U.S. Dollar Currency Premium in Corporate Bonds

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NBER Summer Institute

July 13, 2020

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Overview

We isolate a **dollar currency premium** by comparing dollar and euro bonds issued by global firms outside the U.S. and euro area.

Empirical findings:

1. While dollar dominates in the quantity of debt issuance, borrowing in the dollar **costs about the same** as borrowing in the euro after currency hedge.
   - Covered interest rate (CIP) parity condition mostly holds in global bond market, despite observed CIP deviations for risk-free benchmarks (Du, Tepper and Verdelhan, 2018).
2. **Dollar safety premium** exists for a subset of corporate bonds with the shortest maturities and highest credit ratings
   - Dollar safety premium in corporate bonds is similar in size to those in Treasurys (Du,Im, Schreger, 2018; Jiang, Krishnamurthy and Lustig, 2018)
   - However, during sharp market selloffs (e.g. March 2020), this premium reverses as investors sell dollar assets for cash (He, Nagel and Song, 2021)
3. Global firms **flexibly adjust the currency mix** of debt issuance to equilibrate the relative borrowing cost.

***Key takeaway**: In the corporate bond market, the exorbitant privilege of the dollar shows up in quantities and not in prices. The dollar premia is not a constant but diminishes with issuance.*

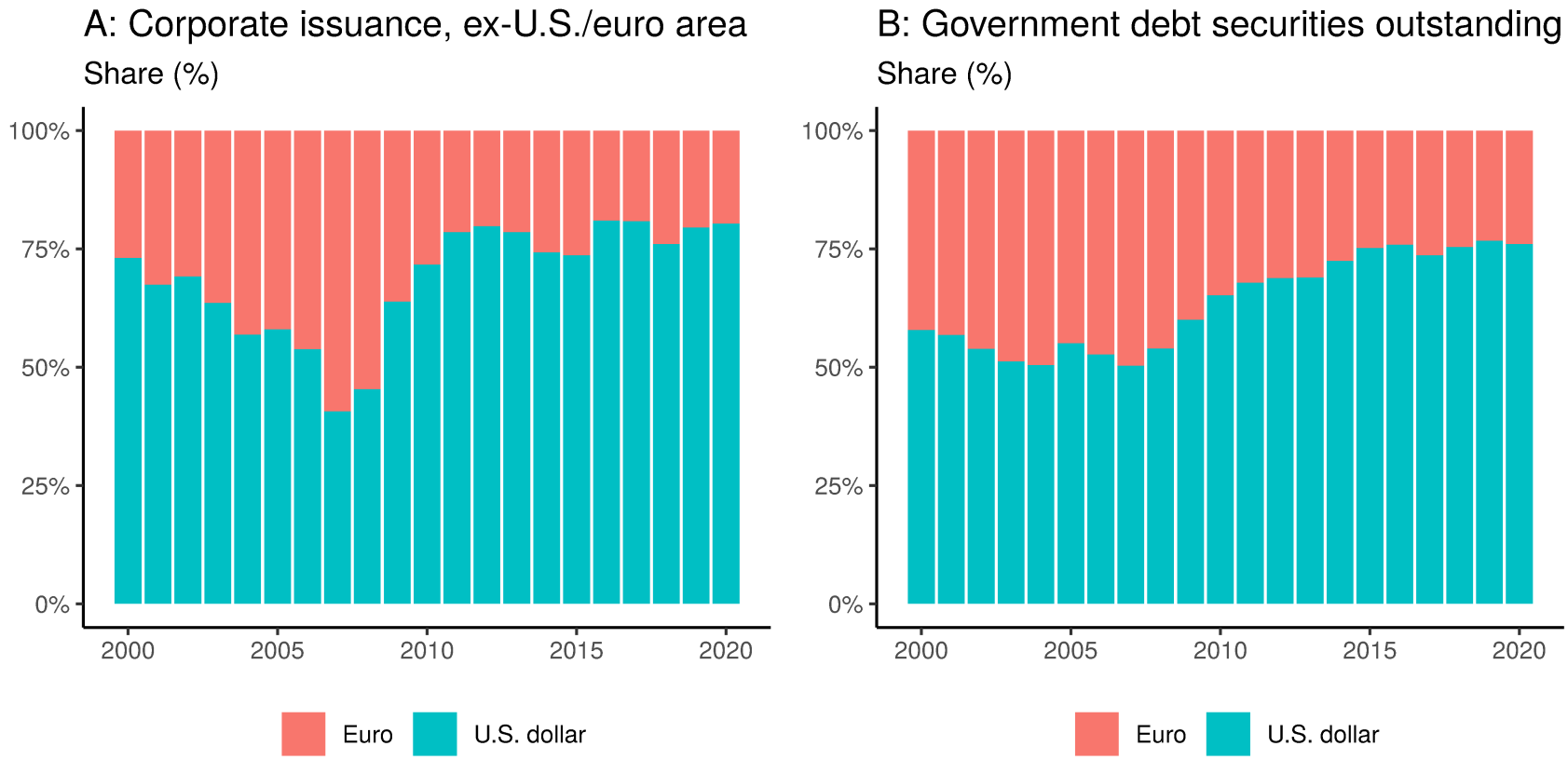
Background: Dollar dominance and exorbitant privilege

