Treasury Auctions and Long-Term Bond Yields

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9th Conference on Fixed Income Markets — May 22-23, 2025

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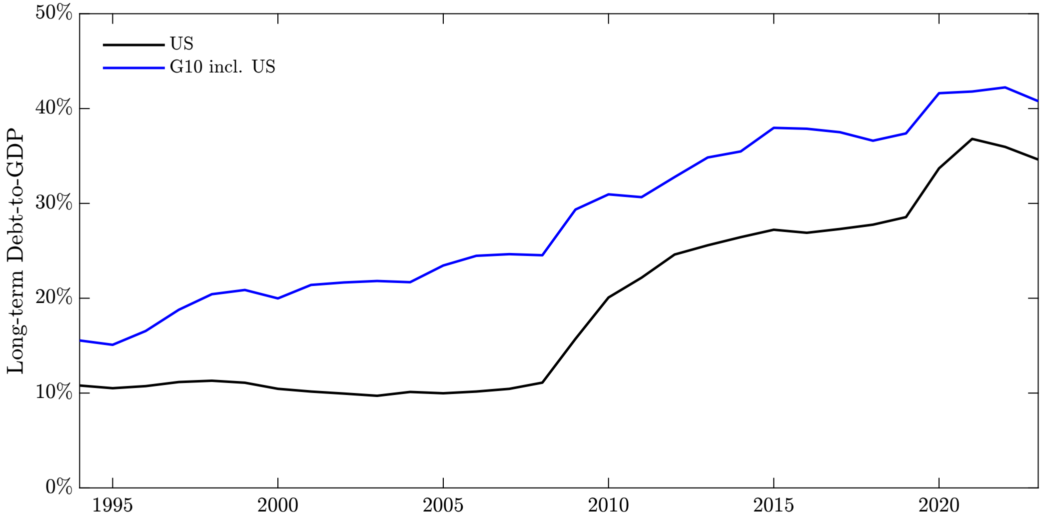
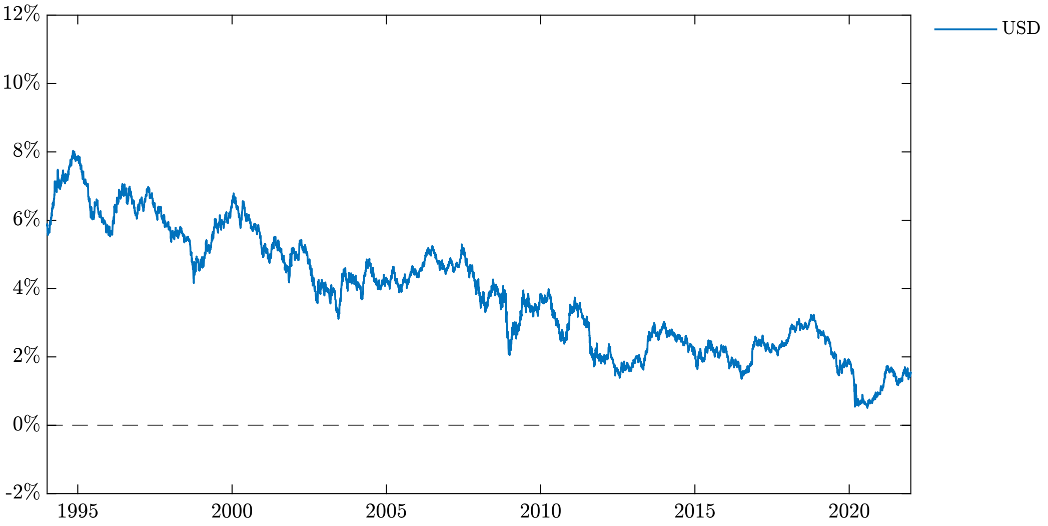
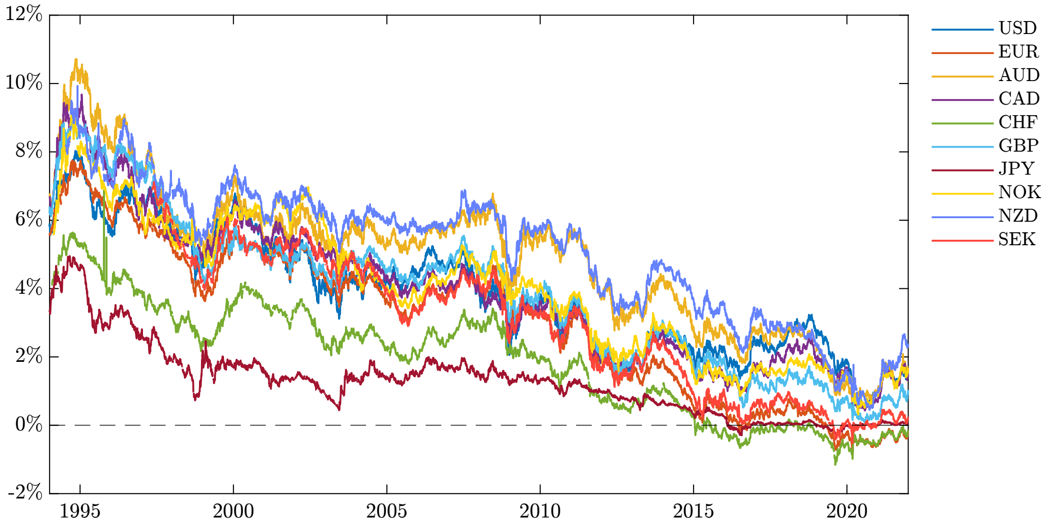
Global and US Long-Term Debt



Long-Term Sovereign Bond Yields: United States



Long-Term Sovereign Bond Yields: US & G10



Treasury Auctions and Long-Term Bond Yields

- **Long-term sovereign debt has increased but long-term yields have declined.**
  - This implies that there has been a **positive demand shift** for long-term debt.
  - The **decline** in long-term yields has been strongly **integrated** across countries.
- **What type of information is important for this integration?**
  - **This paper:** study the role of **US Treasury auctions** for gradual demand shifts.

  ⇒ **Auctions** are ideal to learn about **demand**, because **supply** is often **pre-determined**.

  ⇒ However, auctions are **small** relative to secondary market trading and the market may learn about the demand from other **macroeconomic** and **monetary policy announcements**...

