U.S. Risk and Treasury Convenience

International Asset Pricing, NBER Summer Institute 2023

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The U.S. (Dollar) in the Global Financial System

- **Dollar perceived as *safe* in short run**
  - Flights-to-safety appreciate dollar in bad times [Maggiori 2017; Kekre & Lenel 2021; Ostry 2023; ...]

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  - Treasuries command convenience yield, but (now) only at short maturities [Du, Im & Schreger 2018; Jiang, Krishnamurthy & Lustig 2021; Engel & Wu 2022; Diamond & Van Tassel 2022; ...]

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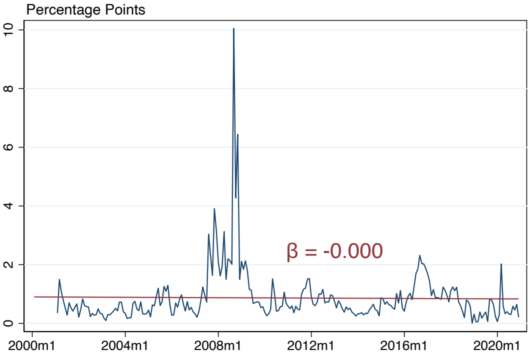
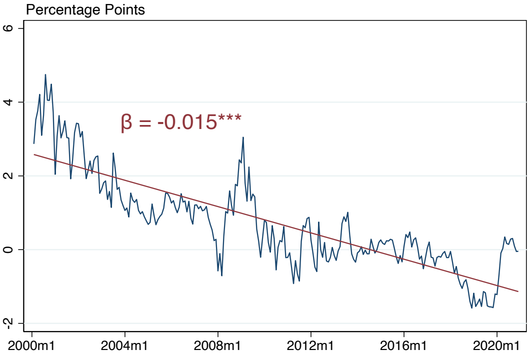
How are these dimensions of U.S. (dollar) 'specialness' interlinked?

Treasury (In)convenience: ‘Specialness’ at Different Maturities

U.S. 6M Cross-Country Conv. Yield



U.S. 10Y Cross-Country Conv. Yield

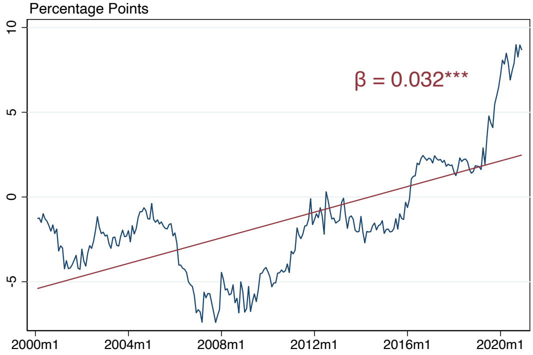


Note. Cross-country 6M and 10Y U.S. Treasury convenience yield (avg. vs. other G.7), 2000:M2 to 2020:M12. Constructed from CIP deviation data from Du, Im & Schreger (2018) following Jiang, Krishnamurthy & Lustig (2021).

▸ CIP to Conv. Ylds.

Rising U.S. Relative Equity Premia

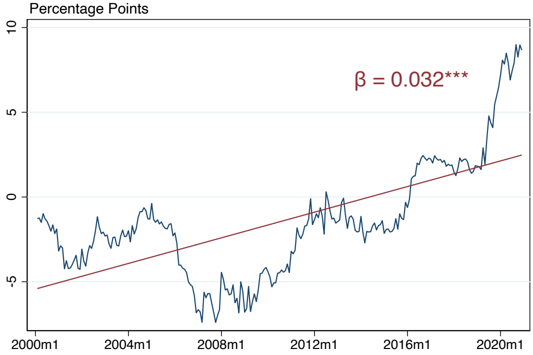
U.S. Relative Equity Risk Premium



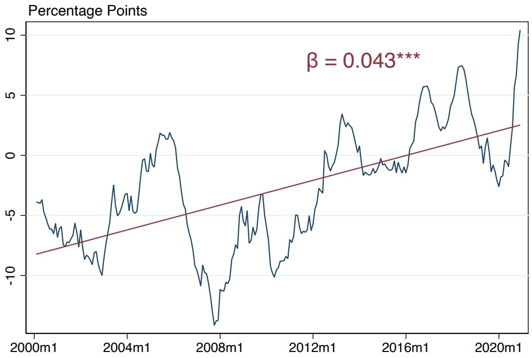
Note. Relative U.S. equity risk premium (avg. vs. other G.7), 2000:M2 to 2020:M12.

Rising U.S. Relative Equity Premia and Permanent Risk

U.S. Relative Equity Risk Premium



U.S. Relative Permanent Risk



Note. Relative U.S. equity risk premium and permanent risk (avg. vs. other G.7), 2000:M2 to 2020:M12.