Dollar dominance bestows an **"exorbitant privilege"** (cheaper borrowing cost) on the U.S. government and borrowers in dollar capital markets.

- Studies of exorbitant privilege typically focus on returns and yields at the **country level**. (Gourinchas et al., 2010; Lane and Milesi-Ferretti, 2007; Eichengreen, 2011).
- Gourinchas and Rey (2007) argue the U.S. is the "venture capitalist of the world" with risky investments backed by safe assets.
- However, the return differential may be overstated (Curcuru et al., 2008).
- Theoretical work indicates that exorbitant privilege shows up mostly in quantity of debt rather than the price (Gopinath and Stein, 2018).

We isolate a U.S. dollar ***currency*** premium by focusing on large, liquid corporate bonds from "third-party" countries, where firms are not backed by U.S. or euro area institutions.

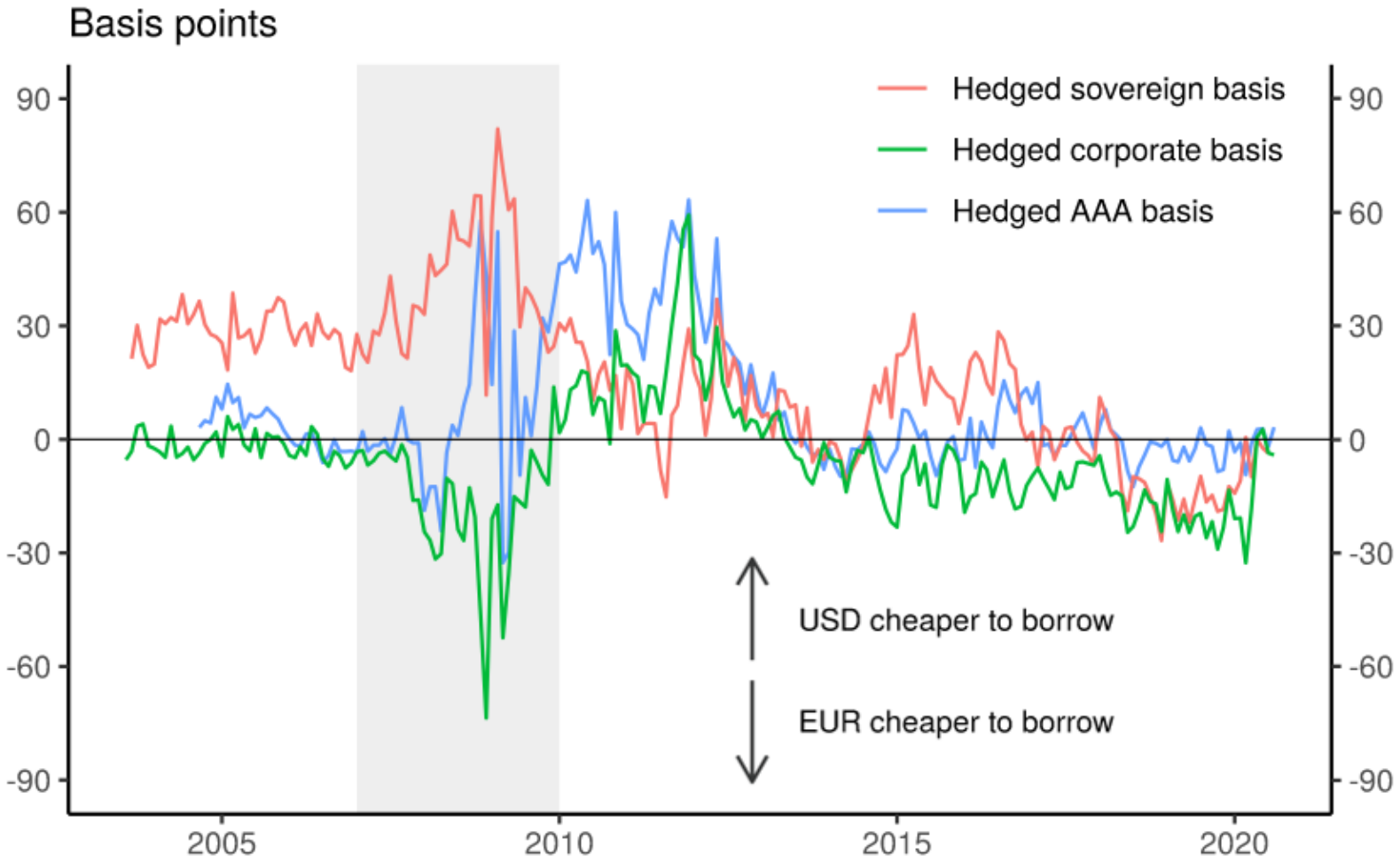
Dollar dominates in the quantity of debt