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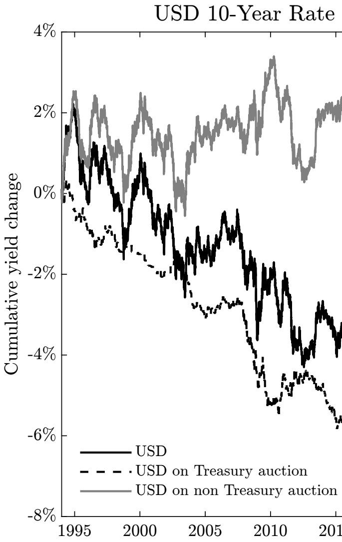
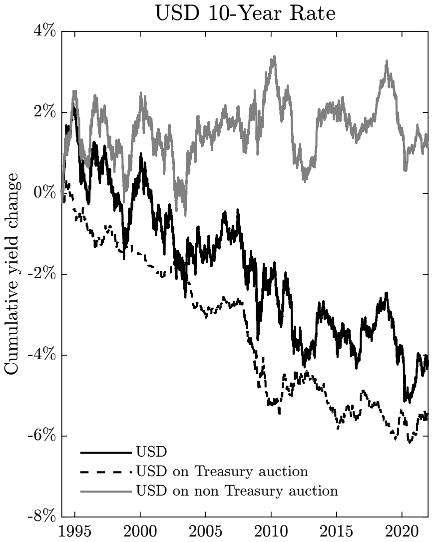
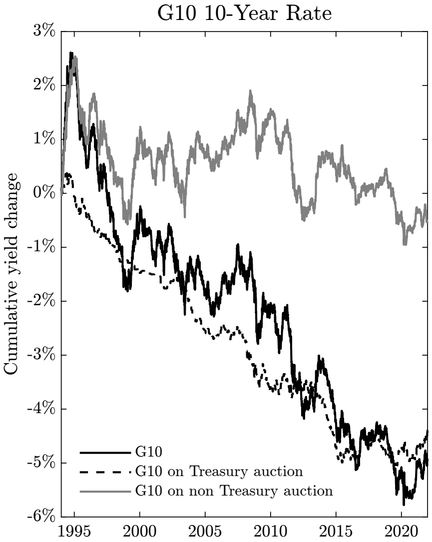
US Long-Term Rates over Treasury Auction Days



US and G10 Long-Term Rates over Treasury Auction Days





Institutional Details of Treasury and Foreign Auctions

- **Mechanics of Treasury auctions**:
  - Tentative schedule for auctions announced quarterly.
  - Single-price auction where bidders submit a demand schedule.

- There are **893 auctions** over our sample from **January 1994** until **December 2021**:
  - We focus only on auctions for securities with maturities greater or equal to 5 years.
  - For auctions that occur less than 2 business days apart we only keep the first auction.

- **Three facts about our final sample of 517 auctions**:
  1. Average size of auctions: \$24.8 billion.
  2. Frequency of auctions: around 4.6 days per quarter.
  3. Average foreign participation: 17.7 percent.

- **We collect similar information about foreign sovereign bond auctions:**
  - **G10 countries**: Australia, Canada, France and Germany as proxies for Eurozone debt, Japan, New Zealand, Norway, Sweden, UK, and Switzerland.
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US and G10 Long-Term Yields over Auctions

- Over **3-day window** around auctions, the market learns about **demand**, *not* supply.
  - **Supply** information is revealed in advance at **announcement date** and **press conferences**.
  - **Demand** stems from global investors: **foreign investors** hold 31% of all US Treasuries and 51% of long-term (notes and bonds) Treasuries (see TIC System).
  - We learn about **global demand** because both **domestic** and **foreign investors** participate.
- For 3-day windows around Treasury auctions (two days after plus day of the auction), we measure changes in **long-term sovereign bond yields**.

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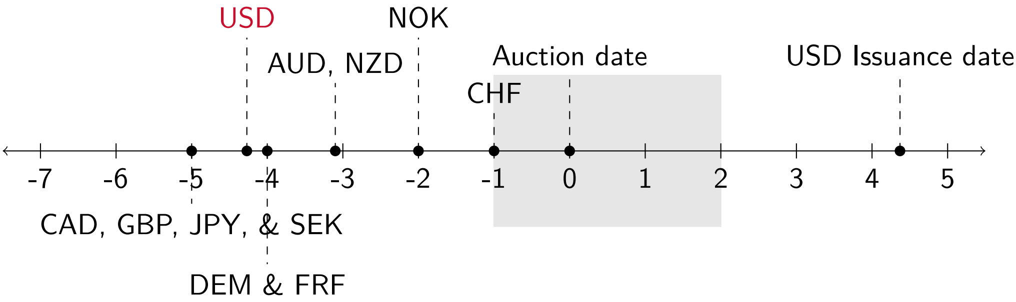
Auction Timeline in Business Days



Decline of Long-Term Yields Around Auctions

		UST auctions		Local auctions		
	All days	Auction	No auction	Auction	No auction	Share in %
USD	−0.18	−1.04**	0.07			
	[0.88]	[2.47]	[0.28]			
G10	−0.23**	−0.95***	−0.06			
	[1.98]	[3.57]	[0.43]			
EUR	−0.27*	−0.81**	−0.11			
	[1.69]	[2.44]	[0.62]			
AUD	−0.23	−1.02**	0.00			
	[1.01]	[2.31]	[0.00]			
CAD	−0.23	−0.65*	−0.10			
	[1.22]	[1.78]	[0.48]			
CHF	−0.18	−0.48*	−0.08			
	[1.10]	[1.87]	[0.43]			
GBP	−0.21	−0.90**	−0.02			
	[1.15]	[2.20]	[0.09]			
JPY	−0.14	−0.56***	−0.02			
	[1.23]	[2.73]	[0.15]			
NOK	−0.16	−0.92**	0.06			
	[0.85]	[2.51]	[0.30]			
NZD	−0.33	−1.15***	−0.07			
	[1.63]	[2.91]	[0.32]			
SEK	−0.35**	−0.72***	−0.16			
	[2.09]	[2.69]	[1.02]			

Decline of Long-Term Yields Around Auctions

		UST auctions		Local auctions		
	All days	Auction	No auction	Auction	No auction	Share in %
USD	−0.18	−1.04**	0.07	−1.04**	0.07	22.14
	[0.88]	[2.47]	[0.28]	[2.47]	[0.28]	
G10	−0.23**	−0.95***	−0.06	−0.03	−0.56**	21.59
	[1.98]	[3.57]	[0.43]	[0.42]	[2.14]	
EUR	−0.27*	−0.81**	−0.11	−0.41	−0.21	26.47
	[1.69]	[2.44]	[0.62]	[1.35]	[1.16]	
AUD	−0.23	−1.02**	0.00	0.67	−0.44*	19.11
	[1.01]	[2.31]	[0.00]	[1.30]	[1.73]	
CAD	−0.23	−0.65*	−0.10	0.62	−0.31	9.58
	[1.22]	[1.78]	[0.48]	[1.12]	[1.61]	
CHF	−0.18	−0.48*	−0.08	0.35	−0.20	5.15
	[1.10]	[1.87]	[0.43]	[0.73]	[1.24]	
GBP	−0.21	−0.90**	−0.02	−0.06	−0.25	20.04
	[1.15]	[2.20]	[0.09]	[0.14]	[1.20]	
JPY	−0.14	−0.56***	−0.02	−0.08	−0.16	27.87
	[1.23]	[2.73]	[0.15]	[0.38]	[1.23]	
NOK	−0.16	−0.92**	0.06	0.55	−0.20	5.47
	[0.85]	[2.51]	[0.30]	[0.77]	[1.04]	
NZD	−0.33	−1.15***	−0.07	−0.80*	−0.20	18.43
	[1.63]	[2.91]	[0.32]	[1.66]	[0.95]	
SEK	−0.35**	−0.72***	−0.16	−0.31	−0.28*	21.94
	[2.09]	[2.69]	[1.02]	[0.98]	[1.87]	