Permanent Risk and Currency Risk Premia

Standard two-country, no-arbitrage setup predicts: [Lustig, Stathopoulos & Verdelhan 2019]

$$\text{Relative U.S. Permanent SDF Volatility} = \text{Long-Run U.S. Dollar Premium}$$

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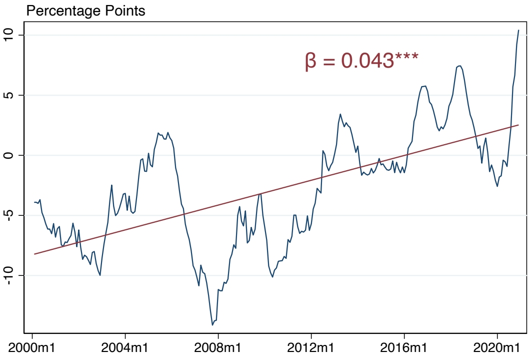
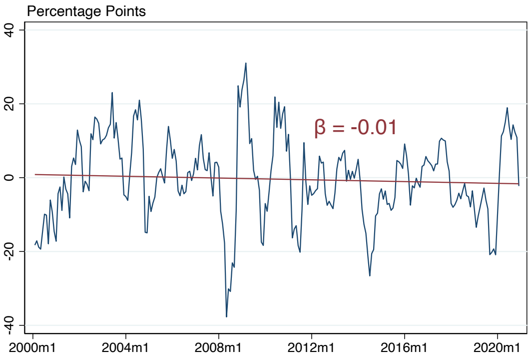
But empirical evidence does not appear consistent:

U.S. Relative Permanent Risk



Carry-Trade Returns on 10Y Bonds



Our Paper

Theory: two-country, no-arbitrage setup to link U.S. safety *across markets*: FX, bond, equity

$$\underbrace{\text{Relative U.S. Risk}}_{\text{Relative SDF Volatility}} = \underbrace{\text{U.S. FX Risk Premium}}_{\text{Pecuniary Return}} + \underbrace{\text{Relative U.S. Convenience Yield}}_{\text{Non-Pecuniary Return}}$$

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- In equilibrium, changes in U.S. relative risk induce movements in either the pecuniary or non-pecuniary returns to U.S. dollars/Treasuries in short- and long-run
- In long run: countries can have different 'permanent' risk, yet long-run carry-trade returns can be near zero because risk differences reflected in convenience yields

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Empirics: measure U.S. relative risk across markets/maturities and test model relationships

⋆ **Document rise in relative U.S. total risk vs G.7, driven by permanent risk**

⋆ **Decline in long-maturity U.S. Treasury convenience and rise in relative U.S. permanent risk are two sides of the same coin**

Our Model of Convenience and Risk

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- Representative investor pricing kernels: Λ_t, Λ_t^* (SDF: $M_{t,t+k} = \Lambda_{t+k}/\Lambda_t$)
- $\Lambda_t = \Lambda_t^{\mathbb{P}}\Lambda_t^{\mathbb{T}}$ such that $\Lambda_t^{\mathbb{P}}$ is a martingale ($\Lambda_t^{\mathbb{P}} = \mathbb{E}_t[\Lambda_{t+1}^{\mathbb{P}}]$) [Alvarez & Jermann 2005]
  - $M_{t,t+1}^{\mathbb{T}} = \Lambda_{t+1}^{\mathbb{T}}/\Lambda_t^{\mathbb{T}}$: **Transitory** component reflects intertemporally 'smoothable' cons. growth
    affected by, e.g., business-cycle risk, risk associated with adjustment to permanent shocks
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- Conditional entropy (volatility) of SDF to measure country risk:

$$\mathcal{L}_t\left(M_{t+1}\right) = \mathbb{E}_t \ln M_{t+1} - \ln(\mathbb{E}_t M_{t+1}) \approx \frac{1}{2}\text{var}_t(M_{t+1})$$

- Trade in:

#1. **Bonds**: earning pecuniary returns and non-pecuniary convenience yields
#2. **Foreign Exchange**: earning pecuniary currency movements
#3. **Equities**: pecuniary returns tied to country-specific risk

Bond Markets

Agents invest in term structure of H and F bonds, with maturity $k = 1, 2, ..., \infty$:

Home Investor (U.S.):

$$e^{-\theta_t^{H,H(k)}} = \mathbb{E}_t \left[M_{t,t+k} R_t^{(k)} \right]$$
$$e^{-\theta_t^{H,F(k)}} = \mathbb{E}_t \left[M_{t,t+k} \frac{\mathcal{E}_{t+k}}{\mathcal{E}_t} R_t^{(k)*} \right]$$

Foreign Investor:

$$e^{-\theta_t^{F,F(k)}} = \mathbb{E}_t \left[M^*_{t,t+k} R_t^{(k)*} \right]$$
$$e^{-\theta_t^{F,H(k)}} = \mathbb{E}_t \left[M^*_{t,t+k} \frac{\mathcal{E}_t}{\mathcal{E}_{t+k}} R_t^{(k)} \right]$$

where $\mathcal{E}_t$ exchange rate $\uparrow$ is a Foreign currency appreciation

Assumption 1 (Convenience-Yield Term Structure)

Term structure of convenience yields $\theta_t^{i,j(k)}$ (investor i, bond j, maturity k) is observable at time t.