* Corporate bond issuance are from global firms based outside of the U.S./euro area; Government debt are from U.S. and core euro area countries; Source: Bloomberg and BIS

Dollar and euro FX-hedged yields are similar

Euro minus dollar currency-hedged relative borrowing costs



Data and sample

- Prices and attributes for liquid corporate bonds (~3,500 bonds), issued by firms outside of the U.S. and euro area (~170 firms) from sample period 2003-2020, sourced from Bloomberg and Dealogic.
- Restrict to most liquid corporate bonds: at least $50 million notional; Firms must issue in both dollar and euro; Only fixed- or zero-coupon non-callable bonds; At least one year to maturity; No supranationals.
- Use secondary market yields to proxy for the cost of issuing in primary market for large issuers with deep access to capital markets.

Methodology

We calculate the **relative borrowing cost** between dollar and euro corporate bonds at each time t, with and without currency hedge.

1. Unhedged relative borrowing cost. We measure the unhedged yield differential, assuming that exchange rate follows random walk and in expectation is constant:

$$\text{risky yield diff.} \equiv \left(y_t^{€} - y_t^{\$} \right). \tag{1}$$

We estimate the differential by regressing at each date t:

$$y_{it} = \alpha_t 1_{EUR,i} + \beta_{ft} + \gamma_{mt} + \delta_{rt} + \epsilon_{it}. \tag{2}$$

- y_{it} is the secondary market yield for bond i at time t.
- β_{ft}, γ_{mt} and δ_{rt} are fixed effects for firm f, maturity bucket m and rating bucket r at date t.
- $1_{EUR,i}$ is an indicator variable for euro bonds.
- α_t is the **unhedged relative borrowing cost**.