Inspecting the Mechanism

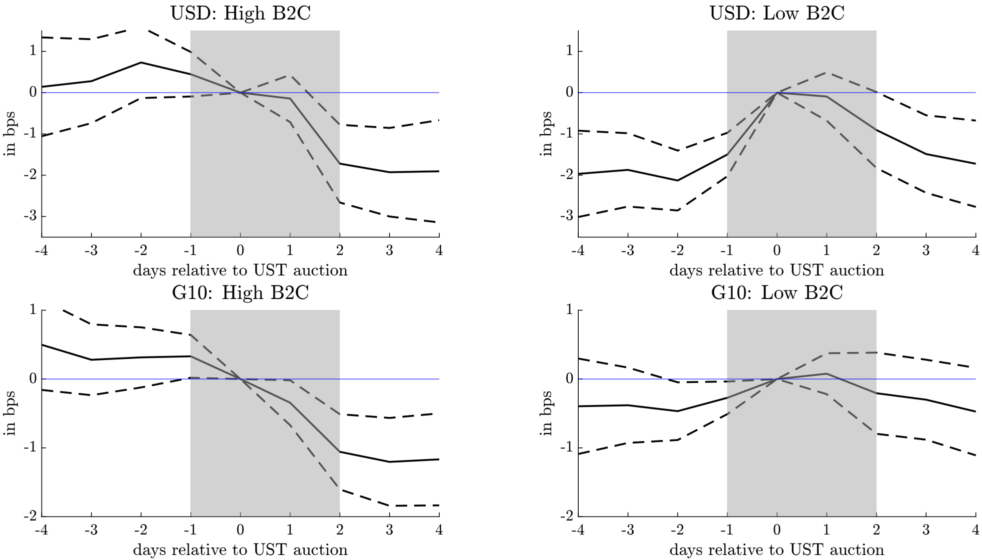
- **Mechanics** of Treasury auctions point toward markets learning about demand.
- Measure **surprise demand at auctions** as innovations to the **bid-to-cover ratio**:

$$B2C_{a,\tau} = \alpha + \sum_{t=1}^{3} \beta_t B2C_{a-t,\tau} + \boxed{\epsilon_{a,\tau}}, \qquad \forall \tau$$

  where $B2C_{a,\tau}$ is Treasury auction a for tenor bucket τ.

- **Sample split** of long-term Treasury auctions along the **median** of $B2C^s_a := \boxed{\epsilon_{a,\tau}}$.
- The sample starts in November 1999 due to the availability of the bid-to-cover ratio.

Event Study: US and G10 Long-Term Rates at Treasury Auctions



Bid-to-Cover Ratio and the Decline of Long-Term Yields

	$B2C^s$	High $B2C^s$	Low $B2C^s$	High−Low $B2C^s$	$\widehat{B2C}$	High−Low $\widehat{B2C}$
USD	−1.60***					
	[3.56]					
G10	−0.75**					
	[2.35]					
EUR	−0.79**					
	[2.04]					
AUD	−1.12**					
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CAD	−1.07***					
	[3.05]					
CHF	−0.26					
	[0.84]					
GBP	−0.74					
	[1.60]					
JPY	−0.26					
	[1.18]					
NOK	−1.09**					
	[2.35]					
NZD	−0.68					
	[1.42]					
SEK	−0.70**					
	[2.01]					

Bid-to-Cover Ratio and the Decline of Long-Term Yields

	$B2C^s$	High $B2C^s$	Low $B2C^s$	High−Low $B2C^s$	$\widehat{B2C}$	High−Low $\widehat{B2C}$
USD	−1.60***	−2.16***	0.62	−2.78***		
	[3.56]	[3.42]	[0.95]	[3.18]		
G10	−0.75**	−1.37***	0.05	−1.42***		
	[2.35]	[3.46]	[0.13]	[4.77]		
EUR	−0.79**	−1.40**	0.08	−1.48**		
	[2.04]	[2.45]	[0.18]	[1.97]		
AUD	−1.12**	−1.93***	0.10	−2.03**		
	[2.13]	[2.99]	[0.16]	[2.26]		
CAD	−1.07***	−1.49***	0.59	−2.07***		
	[3.05]	[2.99]	[1.15]	[2.91]		
CHF	−0.26	−0.58	−0.26	−0.32		
	[0.84]	[1.30]	[0.66]	[0.56]		
GBP	−0.74	−1.77***	0.10	−1.87**		
	[1.60]	[2.93]	[0.16]	[2.20]		
JPY	−0.26	−0.52**	−0.13	−0.39		
	[1.18]	[2.19]	[0.48]	[1.12]		
NOK	−1.09**	−1.68***	0.21	−1.89**		
	[2.35]	[2.67]	[0.41]	[2.25]		
NZD	−0.68	−1.54***	−0.32	−1.22		
	[1.42]	[2.82]	[0.51]	[1.41]		
SEK	−0.70**	−1.45***	0.09	−1.53**		
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	[3.56]	[3.42]	[0.95]	[3.18]	[1.47]	[0.65]
G10	−0.75**	−1.37***	0.05	−1.42***	0.46	−0.01
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AUD	−1.12**	−1.93***	0.10	−2.03**	0.28	−0.88
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CHF	−0.26	−0.58	−0.26	−0.32	0.51	0.65
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Specialness of US Treasury Auctions

1. **Size**: Treasury auctions are large relative to foreign auctions.
   - ⇒ Within each quarter, match foreign and Treasury auctions based on size.
   - ⇒ Match 18% of Treasury auctions — the average size of the foreign auctions is $26.7 billion.