Equity and FX Markets

Assumption 2 (Equities and Convenience)

Investors trade in domestic risky asset (return $R^g_{t,t+1}$) whose convenience is normalised to zero.

$$1 = \mathbb{E}_t \left[M_{t,t+1} R^g_{t,t+1} \right]$$

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Equilibrium FX Process

$$\frac{\mathcal{E}_{t+1}}{\mathcal{E}_t} = \frac{M^*_{t,t+1}}{M_{t,t+1}} e^{\theta_t^{F,H(1)} - \theta_t^{H,H(1)}}$$

Investors across countries and time face same FX process, so no-arbitrage implies agreement on convenience yields: $\theta_t^{F,H(1)} - \theta_t^{F,F(1)} = -(\theta_t^{H,F(1)} - \theta_t^{F,F(1)})$

+ restrictions on term structure of convenience yields

▸ Restrictions

Total, Permanent and Transitory SDF Risk

Lower bound for Total SDF risk: [Jiang & Richmond 2023]

$$\mathcal{L}_t(M_{t,t+1}) \geq \mathbb{E}_t \log\left[\frac{R^g_{t,t+1}}{R_t}\right] - \theta_t^{H,H(1)}$$

We derive new bounds for permanent SDF risk : [Alvarez & Jermann 2005]

Proposition

Lower bound for Permanent SDF risk:

$$\mathcal{L}_t\left(M^{\mathbb{P}}_{t,t+1}\right) \geq \mathbb{E}_t \log\left[\frac{R^g_{t,t+1}}{R_t}\right] - \mathbb{E}_t\left[rx^{(\infty)}_{t+1}\right] - \theta_t^{H,H(\infty)} + \mathbb{E}_t\left[\theta_{t+1}^{H,H(\infty)}\right]$$

where $rx^{(k)}_{t+1} = \log(R^{(k)}_{t,t+1}/R_t)$

Measuring SDF Risk with Equity Premia

- Rel. risk measures assuming bounds hold with equality (maximised by equity indices)

IR and FX Data | Realised Eq. Ret. Plot | CIP to Conv. Ylds. | Cross-Country CY Plot | Within-U.S. CY Plot | Within-E.A. CY Plot

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- Proxy (log) equity risk premium according to Gordon growth formula: [Farhi & Gourio 2018]

$$\mathbb{E}_t \log \left[\frac{R^g_{t,t+1}}{R_t} \right] := \frac{D_t}{P_t} + g_t^e - r_t + \pi_t^e$$

  - D_t/P_t: dividend-price ratio from G.7 equity price indices (*Global Financial Data*)
  - g_t^e: proxy exp. future dividend gr. with avg. annual dividend gr. in 10 years prior to t
  - $r_t - \pi_t^e$: 6-month nominal zero-coupon bond yield and inflation forecasts (*Consensus Economics*)

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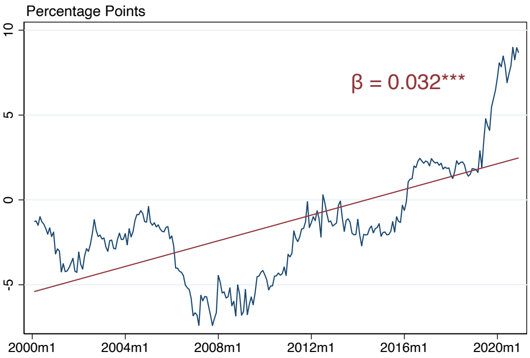
Key finding: U.S. Total risk now higher than G.7, driven by Permanent risk

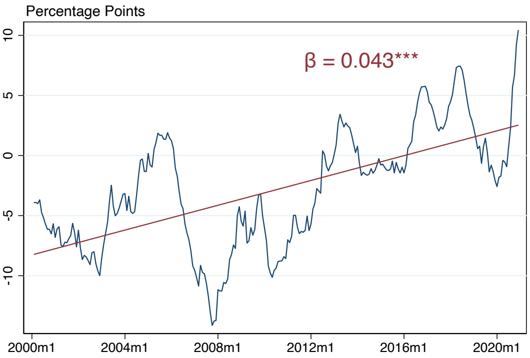
IR and FX Data | Realised Eq. Ret. Plot | CIP to Conv. Ylds. | Cross-Country CY Plot | Within-U.S. CY Plot | Within-E.A. CY Plot

Our Measures of U.S. Relative Risk

U.S. Relative Equity Risk Premium



U.S. Relative Permanent Risk

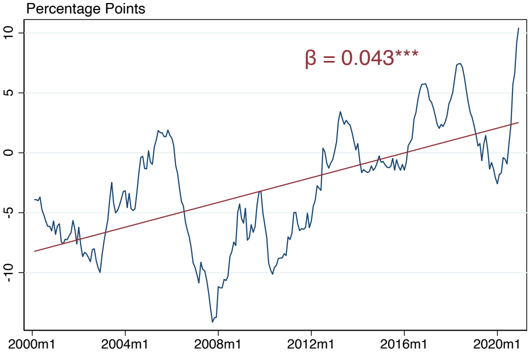


Note. Relative U.S. equity risk premium and permanent risk (avg. vs. other G.7), 2000:M2 to 2020:M12.