Methodology

Hedged relative borrowing cost can be decomposed into credit spread diff. and "risk-free" CIP deviations

2. Hedged relative borrowing cost. We calculate the FX-hedged bond yield differential ψ_t:

$$\psi_t \equiv \underbrace{\left(y_t^{€} - y_t^{\$}\right)}_{\text{risky yield diff.}} + \underbrace{(f_t - s_t)}_{\text{forward premium}} \quad . \tag{3}$$

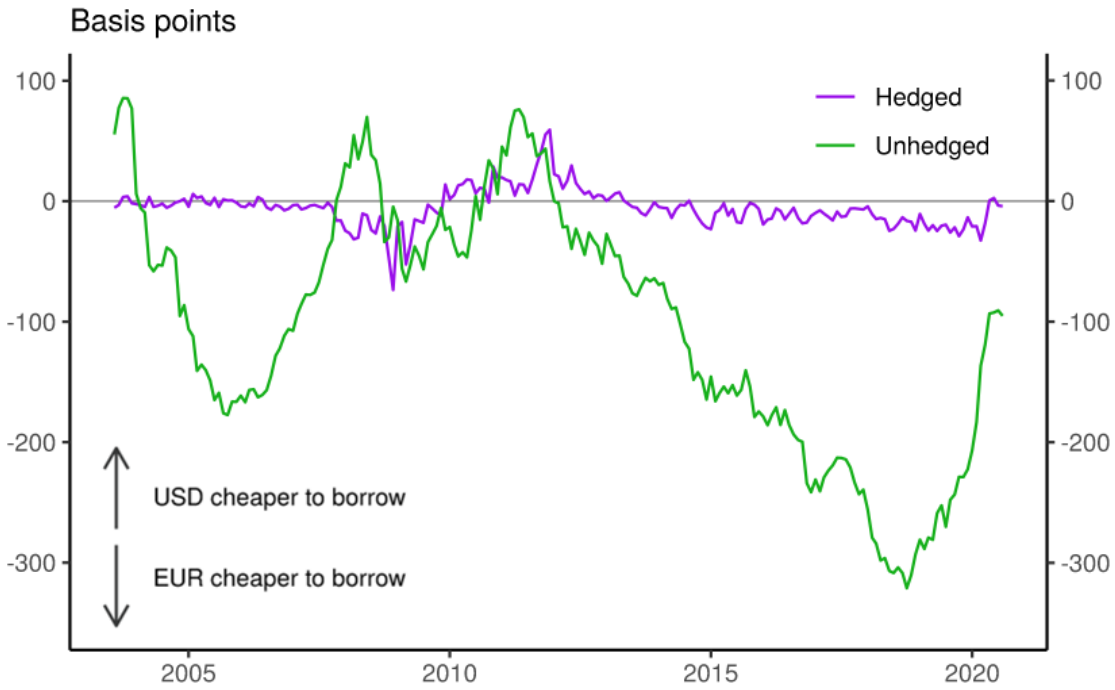
However, currency forwards are illiquid at longer tenors. By subtracting risk-free rates from (3), we get:

$$\underbrace{\psi_t}_{\text{Hedged corp. basis}} = \underbrace{\left(y_t^{€} - r_t^{€}\right)}_{€ \text{ credit spread}} + \underbrace{\left[r_t^{€} - r_t^{\$} + (f_t - s_t)\right]}_{\text{Risk-free CIP deviation}} - \underbrace{\left(y_t^{\$} - r_t^{\$}\right)}_{\$ \text{ credit spread}} . \tag{4}$$

The risk-free CIP deviation is measured by cross-currency basis swaps, which are more liquid than currency forwards. We then estimate ψ_t with a regression similar to Equation (2) that estimates unhedged relative borrowing cost.