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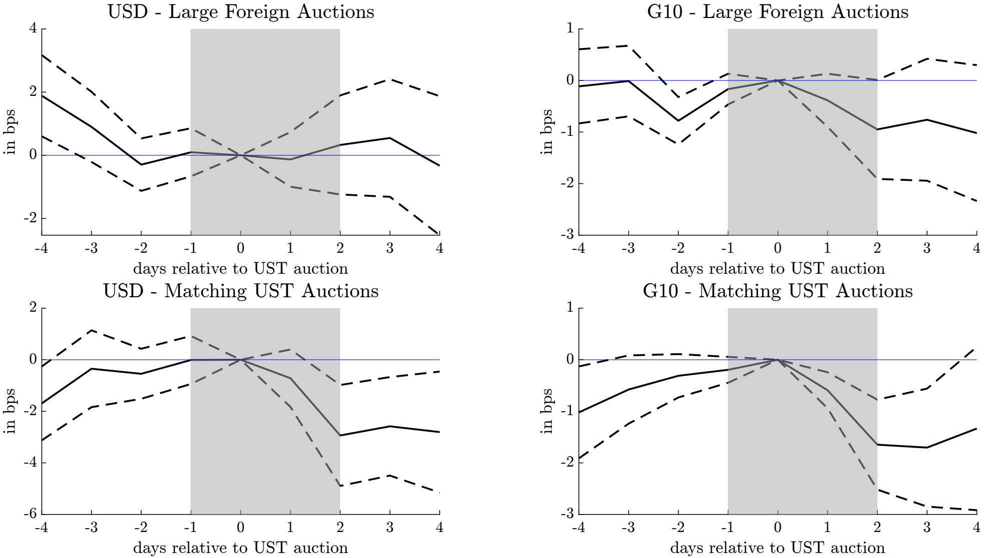

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Anecdotal Evidence of Foreign Demand Channel

US Treasury auction points to robust foreign demand

Treasury yields fell modestly after strong demand at a key auction of $39bn of 10-year US government bonds on Wednesday.

Indirect bidders, a group of buyers that include foreign investors, bought 87.9 per cent of the offering, the largest percentage on record, according to Vail Hartman of BMO Capital Markets.

Yields remained higher on the day.

After an auction for three-year notes on Tuesday was met with weak demand, investors were closely watching Wednesday's sale for signs that investors were stepping back from the Treasury market in response to President Donald Trump's tariffs.

Source: Financial Times on Wednesday, April 9, 2025 (before the 90-day suspension of tariffs).

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   - ⇒ Match 18% of Treasury auctions — the average size of the foreign auctions is \$26.7 billion.
2. **Investor composition**: foreign investors participate at Treasury auctions and their own domestic auctions but less so at other foreign auctions. ✓
   - ⇒ Identify a novel source of variation in foreign investor participation: **overlapping auctions**.
   - ⇒ Measure *Relative overlap*$_{a,t}$ as the share of foreign long-term bond issuances relative to total long-term bond issuances (i.e., foreign plus US) on Treasury auction days.
   - ⇒ **Sample split** of long-term Treasury auctions along the median *Relative overlap*$_{a,t}$.

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2. **Investor composition**: foreign investors participate at Treasury auctions and their own domestic auctions but less so at other foreign auctions. ✓
   - ⇒ Identify a novel source of variation in foreign investor participation: **overlapping auctions**.
   - ⇒ Measure *Relative overlap*$_{a,t}$ as the share of foreign long-term bond issuances relative to total long-term bond issuances (i.e., foreign plus US) on Treasury auction days.
   - ⇒ **Sample split** of long-term Treasury auctions along the median *Relative overlap*$_{a,t}$.

Overlapping Long-Term Auctions and Participation at Auctions

Are overlapping Treasury auctions associated with less foreign participation?

$$Share_{a,t,c} = \alpha + \beta \text{Relative overlap}_{a,t} + \gamma D_t + \epsilon_{a,t,c},$$

where *Relative overlap*$_{a,t}$ measures the share of foreign long-term bond issuances as a fraction of total long-term bond issuances (i.e., foreign plus US) on Treasury auction day a in quarter t.

	Dealers and brokers	Investment funds	Foreign and international	Others
Intercept (α)	0.17***	0.50***	0.19***	0.14***
	[12.21]	[23.43]	[9.09]	[6.79]
Relative overlap$_{a,t}$	0.08***	0.03*	−0.09***	−0.03
	[3.24]	[1.90]	[6.03]	[1.53]
$\bar{R}^2$ in %	77.30	83.99	31.54	32.40
Quarter×Year FE	Yes	Yes	Yes	Yes
#Obs	771	771	771	771

Note: The sample is in event time and spans the period from January 2000 to December 2021.

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Note: The sample is in event time and spans the period from January 2000 to December 2021.

Overlapping Auctions and the Decline of Long-Term Yields

	All days	**Low relative overlap** UST auctions	**High relative overlap** UST auction	Other days
USD	−0.18	−1.57**	−0.47	0.07
	[0.88]	[2.54]	[0.83]	[0.28]
G10	−0.23**	−1.61***	−0.52	−0.06
	[1.98]	[3.70]	[1.21]	[0.43]
EUR	−0.27*	−1.30***	−0.27	−0.11
	[1.69]	[2.84]	[0.56]	[0.62]
AUD	−0.23	−1.40**	−0.62	0.00
	[1.01]	[2.14]	[1.04]	[0.00]
CAD	−0.23	−1.10**	−0.16	−0.10
	[1.22]	[2.09]	[0.33]	[0.48]
CHF	−0.18	−0.83**	−0.10	−0.08
	[1.10]	[2.36]	[0.26]	[0.43]
GBP	−0.21	−1.47**	−0.28	−0.02
	[1.15]	[2.54]	[0.48]	[0.09]
JPY	−0.14	−0.62**	−0.49*	−0.02
	[1.23]	[1.99]	[1.90]	[0.15]
NOK	−0.16	−1.34***	−0.47	0.06
	[0.85]	[2.62]	[0.89]	[0.30]
NZD	−0.33	−1.50**	−0.77	−0.07
	[1.63]	[2.56]	[1.47]	[0.32]
SEK	−0.35**	−1.18***	−0.23	−0.16
	[2.09]	[3.18]	[0.59]	[1.02]

