and involves counteracting forces (partially hedged Treasury sales, higher yields), the dollar can weaken over time as intermediaries need to absorb more dollar exposure. These patterns are consistent with empirical evidence on QE policies (De Santis and Holm-Hadulla, 2020; Altavilla, Carboni, and Motto, 2021; Dedola et al., 2021).

Several factors bear on the magnitude of this effect. On the amplification side, our estimates are deliberately conservative. Pension funds and other institutional investors hold large additional positions in U.S. government debt and would face similar incentives to rebalance, even absent direct regulatory compulsion. On the dampening side, the partial hedging of European positions means that selling pressure on the dollar and on Treasury yields will be cushioned by offsetting flows from hedge unwinds, and replacement buyers attracted by higher yields provide a further buffer.

Beyond the quantitative magnitude, such capital charge changes target the right margin. Many European banks already hold U.S. Treasuries not as their preferred safe asset

but as a lower-level (2A) high quality liquid asset (HQLA) under European liquidity requirements, namely the portion held in excess of their USD stressed outflows. For these banks, switching to European sovereign (and possibly bank) bonds is already the economically rational choice–removing this distortion would simply correct a misaligned capital treatment. This distortion is increasingly difficult to justify on its own terms: Du, Keerati, and Schreger (2026) document a pronounced decoupling between the convenience yield on the U.S. dollar, which remains strong, and the convenience yield on U.S. Treasuries, which has declined substantially and turned negative at medium- to long-term maturities, driven by the growing relative supply of U.S. government debt. The zero risk weight thus subsidizes an asset class whose scarcity premium has already evaporated.

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A Data appendix

A.1 Bilateral positions

There are two main sources of publicly available data on cross-border asset holdings. The first is the Portfolio Investment Positions by Counterpart Economy (PIP, formerly known as CPIS) by the IMF, a standardized voluntary reporting scheme completed by national authorities. In principle, it should show all outstanding positions residents of each domicile hold in other countries, split into debt (long and short) and equity, for each economic sector (government, financial sector including pension funds and insurance companies, non-financial corporate, and households). In practice, since this disclosure is optional, some gaps emerge, particularly regarding economic sectors and different asset types. PIP reports holdings on a semi-annual basis, with a substantial lag (over a year).

As such, the literature also relies on the U.S. Treasury International Capital (TIC) system, a standardized reporting system by the U.S. Treasury, with high-frequency information on the foreign asset holdings of U.S. residents. We follow the literature (e.g., Coppola et al., 2021) and use TIC data for the U.S.-as-investor, and PIP for non-U.S. investors. We do so to preserve cross-country comparability in the measurement of bilateral portfolio positions, since TIC is a U.S.-specific statistical system, and is only used when the PIP lacks appropriate coverage, as in the case of U.S.-as-investor. We confirm that there are significant discrepancies between PIP- and TIC-reported foreign holdings of U.S. assets. TIC, unlike PIP, does not hold sectoral information. However, TIC is very timely, publishing aggregate holdings by asset type and country on a monthly basis.

Table A.1: Portfolio Investment Holdings in U.S. Securities

Investor	Asset Class	Total Holdings		Of which (2025)			
		2024	2025	NFCs	Insurers/ Pensions	Gov	HH
EMU	Debt	1770.1	1981.8	260.1	526.5	62.42	216.1
	Equity	3076.5	3696.5	262.2	746.6	179.39	1077.1
GBR	Debt	601.7	709.1	3.8	274.6	0.0	0.2
	Equity	1028.2	1288.9	23.3	459.1	0.1	48.8
DNK	Debt	42.0	37.5	1.3	17.2	0.1	0.2
	Equity	273.0	338.7	4.4	123.5	0.0	18.0
NOR	Debt	230.1	294.2	0.2	10.2	268.8	0.0
	Equity	654.0	809.7	1.4	14.2	727.0	0.1
SWE	Debt	27.4	27.4	0.1	12.2	12.0	0.0
	Equity	368.0	420.2	2.3	76.2	63.4	8.3
CAN	Debt	522.4	601.2	*not available*			
	Equity	1637.9	1968.2	*not available*			
CHE	Debt	213.7	219.4	*not available*			
	Equity	368.8	428.6	*not available*			

In billion USD.
Sources: IMF Portfolio Investment Positions by Counterpart Economy dataset (PIP, formerly Coordinated Portfolio Investment Survey, or CPIS), authors' calculations. Notes: Gov=government, HH=households.