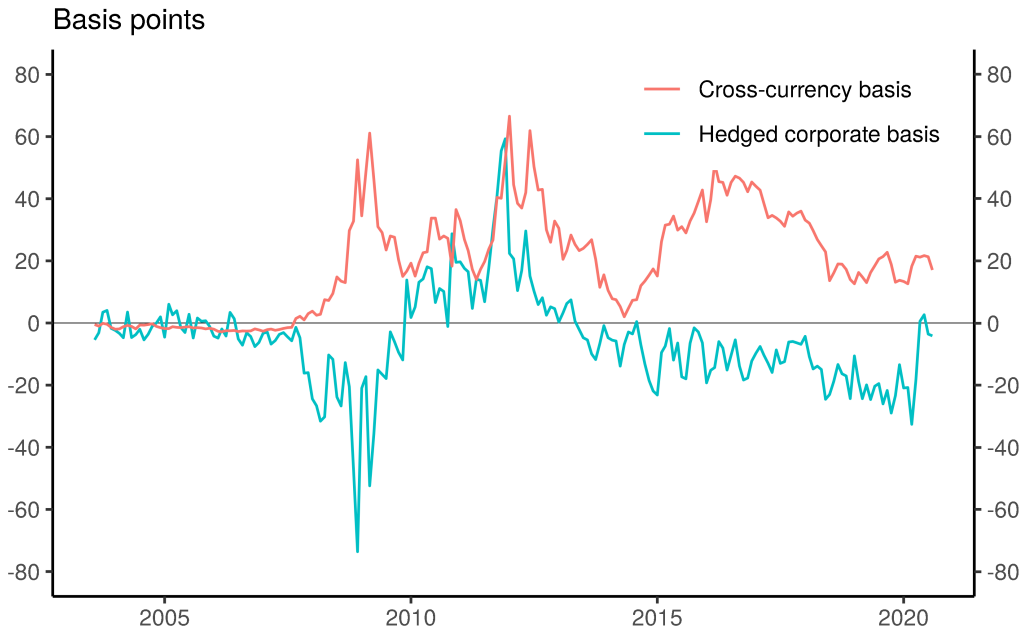
Hedged and unhedged relative borrowing costs

Euro minus dollar relative borrowing costs with and without currency hedge



- Unhedged relative borrowing costs (assuming exchange rates are random walk) largely follows risk-free interest rate differentials.
- Hedged relative borrowing costs are largely close to zero.
  - Euro borrowing costs are cheaper during the GFC (08'-09'), but more expensive during the Eurozone crisis (11'-12')

Comparison of hedged corporate basis with benchmark CIP deviations of similar maturities

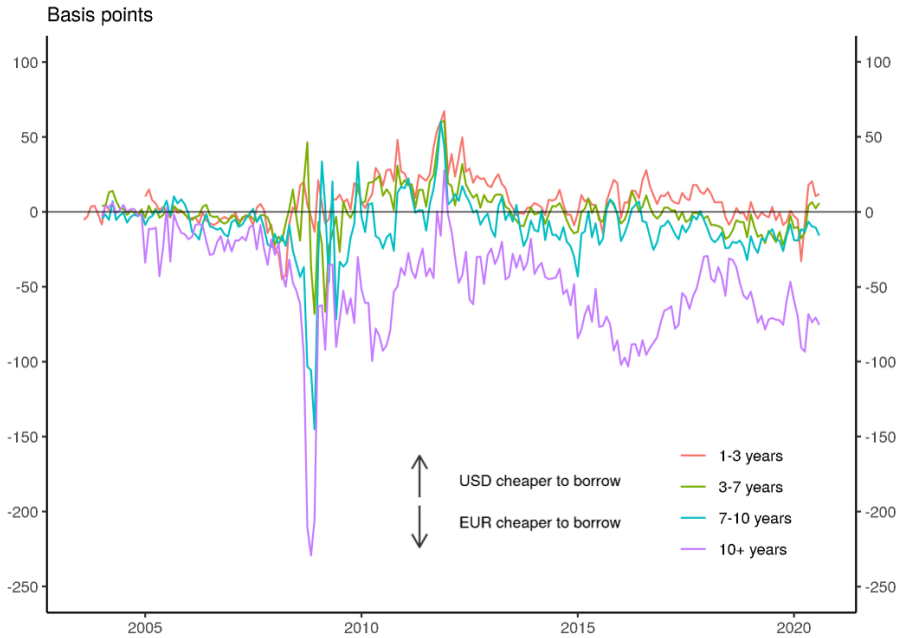


- Hedged corporate basis (CIP deviations for corporate bonds) is distinct from benchmark risk-free CIP deviations as the former is affected by credit spreads:

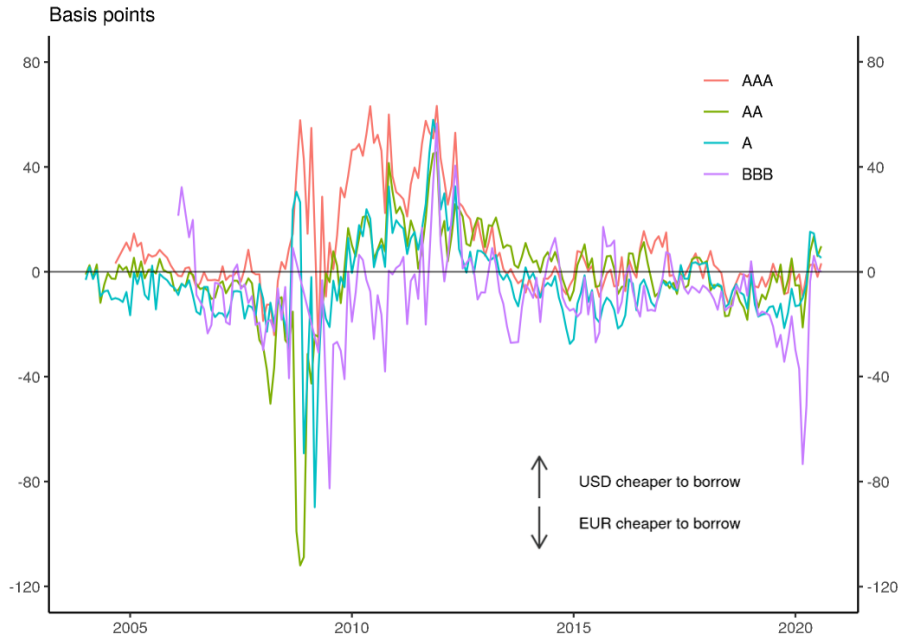
$$\underbrace{\psi_t}_{\text{Hedged corp. basis}} = \underbrace{\left(y_t^{€} - r_t^{€}\right)}_{€ \text{ credit spread}} + \underbrace{\left[r_t^{€} - r_t^{\$} + (f_t - s_t)\right]}_{\text{Risk-free CIP deviation}} - \underbrace{\left(y_t^{\$} - r_t^{\$}\right)}_{\$ \text{ credit spread}}$$