Robustness to Alternative Explanations

- Other **macroeconomic announcements** such as FOMC meetings (see Hillenbrand, 2025) are also associated with decreases in long-term yields.
  - These announcements do *not* tend to explain foreign decreases in long-term yields as well.
- In earlier work Lou, Yan, and Zhang (2013) show that US Treasury prices in secondary markets decrease before auctions and increase shortly thereafter.
  - For foreign yields we find no **intermediation wedge** around US Treasury auctions.
  - We exclude 10-year auctions from our sample and find even stronger evidence.
- Is the decrease in long-term rates due to a **risk premium** earned over auction days?
  - Cieslak and Schrimpf (2019) — equity risk premium is earned over FOMC announcements.
  - Sharpe ratio of a trading strategy that buys Treasuries around auctions is not larger than 1.
- Do markets learn about **inflation risk** rather than real rates around Treasury auctions?
  - Using data on inflation swap yields we find no evidence that they decline around auctions.
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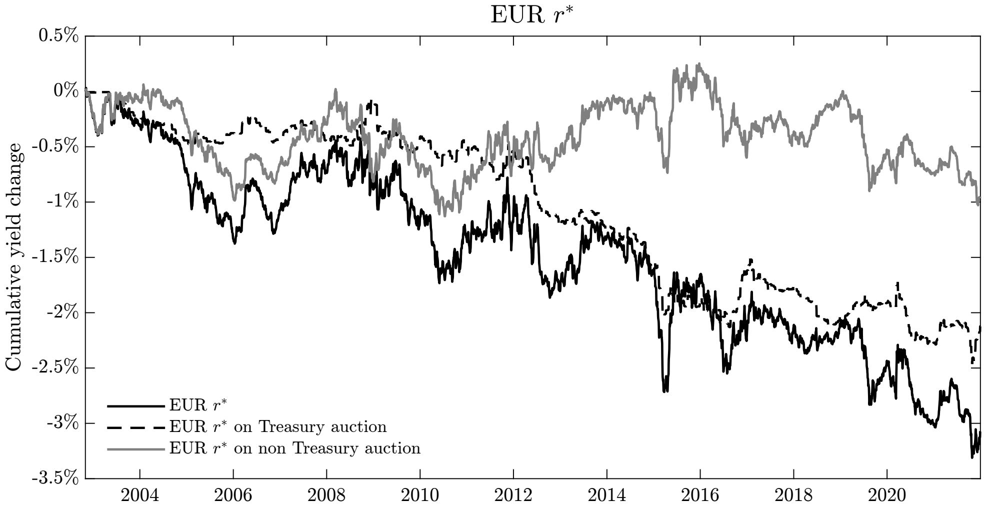
Robustness checks | Recent period

Natural Rates over Treasury Auction Days



Note: This figure shows cumulative changes for the Euro area "r-star" estimates from Christensen and Mouabbi (2024).

Conclusion

- From 1994 to 2021, **long-term debt** has **increased** seven-fold to $18.7 trillion, while **long-term yields** have **decreased** by about 5 percentage points.
- Over **Treasury auctions**, **long-term bond yields** have **fallen** by 5.4 percentage points for the USD and 4.9 percentage points for the G10 currencies.
- **Global investor participation**, rather than **size**, is pivotal for Treasury auctions revealing persistent and mildly **positive shifts** in the **global demand** for **long-term debt**.

Thank you!!

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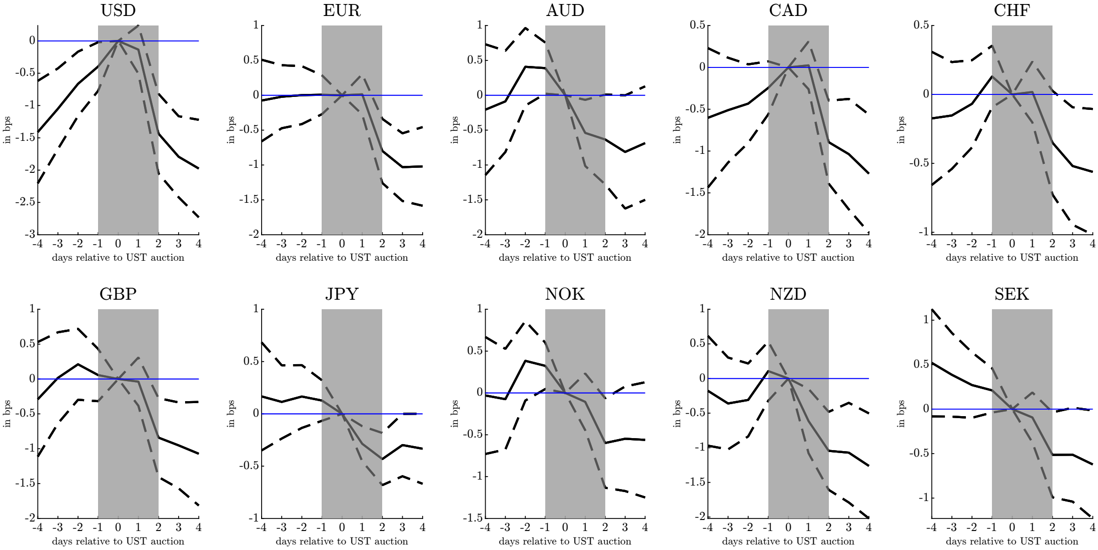
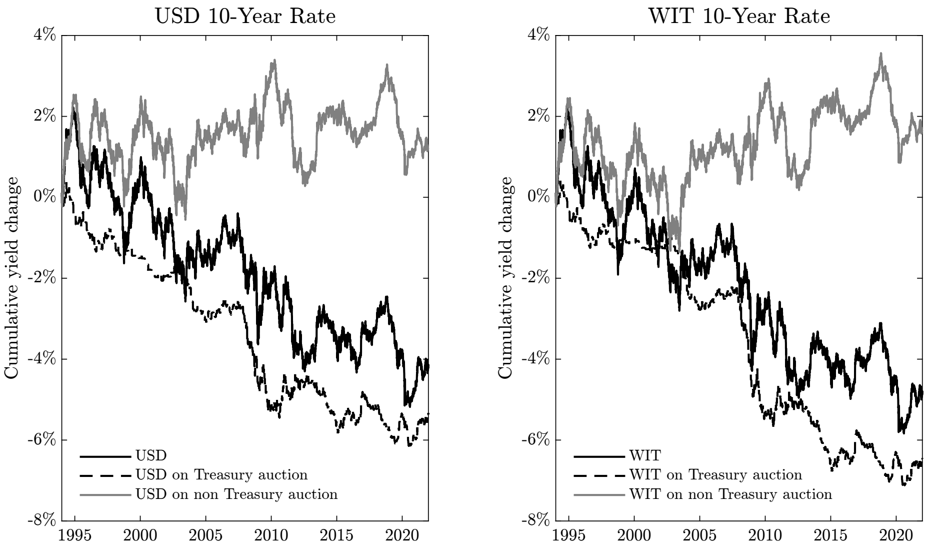
Thank you!!