Relationship to Other Measures of U.S. Relative Risk

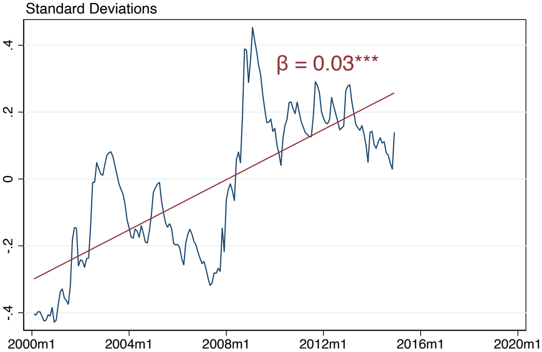
U.S. Relative Permanent Risk

Ex Ante Equity-Based Measure



U.S. Long-Run Risk

Schorfheide, Song & Yaron 2018



Note. Relative U.S. permanent risk (avg. vs. other G.7, LHS), 2000:M2 to 2020:M12.
Schorfheide, Song & Yaron (2018) volatility of permanent component of US %△ cons. (RHS), 2000:M1 to 2015:M1.

Unconditional Long-Run SDF Risk, FX Premia and Convenience Yields

Proposition

$$\underbrace{\mathcal{L}(M^{\mathbb{P}}_{t,t+1}) - \mathcal{L}(M^{\mathbb{P}*}_{t,t+1})}_{\text{U.S. Relative Permanent Risk}} - \underbrace{\lim_{k\to\infty} \frac{1}{k}\mathbb{E}\left[rx^{FX}_{t+k}\right]}_{\text{LR UIP Deviation}} + \underbrace{\lim_{k\to\infty} \frac{1}{k}\left\{\mathbb{E}[\theta^{F,H(k)}_t] - \mathbb{E}[\theta^{F,F(k)}_t]\right\}}_{\text{LR Treasury Convenience}} = 0$$

where $rx^{FX}_{t+k} = r^{(k)*}_t - r^{(k)}_t + \Delta e_{t+k}$

Absent convenience, long-horizon UIP holds $(\lim_{k\to\infty} \frac{1}{k}\mathbb{E}\left[rx^{FX}_{t+k}\right] = 0) \Rightarrow$ permanent risk equalised across countries $\mathcal{L}(M^{\mathbb{P}}_{t,t+1}) = \mathcal{L}(M^{\mathbb{P}*}_{t,t+1})$ [Lustig, Stathopoulos & Verdelhan 2019]

With convenience, changes in relative permanent risk generate adjustment through non-pecuniary convenience yields: $(\mathcal{L}(M^{\mathbb{P}}_{t,t+1}) - \mathcal{L}(M^{\mathbb{P}*}_{t,t+1}))\uparrow \longleftrightarrow \left(\theta^{F,H(\infty)}_t - \theta^{F,F(\infty)}_t\right)\downarrow$

▸ SR FX Premia

Measures of U.S. Relative Risk and Long-Run Treasury Convenience

	Regression			
	Dependent Variable: $\tilde{\theta}_{i,t}^{F,H(\infty)} - \tilde{\theta}_{i,t}^{F,F(\infty)}$			
US Relative Equity Prem.	-0.08***			
	(0.02)			
US Relative Equity Return		-0.03***		
		(0.01)		
US Relative Equity net Term Prem.			-0.05***	
			(0.01)	
US Relative Permanent Risk				-0.06***
				(0.01)
Observations	1,657	1,657	1,657	1,544
Country FE	YES	YES	YES	YES
Within R-squared	0.0564	0.0402	0.0402	0.0616
Pedroni Panel Cointegration t Test	-5.43***	-5.36***	-4.86***	-4.46***

Pedroni (1999, 2004) Test Details: H_0: No cointegration in alls panels; H_1: Cointegration in every panel

▸ UR Tests ▸ Coint. Tests

Conditional Long-Run SDF Risk, FX Premia and Convenience Yields

Carry-trade return long Foreign ∞-maturity bond, short Home ∞-maturity bond for one period:

$$\mathbb{E}_t[rx_{t+1}^{(\infty),CT}] = \underbrace{\mathbb{E}_t[rx_{t+1}^{FX}]}_{\text{Currency Returns}} + \underbrace{\mathbb{E}_t[rx_{t+1}^{(\infty)*}] - \mathbb{E}_t[rx_{t+1}^{(\infty)}]}_{\text{Difference in Local Bond Returns}}$$