Dollar safety premium exists for short-maturity, highly rated corporate bonds

Hedged corporate basis by maturities



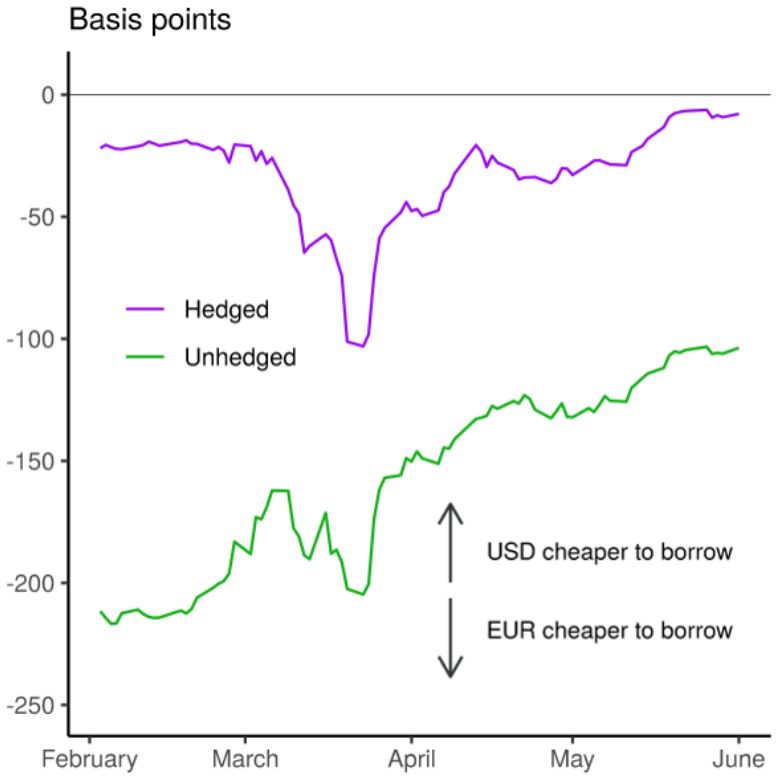
Hedged corporate basis by ratings



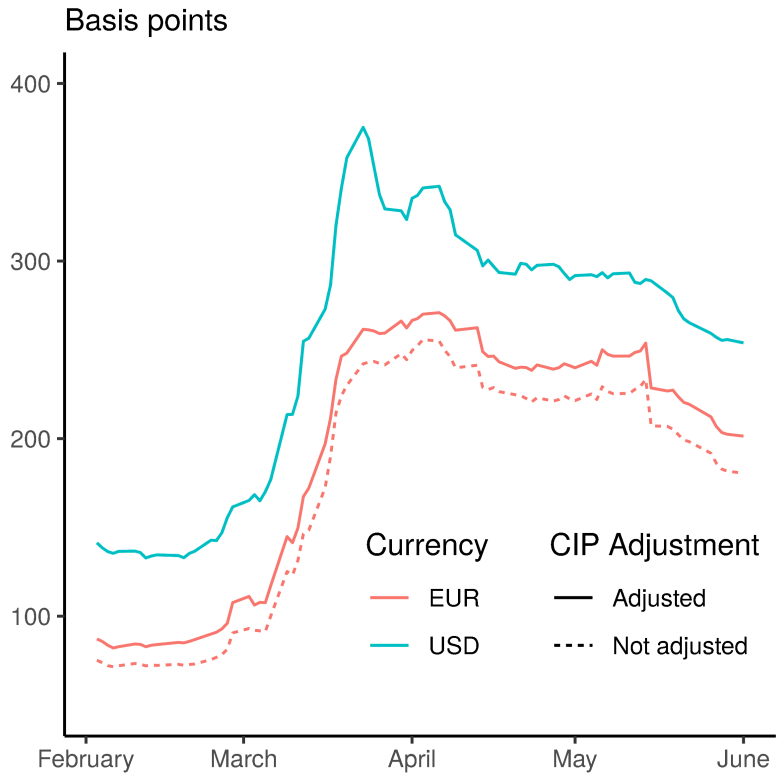
- Borrowing in dollar is cheaper for short-maturity (1-3 year) bonds and highly-rated (AAA) bonds.
- The cheaper borrowing cost indicates a dollar currency premium associated with qualities that indicate safety.

Dollar premium during large market distress

Hedged and unhedged corporate basis



EUR and USD Credit spreads



- During March 2020, "dash for cash" led to sell offs in dollar assets, even for U.S. Treasurys (Haddad, Moreira & Muir 2020; He, Nagel & Song 2021).
- We find that USD credit spreads widened more than EUR counterparts, leading to a deterioration in measured corporate dollar currency premium.

Global firms flexibly adjust currency mix

	USD share of issuance (%)					
	(1)	(2)	(3)	(4)	(5)	(6)
Hedged basis	0.091***		0.053*	0.050**		0.086***
	(0.018)		(0.027)	(0.024)		(0.024)
Unhedged basis		0.060***	0.033*		−0.007	−0.022*
		(0.011)	(0.018)		(0.011)	(0.013)
USD share $_{t-1}$	0.237***	0.234***	0.233***	0.094**	0.094**	0.090**
	(0.024)	(0.023)	(0.024)	(0.038)	(0.036)	(0.035)
Time FE	✓	✓	✓			
Firm FE				✓	✓	✓
N	2,682	2,679	2,666	2,682	2,679	2,666
Adjusted R^2	0.103	0.103	0.105	0.206	0.202	0.209

Clustered standard errors in parentheses. Standard errors are clustered on the fixed effect variable.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Conclusion

1. Larger dollar bond issuance wipes out any exorbitant privilege at the margin, as hedged borrowing costs in the euro and in the dollar are equated.

2. Dollar safety premium in corporate bonds exists for a subset of high quality, short-maturity bonds.

3. Firms adjust the currency mix of debt issuance to meet demand for bonds denominated in dollar vs euro.

Why does this matter? Our results suggest the exorbitant privilege shows up more in quantity of debt than in price.