Appendix

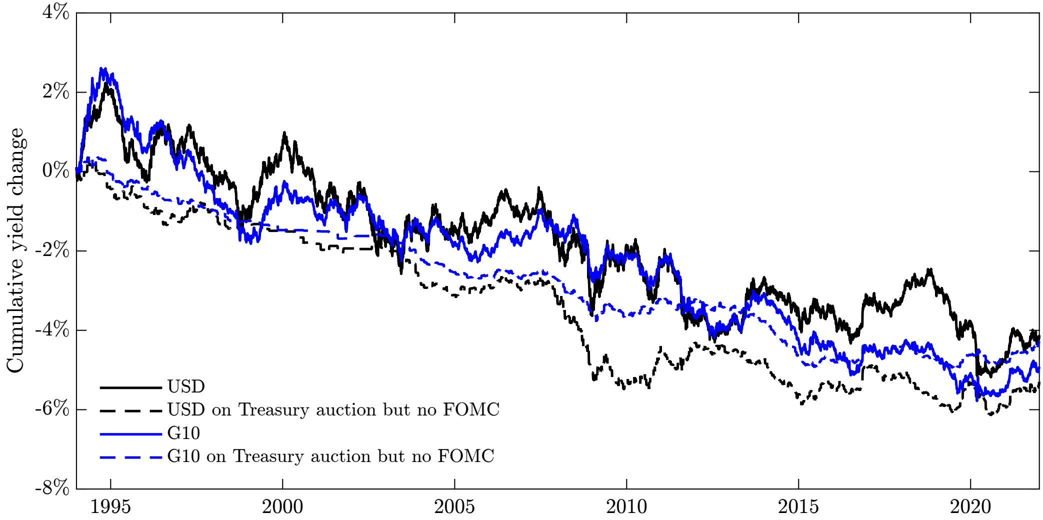
Decline of US and G10 Long-Term Yields Around Auctions



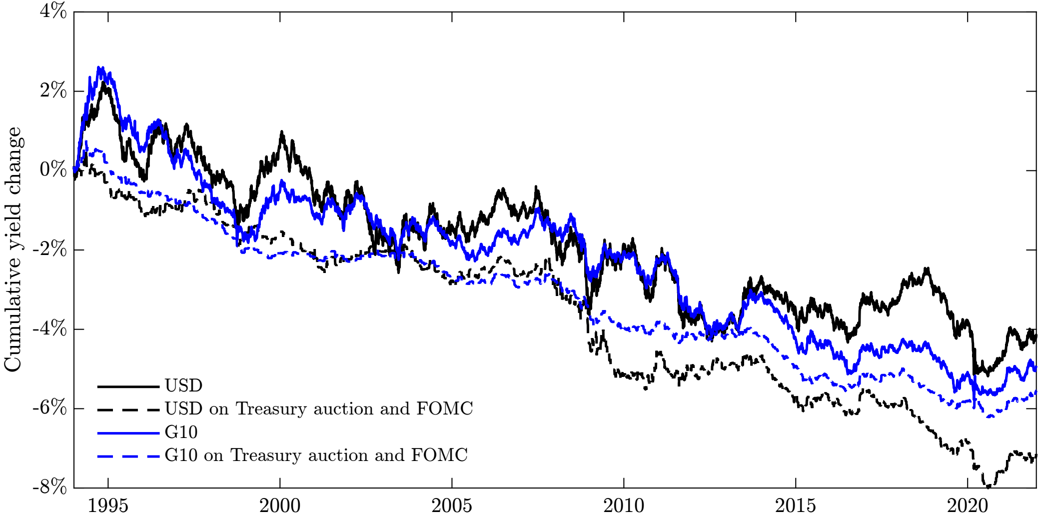
US and WIT Long-Term Rates over Treasury Auction Days



Long-Term Rates over US Auction Days excl. FOMC overlaps

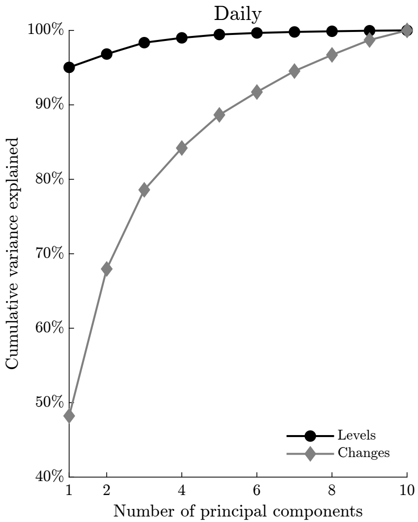


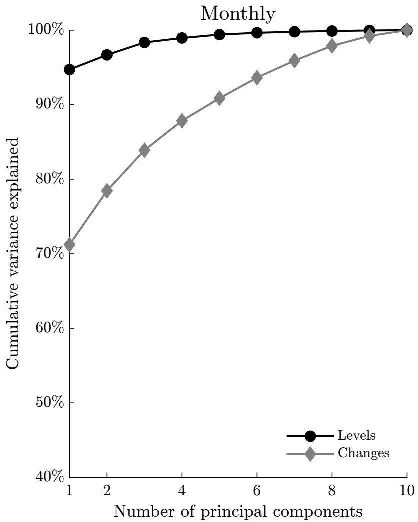
Long-Term Rates over Treasury Auction Days and FOMC Days



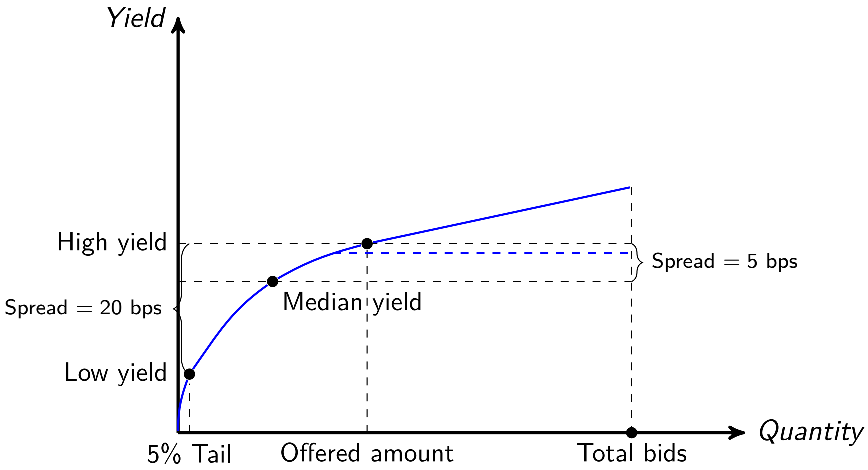
Factor Structure of Long-Term Interest Rates