Proposition

$$\overbrace{\mathcal{L}_t(M_{t,t+1}^{\mathbb{P}}) - \mathcal{L}_t(M_{t,t+1}^{\mathbb{P}*})}^{\text{U.S. Relative Permanent Risk}} - \mathbb{E}_t[rx_{t+1}^{(\infty),CT}] + \left(\theta_t^{F,H(\infty)} - \theta_t^{F,F(\infty)}\right) - \underbrace{\left(\mathbb{E}_t[\theta_{t+1}^{F,H(\infty)}] - \mathbb{E}_t[\theta_{t+1}^{F,F(\infty)}]\right)}_{\triangle \text{ LR Treasury Convenience}} = 0$$

Long-Run Risk, Treasury Convenience & FX Premia in the Data

$$\tilde{\theta}^{F,H(\infty)}_{i,t} - \tilde{\theta}^{F,F(\infty)}_{i,t} = \beta_0 + \beta_1 \left[\tilde{\mathcal{L}}_t(M^{\mathbb{P}}_{i,t,t+1}) - \tilde{\mathcal{L}}_t(M^{\mathbb{P}*}_{i,t,t+1})\right] + \beta_2 rx^{(\infty),CT}_{i,t+1} + \beta_3 \left[\tilde{\theta}^{F,H(\infty)}_{i,t+1} - \tilde{\theta}^{F,F(\infty)}_{i,t+1}\right] + f_i + \varepsilon_{i,t}$$

Variables	Dependent Variable: $\tilde{\theta}^{F,H(\infty)}_{i,t} - \tilde{\theta}^{F,F(\infty)}_{i,t}$		
$\tilde{\mathcal{L}}_t\left(M^{\mathbb{P}}_{i,t,t+1}\right) - \tilde{\mathcal{L}}_t(M^{\mathbb{P}*}_{i,t,t+1})$	-0.015**		
	(0.008)		
$\tilde{\mathcal{L}}_t\left(M^{\mathbb{P}}_{i,t,t+1}\right)$		-0.024***	
		(0.009)	
$\tilde{\mathcal{L}}_t(M^{\mathbb{P}*}_{i,t,t+1})$		0.002	
		(0.01)	
$\tilde{\mathcal{L}}_t\left(M^{\mathbb{P}}_{i,t,t+1}\right) - \tilde{\mathcal{L}}_t(M^{\mathbb{P}*}_{i,t,t+1})$ *ex post*			-0.012***
			(0.004)
Observations	1,508	1,508	1,508
Country FE	Yes	Yes	Yes
Within R^2	0.682	0.688	0.688

SR Reg.

Conclusion

- Framework to assess dimensions of U.S. ‘specialness’ jointly in FX, bond and equity markets
  - In equilibrium, changes in U.S. relative risk induce movements in either the pecuniary or non-pecuniary returns to U.S. dollars/Treasuries
- Combine theory with novel measures of SDF risk (from equity markets) as well as convenience yields (from CIP) and returns (from FX and bond markets) for G.7 countries
- **Document rise in relative U.S. total risk vs G.7, driven by permanent risk**
- **Decline in long-maturity U.S. Treasury convenience and rise in relative U.S. permanent risk are two sides of the same coin**
  - Mechanism: re-assessment by investors of U.S. risk following the recent large global crises (Dot-Com and GFC) that originated in the U.S [Kozlowski, Veldkamp, & Venkateswaran 2019]

Appendix

Restrictions on Term Structure of Convenience Yields

Lemma (Term Structure of Convenience Yields)

Given $M_{t,t+1}$, $M^*_{t,t+1}$, the Euler equations, and the exchange-rate process, term structure of convenience yields satisfies the following conditions:

$$\theta_t^{F,H(k)} - \sum_{\tau=0}^{k-1} \theta_{t+\tau}^{F,H(1)} = \theta_t^{H,H(k)} - \sum_{\tau=0}^{k-1} \theta_{t+\tau}^{H,H(1)}$$

for all k and all t. There is an analogous expression for the Home and Foreign investors' convenience yields on Foreign bonds.