For aggregate holdings, we use PIP data as our baseline; for non-EMU investors, we apply the Coppola et al. (2021) restatement, which reallocates securities from issuer residency to issuer nationality, to account for assets issued in tax havens. For EMU holdings, we apply the related methodology of Beck et al. (2026) who unwind positions in Irish and Luxembourgish funds to their ultimate owners, combined with issuer-nationality reassignment. This correction is quantitatively important for the EMU, and is a result of the particular position Ireland and Luxembourg hold in the global financial ecosystem. Most mutual funds in Europe are domiciled in those two countries, and so the holdings of most other EMU member states are understated in PIP. However, non-European investors also hold shares in funds domiciled in Ireland and Luxembourg. As such, EMU-total holdings of U.S. assets are in fact overstated in PIP (by over $3 trillion by end-2025). For U.S. holdings of EU assets, restatement affects holdings a little more substantially, but in fact runs in the opposite direction, as some securities issued by Irish and Luxembourgish entities are restated to non-European ultimate parents. This restatement is, however, modest.

The main drawback of PIP data is that it stops at the end of 2024. In order to use up-to-date values, we leverage the timeliness of TIC, and proceed as follows. We take the restated PIP holdings, and apply growth rates by holder and asset type (equity, short-term and long-term debt) from December 2024 to December 2025 for TIC data.[26] This provides us with an estimate of aggregate holdings as of December 2025. We assume that sectoral holdings follow the growth of aggregate holdings.

For U.S. holdings, we use the annual files from 2024 as our benchmark, since they are more detailed than the monthly files, and apply the same method. For the U.S.-as-an-investor, restating residence to nationality does materially affect holdings of EU assets, due to the nature of funds domiciled in Ireland and Luxembourg. Monthly TIC data do not record short-term debt holdings of U.S. residents (only together with bank liabilities), so we only consider total debt holdings by U.S. investors; again, this is a minor issue, as short-term debt is a small fraction of total (and debt much smaller than equities).

A.2 Sectoral positions

IMF PIP data are somewhat uneven for holdings of different sectors, with some countries not reporting at all, or not granularly enough. They typically understate true exposures. Beck et al. (2026) provide a substantial improvement for the EMU. They use security-level data from the Security Holdings Statistics (SHS) database of the ECB, together with external fund-portfolio information, which allows them to look through Irish and Luxembourgish fund shares and substantially increase reported sectoral holdings for the EMU. However, the resulting data remain based on the holder sector rather than the ultimate beneficiary, so if investment funds appear as the holder even

[26] The monthly TIC files only consider short-term treasury debt. We assume that total short-term debt holdings follow the path of short-term treasury holdings; in any case, short-term U.S. debt holdings for the countries in question constitute a fraction of their total U.S. debt holdings, typically less than 10%.

Table A.2: U.S. Portfolio Investment Holdings in Foreign Securities

Issuer	Asset Class	Total Holdings 2024	Total Holdings 2025	Of which Corporates	Of which Insurers–Pensions
EMU	Debt	1147.4	1334.4	121.6	263.0
	Equity	2064.8	2587.5	304.4	391.2
GBR	Debt	513.4	551.4	84.8	202.5
	Equity	1131.4	1459.0	257.3	250.8
DNK	Debt	13.1	13.5	1.9	3.1
	Equity	211.4	170.6	21.8	23.9
NOR	Debt	35.9	38.3	8.2	11.3
	Equity	30.3	37.4	4.0	5.8
SWE	Debt	42.0	42.3	12.2	7.0
	Equity	134.0	172.5	17.8	29.9
CAN	Debt	591.8	649.8	146.2	169.2
	Equity	890.1	1237.1	261.0	116.0
CHE	Debt	104.5	105.7	34.5	78.4
	Equity	487.2	661.4	93.0	95.9