Go back



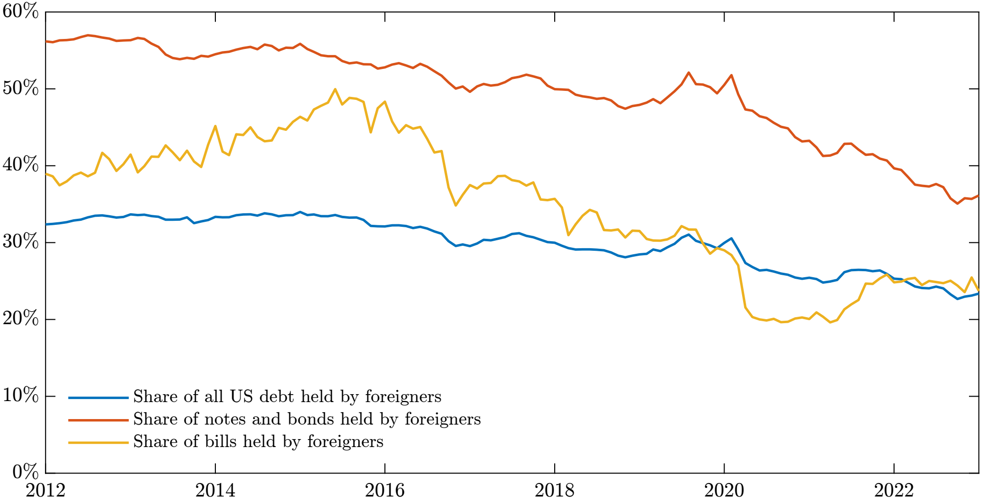


Treasury Auction Demand Schedule



Foreign Treasury Holdings

Go back

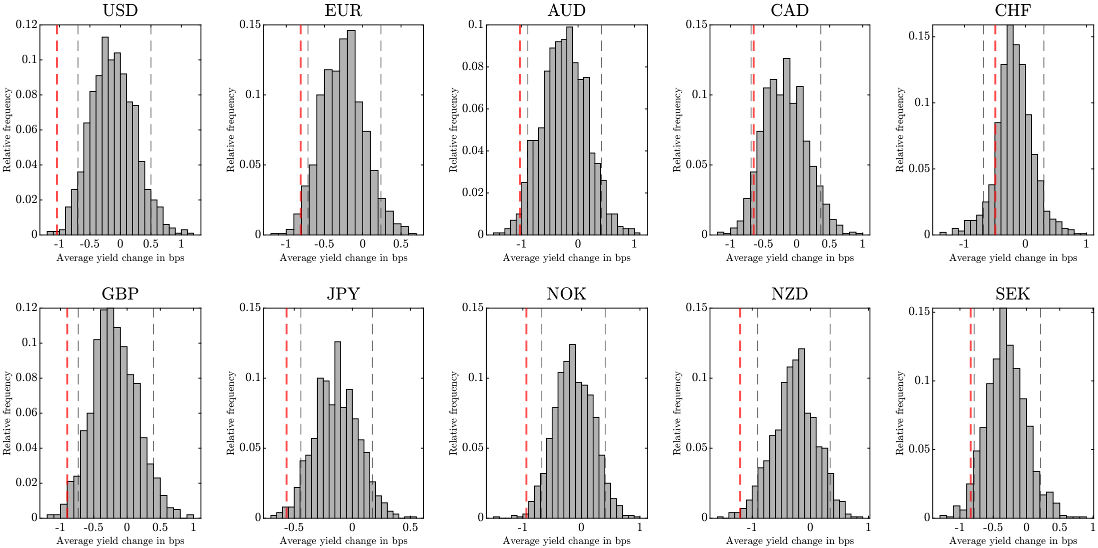


Summary Statistics of US Treasury and Foreign Auctions

	5–7 years			8–10 years			>11 years		
Country	#Issues	Mean	Std.	#Issues	Mean	Std.	#Issues	Mean	Std.
USD	448	29.15	12.79	242	19.71	7.53	203	15.38	4.89
AUD	196	0.59	0.35	302	0.61	0.28	459	0.54	0.30
CAD	139	2.76	0.74	108	2.59	0.85	91	1.61	0.57
CHF	28	0.39	0.25	108	0.40	0.22	249	0.37	0.24
EUR	418	3.50	2.28	741	3.70	2.60	669	1.75	1.31
DEM	126	5.44	2.13	264	5.28	2.69	146	2.36	1.72
FRF	292	2.66	1.77	477	2.84	2.09	523	1.58	1.11
GBP	153	5.01	1.52	206	3.91	1.58	535	2.44	1.28
JPY	123	14.49	8.84	390	15.97	7.23	544	7.50	3.02
NOK	59	0.41	0.18	169	0.48	0.32	25	0.61	0.31
NZD	212	0.10	0.05	295	0.11	0.07	339	0.09	0.04
SEK	246	0.28	0.20	443	0.26	0.18	384	0.28	0.34

Note: Countries are abbreviated by their domestic currency prior to the formation of the Eurozone (e.g., FRF stands for the French franc). The sample is in event time and spans the period from January 1994 to December 2021.

Simulation Exercise with Random Treasury Auction Days



Secular Decline of Long-Term Yields Around Auctions

		UST auctions		Local auctions		
	All days	Auction	No auction	Auction	No auction	Share in %
USD	−4.18	−5.37**	1.20	−5.37**	1.20	22.14
	[0.88]	[2.47]	[0.28]	[2.47]	[0.28]	
G10	−5.36**	−4.90***	−1.06	−0.39	−5.08**	21.59
	[1.98]	[3.57]	[0.43]	[0.42]	[2.14]	
EUR	−6.17*	−4.17**	−2.01	−2.53	−3.64	26.47
	[1.69]	[2.44]	[0.62]	[1.35]	[1.16]	
AUD	−5.29	−5.29**	0.00	2.99	−8.28*	19.11
	[1.01]	[2.31]	[0.00]	[1.30]	[1.73]	
CAD	−5.26	−3.36*	−1.91	1.38	−6.64	9.58
	[1.22]	[1.78]	[0.48]	[1.12]	[1.61]	
CHF	−3.90	−2.48*	−1.42	0.42	−4.32	5.15
	[1.10]	[1.87]	[0.43]	[0.73]	[1.24]	
GBP	−5.00	−4.64**	−0.37	−0.26	−4.74	20.04
	[1.15]	[2.20]	[0.09]	[0.14]	[1.20]	
JPY	−3.26	−2.89***	−0.37	−0.51	−2.76	27.87
	[1.23]	[2.73]	[0.15]	[0.38]	[1.23]	
NOK	−3.63	−4.77**	1.14	0.70	−4.33	5.47
	[0.85]	[2.51]	[0.30]	[0.77]	[1.04]	
NZD	−7.19	−5.95***	−1.24	−3.46*	−3.73	18.43
	[1.63]	[2.91]	[0.32]	[1.66]	[0.95]	
SEK	−6.66**	−3.75***	−2.91	−1.57	−5.09*	21.94
	[2.09]	[2.69]	[1.02]	[0.98]	[1.87]	