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Short-Run SDF Risk, FX Premia and Convenience Yields

Euler equations & FX process imply tight link between relative *total* risk, pecuniary one-period currency returns ($rx^{FX}_{t+1} = r^{(1)*}_t - r^{(1)}_t + \Delta e_{t+1}$) and one-period non-pecuniary convenience yields

Proposition

$$\underbrace{\mathcal{L}_t(M_{t,t+1}) - \mathcal{L}_t(M^*_{t,t+1})}_{\text{U.S. Relative Risk}} - \mathbb{E}_t[rx^{FX}_{t+1}] + \underbrace{\theta^{F,H(1)}_t - \theta^{F,F(1)}_t}_{\text{SR Convenience}} = 0$$

Higher U.S. relative total risk can generate adjustment through two channels

#1 **FX Risk Premia**: U.S. dollar depreciates $\rightarrow$ U.S. investor earns higher returns to net-long positions in Foreign currency bond: $rx^{FX}_{t+1} \uparrow$

#2 **Convenience Yields**: U.S. investor earns higher convenience yield on Foreign bond vis-à-vis U.S. Treasury: $(\theta^{F,H(1)}_t - \theta^{F,F(1)}_t) \downarrow$

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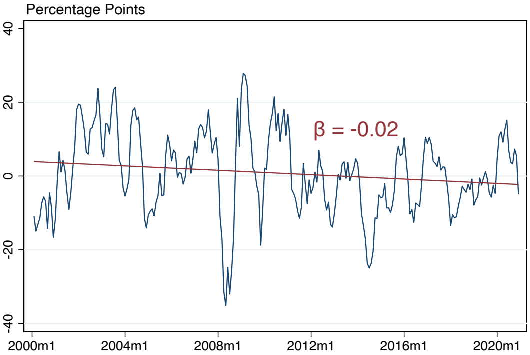
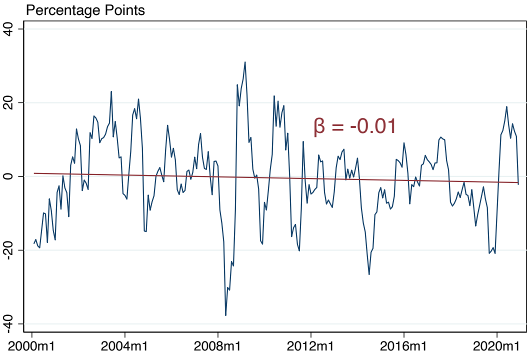
Interest Rates and Exchange Rates

- $\mathcal{E}_t$: FX data for U.S. vs. other G.7 economies: 1997:M1 to 2020:M12
- $r_t^{(k)}$: 6-month and 10-year zero-coupon government bond yields

U.S. Short-Run Dollar Premium rx_{t+1}^{FX}



U.S. Long-Run Carry Trade Return $rx_{t+1}^{(\infty),CT}$



Note. U.S. Short and Long-Run Carry-Trade Returns (avg. vs. other G.7), 2000:M2 to 2020:M12.

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Mapping CIP to Cross-Country Convenience Yields

Measure relative U.S. Treasury convenience $\theta_t^{F,H(k)} - \theta_t^{F,F(k)}$ from CIP deviations

$$\mathbb{E}_t[M^*_{t,t+k}\frac{\mathcal{E}_t}{\mathcal{E}_{t+k}}\underbrace{\left(\frac{F_t^{(k)}}{\mathcal{E}_t}R_t^{(k)*}\right)}_{\text{Synthetic Treasury}}] = e^{-\theta_t^{F,F(k)}-\beta_k^*(\theta_t^{F,H(k)}-\theta_t^{F,F(k)})}$$

- $\beta_k^* = 1$: Foreign investor values a synthetic Treasury same as a U.S.-issued Treasury
  - $\Rightarrow$ U.S. Treasuries only convenient due to their currency and CIP deviations not informative
- $\beta_k^* < 1$: Intrinsic convenience from U.S. Treasury, beyond its currency denomination
  - $\Rightarrow$ $CIP_t^{(k)}$ suggests Foreigners value U.S. bonds more than Foreign ones

$$\theta_t^{F,H(k)} - \theta_t^{F,F(k)} := \frac{1}{1-\hat{\beta}_k^*}CIP_t^{(k)}$$

[Jiang, Krishnamurthy & Lustig 2021]

Maturity	6-month	1-year	10-year
$\hat{\beta}_k^*$	0.76	0.89	0.85

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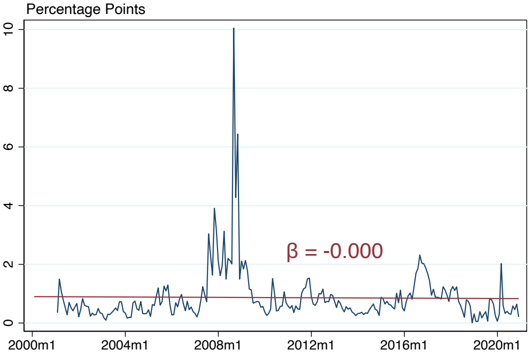
Cross-Country Convenience Yields

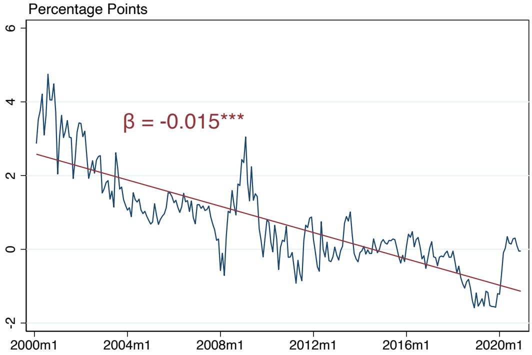
U.S. 6M Cross-Country Conv. Yield

$$\theta_t^{F,H(1)} - \theta_t^{F,F(1)}$$



U.S. 10Y Cross-Country Conv. Yield

$$\theta_t^{F,H(\infty)} - \theta_t^{F,F(\infty)}$$



Note. Cross-country 6M and 10Y U.S. Treasury convenience yield (avg. vs. other G.7), 2000:M2 to 2020:M12.