In billion USD.
Sources: IMF Portfolio Investment Positions by Counterpart Economy dataset (PIP, formerly Coordinated Portfolio Investment Survey, or CPIS) and Treasury International Capital (TIC) System, authors' calculations. Notes: Gov=government, HH=households. Total holdings come from TIC and the sector breakdown from PIP.

Table A.3: PFBR Ireland Asset Series, Q2 2025

Description	**Q2 2025 (€m)**	**Share of Total**	Of which U.S. %
Total assets (approx.)	141,000	-	
Debt securities	13,334	9.5%	9%
Equity (listed shares)	2,098	1.5%	47.7%
Investment fund shares/units	41,700	29.6%	
Insurance technical reserves / ULIPs	79,512	56.4%	

Sources: ECB PFBR and Central Bank of Ireland Quarterly Bulletin (3/2021).

after look-through, the data will keep recording them as holders. As such, we interpret reported holdings for households, insurers/pensions funds and NFCs as conservative lower bounds. This has little bearing to our analysis, however, as we can also use regulatory and supervisory data to gauge the exposure of insurers and pension funds, which is the ultimate reason why we are interested in sectoral exposures.

In particular, we can attain high-quality data for USD exposure of insurers through EIOPA, broken down by denomination and asset type, for the EU countries and Norway. As for pension funds, the ECB Pension Funds Regulation (PFBR) statistics report asset holdings of pension funds, but without currency of denomination.[27] Table A.3 shows exposures by asset for the last reporting date, 2025 Q2. The majority of holdings cover investment fund shares and technical reserves (ULIPs), essentially assets held in specialized firms. To correctly apportion fund shares and ULIPs, we rely on the Central Bank of Ireland Quarterly Bulletin (3/2021), which reports the asset type split of these

[27] EIOPA reports exposure for some occupational pension funds as well, but not for Ireland, as Irish funds do not conform to reporting requirements. Moreover, a substantial fraction of EU pension funds do not fall within the remit of EIOPA and hence are not covered by EIOPA data, unlike insurers, the vast majority of which are covered.

holdings; these are shown in Table A.4. Putting both together we end up with pension holdings of 43 % equity and 34 % debt.

Table A.4: Underlying Asset Composition: ULIPs and Investment Funds (CBI, Q1 2021)

(a) ULIPs (total: €50.4bn)

Asset Class	Share
Equities	51%
Bonds	24%
Investment funds	12%
Cash and deposits	9%
Other	4%
Total	**100%**

Sources: Figure 11, p.18. CBI survey of ULIP providers representing 80 % of total ULIP value.

(b) Investment Funds (total: €46.6bn)

Fund Type	Share
Equity funds	35%
Bond funds	30%
Real estate funds	5%
Other (MMF, mixed, hedge, other)	30%
Total	**100%**

Sources: Figure 10 and text, pp.16–17.

The CBI report also discusses U.S. exposures; for direct security holdings, these are listed in Table A.3: 9 % for bonds and 47.7 % for equities. For fund shares, we assume that equity funds have 70 % U.S. exposure, as these funds tend to follow market-cap weighted benchmarks.[28] We assume 30 % U.S. allocation for bond funds. Overall this brings us to 69 % U.S. exposure for equity and 24 % for bonds.

A.3 Treasury and agency debt holdings

In general, while we do observe the share of total debt holding split between Treasuries/Agencies and corporate bonds at the country level, such a breakdown does not exist at the sectoral level. At the country level, the share of Treasuries/Agencies is around 50 % for the EMU and 60 % for the UK. The caveat is that these data are reported by the U.S. Treasury and so the restatement procedure of Coppola et al. (2021) and Beck et al. (2026) cannot be applied.

Regulators do provide an alternative. EIOPA, which supervises insurers and pension funds in the EEA offers a good overview in its most recent EIOPA Financial Stability Report, which mentions that holdings are €82 billion for supervised insurers and €89 billion for pension funds (EEA), using a look-through approach to the extent possible. EIOPA data cover the near totality of insurers, but not of pension funds (IORPs), where EIOPA captures about €2.8 trillion out of a total of 4 trillion (OECD). As such, if we assume that the IORPs not covered by EIOPA are similar to those that are, this would imply roughly €130 billion for IORPs in total; combined with the holdings of insurers gets us to €212 billion, or almost $250 billion, which is a conservative benchmark. This is a bit less than half of EMU holdings of U.S. debt constructed with the restatement procedure of Beck et al. (2026) and reported in Table A.1, so very close to total economy split.

We derive UK pension-fund U.S. government holdings from ONS data showing £42

[28] Zurich Prisma, the largest Irish-managed set of funds, reports 75% North American share of equity exposure, up from 63% two years before.

billion of direct overseas central-government bonds in 2021 and a 55 % U.S. share of overseas direct long-term debt securities, implying £23.1 billion; scaling this 0.90 % asset share to the latest ONS pension-asset total (£1.97tn, March 2025) gives £17.7 billion, which we double to £35.4 billion to reflect missing look-through through pooled vehicles. For insurers, ONS Solvency-II data show £53 billion of non-resident long-term government securities against £1,853 billion of assets in 2017; applying the same 55 % U.S. share gives £29.2 billion, or 1.57 % of assets. Scaling this share to a £2 trillion 2025 life-insurance asset base gives £31.5 billion; applying 1.5x and 2.0x look-through sensitivities yields £47.3 billion and £63.0 billion.

Notably, ONS reports no data for Agency holdings. As such, we take £110 billion, which is close to $150 billion as a reasonable lower bound.

A.4 Hedge ratios

To estimate hedge ratios, we rely extensively on the work of Du and Huber (2024), a comprehensive attempt to measure USD hedging for relevant sets of investors in countries with good data. They use data from a variety of sources to capture hedging for entities with active hedging strategies: insurance companies, pension funds, and mutual funds. They explicitly assume that non-U.S. banks fully hedge their FX exposures, because failure to do so would result in substantial regulatory capital charges.[29] They also assume that the official sector does not actively hedge FX risk, as dollar holdings for sovereigns reflect different concerns, such as the need to intervene in times of stress.

We update their estimates using more recent data, either 2024 or 2025, when available. One important caveat is that hedge ratios of EU insurers are in general not available; instead Du and Huber (2024) assume they follow industry averages, based on high-confidence estimates from other sources.[30] The exceptions to this are Denmark, Sweden, and some large Dutch pension funds. We use data from Danmarks Nationalbank and Riksbank for the first two; for the latter, we follow Du and Huber (2024) and note that the two largest pension funds, with holdings larger than the next fifteen combined, have radically different approaches. The largest of the two, ABP, had around €200 billion exposure to USD, with a little over 25 % hedged; PFZW, in turn, had almost €100 billion exposure, but with at least 60 % hedging. The weighted average of the two is 38 %, very close to the EMU-wide 33 %. We also follow Du and Huber (2024) and impute 25 % hedging for the UK.

[29] They estimate that 50% of exposures is hedged using derivatives, and another 50% through USD-denominated liabilities, such as deposits.
[30] We thank Amy Huber for this clarification.

Imprint

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Responsible Supervisory Authority
Ministry of General Education and Vocational Training, Science, Research and Culture of the Land Schleswig-Holstein
Jensendamm 5, 24103 Kiel, Germany

Value Added Tax Identification Number
DE 251899169

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