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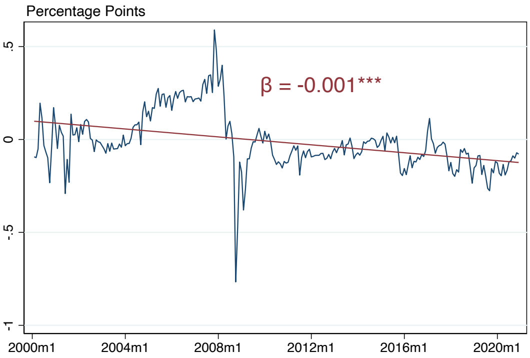
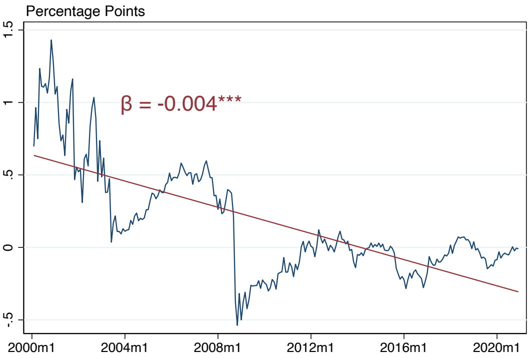
U.S. Within-Country Convenience Yields

Measure using interest-rate swaps: $\theta_t^{H,H(k)} := r_{irs,t}^{(k)} - r_t^{(k)}$ [Du, Hébert & Li 2022]

U.S. 6M Within-Country Conv. Yield $\theta_t^{H,H(1)}$



U.S. 10Y Within-Country Conv. Yield $\theta_t^{H,H(\infty)}$



Note. Within-country 6M and 10Y U.S. Treasury convenience yield, 2000:M2 to 2020:M12.

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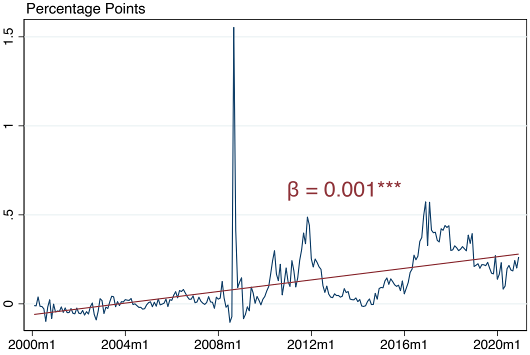
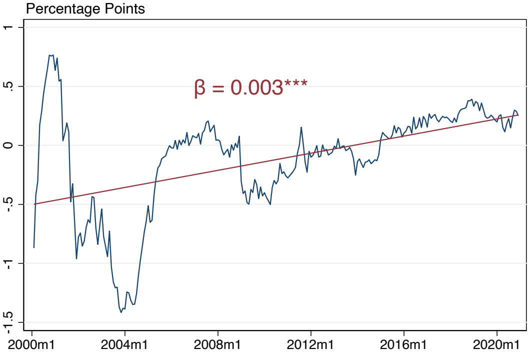
E.A. Within-Country Convenience Yields

Measure using interest-rate swaps: $\theta_t^{F,F(k)} := r_{irs,t}^{(k)*} - r_t^{(k)*}$ [Du, Hébert & Li 2022]

E.A. 6M Within-Country Conv. Yield $\theta_t^{F,F(1)}$



E.A. 10Y Within-Country Conv. Yield $\theta_t^{F,F(\infty)}$



Note. Within-country 6M and 10Y E.A. convenience yield, 2000:M2 to 2020:M12.

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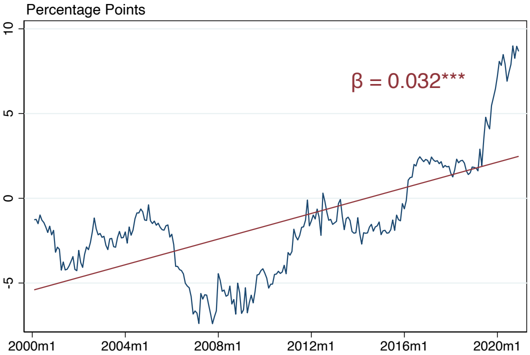
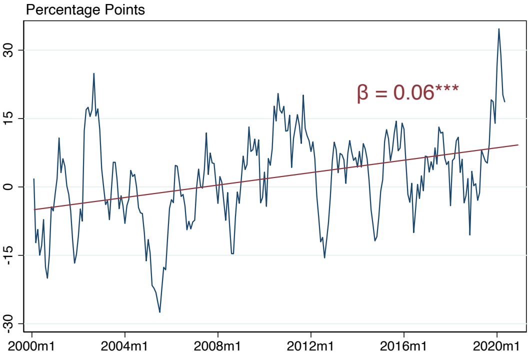
Relative Equity Risk Premia

U.S. Relative Expected Equity Risk Premium



U.S. Relative Realised Equity Returns



Note. Ex ante and *ex post* relative U.S. equity risk premia (avg. vs. other G.7), 2000:M2 to 2020:M12.

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Panel Unit-Root Tests

	Adj. t	p-val.		Adj. t	p-val.
Currency Returns			**Equity Risk Premium**		
rx^{FX}_{t+6m}	-5.87	0.00	U.S.	-2.90	0.00
rx^{FX}_{t+1y}	-4.06	0.00	R.o.W.	-4.03	0.00
$rx^{(\infty),CT}_{t+1}$	-6.30	0.00	ERP	-2.13	0.04
Cross-Country Convenience			**Equity Returns**		
$\theta^{F,H(6m)}_t - \theta^{F,F(6m)}_t$	-7.08	0.00	Rel. Eq. Ret.	-6.20	0.00
$\theta^{F,H(1y)}_t - \theta^{F,F(1y)}_t$	-5.55	0.00	**Permanent Risk**		
$\theta^{F,H(10y)}_t - \theta^{F,F(10y)}_t$	-3.26	0.00	$\mathrm{D}\mathcal{L}_t(M^{\mathbb{P}}_{t,t+1})$, ERP	-4.42	0.00
Within-Country Convenience			$\mathrm{D}\mathcal{L}_t(M^{\mathbb{P}}_{t,t+1})$, ERP (m.a. TP)	-1.35	0.68
$\theta^{H,H(6m)}_t - \theta^{F,F(6m)}_t$	-4.68	0.00	ERP net TP	-5.41	0.00
$\theta^{H,H(10y)}_t - \theta^{F,F(10y)}_t$	-2.18	0.03	ERP net (m.a.) TP	-1.83	0.18
Relative Total Risk			$\mathrm{D}\mathcal{L}_t(M^{\mathbb{P}}_{t,t+1})$, Eq. Ret.	-5.09	0.00
$\mathrm{D}\mathcal{L}_t(M_{t,t+1})$, ERP	-1.91	0.12			
$\mathrm{D}\mathcal{L}_t(M_{t,t+1})$, Eq. Ret.	-4.89	0.00			

Note. Im, Pesaran and Shin (2003) tests. H_0: all panels include unit root. H_1: at least one panel does not include a unit root.

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Panel Cointegration Tests

	Modified Phillips-Perron t	Phillips-Perron t	Augmented Dickey-Fuller t
Dependent Variable: $\theta_t^{F,H(10y)} - \theta_t^{F,F(10y)}$			
$\mathrm{D}\mathcal{L}_t(M_{t,t+1}^{\mathbb{P}})$	-4.19	-3.64	-4.47
p-val	0.00	0.00	0.00
$\mathrm{D}\mathcal{L}_t(M_{t,t+1}^{\mathbb{P}})$ (smooth.)	-4.19	-3.64	-4.47
p-val	0.00	0.00	0.00
Eq. net TP (smooth.)	-5.26	-3.79	-4.85
p-val	0.00	0.00	0.00
Eq. Ret.	-5.75	-4.09	-5.36
p-val	0.00	0.00	0.00

Note. Pedroni (1999, 2004) panel-by-panel cointegration tests. H_0: no cointegration. H_1: all panels cointegrated.

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Testing Short-Run Relationship (Proposition 1)

$$\tilde{\theta}_{i,t}^{F,H(6M)} - \tilde{\theta}_{i,t}^{F,F(6M)} = \beta_0 + \beta_1 \left[\tilde{\mathcal{L}}_t \left(M_{i,t,t+1}\right) - \tilde{\mathcal{L}}_t(M^*_{i,t,t+1})\right] + \beta_2 rx_{t+1}^{FX} + f_i + \varepsilon_{i,t}$$

	$\theta_t^{F,H(1)} - \theta_t^{F,F(1)}$	$\theta_t^{F,H(1)} - \theta_t^{F,F(1)}$
Rel. Tot. Risk	-0.03**	
	(0.01)	
U.S. Eq. Risk Prem.		-0.01
		(0.01)
R.o.W. Eq. Risk Prem.		0.01***
		(0.00)
Observations	1,531	1,531
# Countries	6	6
Controls	YES	YES
Country FE	YES	YES
Within R^2	0.0184	0.0714

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