Overlapping Auctions and the Secular Decline of Long-Term Yields

	All days	**Low relative overlap** UST auctions	**High relative overlap** and local auctions	Other days
USD	−4.18	−4.21**	−1.16	1.20
	[0.88]	[2.54]	[0.83]	[0.28]
G10	−5.36**	−4.34***	−1.28	−1.06
	[1.98]	[3.70]	[1.21]	[0.43]
EUR	−6.17*	−3.50***	−0.66	−2.01
	[1.69]	[2.84]	[0.56]	[0.62]
AUD	−5.29	−3.76**	−1.53	0.00
	[1.01]	[2.14]	[1.04]	[0.00]
CAD	−5.26	−2.95**	−0.40	−1.91
	[1.22]	[2.09]	[0.33]	[0.48]
CHF	−3.90	−2.24**	−0.24	−1.42
	[1.10]	[2.36]	[0.26]	[0.43]
GBP	−5.00	−3.95**	−0.69	−0.37
	[1.15]	[2.54]	[0.48]	[0.09]
JPY	−3.26	−1.68**	−1.21*	−0.37
	[1.23]	[1.99]	[1.90]	[0.15]
NOK	−3.63	−3.60***	−1.16	1.14
	[0.85]	[2.62]	[0.89]	[0.30]
NZD	−7.19	−4.04**	−1.91	−1.24
	[1.63]	[2.56]	[1.47]	[0.32]
SEK	−6.66**	−3.18***	−0.57	−2.91
	[2.09]	[3.18]	[0.59]	[1.02]

Long-Term Yield Changes around Foreign and US Auctions

Dep. variable: $\Delta y_{t,i}$	(1)	(2)	(3)
$\Delta y_{t,USD}$	0.234***	0.241***	0.243***
	[37.434]	[36.670]	[33.584]
Foreign auction$_{t,i}$		0.003***	0.003***
		[3.564]	[3.447]
$\Delta y_{t,USD}\times$ Foreign Auction$_{t,i}$		−0.059***	−0.061***
		[3.457]	[3.543]
US auction$_t$			0.000
			[0.542]
$\Delta y_{t,USD}\times$ US Auction$_t$			−0.015
			[0.900]
Overall R^2 in %	11.46	11.59	11.60
Avg. #Time periods	7003	7003	7003
#Currencies	9	9	9
Currency FE	yes	yes	yes

Integration of long-term yields is weaker in the presence of foreign auctions. We argue that this is not because foreign auctions are small but because they attract a more local investor base.

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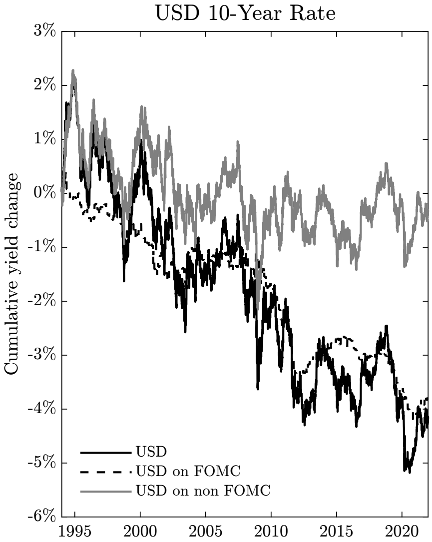
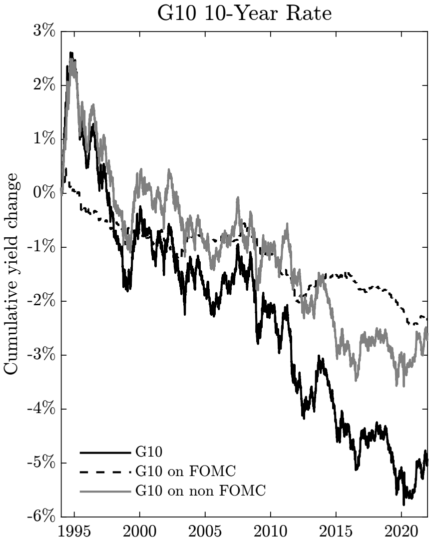
US and G10 Long-Term Rates over FOMC





Secular Decline of Long-Term Yields around Macroeconomic News

	All days	Treasury auctions	Local auctions	FOMC	Local MP news	US macro news	Local macro news
USD	−4.18	−5.37**	−5.37**	−3.83**	−3.83**	−0.72	−0.72
	[0.88]	[2.47]	[2.47]	[2.13]	[2.13]	[0.27]	[0.27]
G10	−5.36**	−4.90***	−0.39	−3.23***	−0.63	−0.96	−0.84
	[1.98]	[3.57]	[0.42]	[2.76]	[0.86]	[0.63]	[0.79]
EUR	−6.17*	−4.17**	−2.53	−2.66**	0.51	−2.39	−2.05
	[1.69]	[2.44]	[1.35]	[2.25]	[0.35]	[1.28]	[1.03]
AUD	−5.29	−5.29**	2.99	−4.06**	1.03	1.96	−2.30
	[1.01]	[2.31]	[1.30]	[2.37]	[0.83]	[0.75]	[1.05]
CAD	−5.26	−3.36*	1.38	−3.32**	−0.21	−0.45	−0.14
	[1.22]	[1.78]	[1.12]	[2.39]	[0.19]	[0.21]	[0.06]
CHF	−3.90	−2.48*	0.42	−1.19	0.02	−1.89	0.77
	[1.10]	[1.87]	[0.73]	[1.27]	[0.07]	[1.31]	[0.54]
GBP	−5.00	−4.64**	−0.26	−1.78	−0.63	−1.10	1.17
	[1.15]	[2.20]	[0.14]	[1.31]	[0.40]	[0.50]	[0.51]
JPY	−3.26	−2.89***	−0.51	−0.84	−0.24	−1.06	−0.06
	[1.23]	[2.73]	[0.38]	[1.02]	[0.89]	[0.86]	[0.06]
NOK	−3.63	−4.77**	0.70	−3.12**	−2.30**	−1.39	−1.77
	[0.85]	[2.51]	[0.77]	[2.34]	[2.20]	[0.65]	[0.75]
NZD	−7.19	−5.95***	−3.46*	−1.18	−1.14	1.13	−0.36
	[1.63]	[2.91]	[1.66]	[0.90]	[0.87]	[0.51]	[0.22]
SEK	−6.66**	−3.75***	−1.57	−2.48**	−0.59	−2.19	−1.85
	[2.09]	[2.69]	[0.98]	[2.27]	[0.65]	[1.22]	[0.99]

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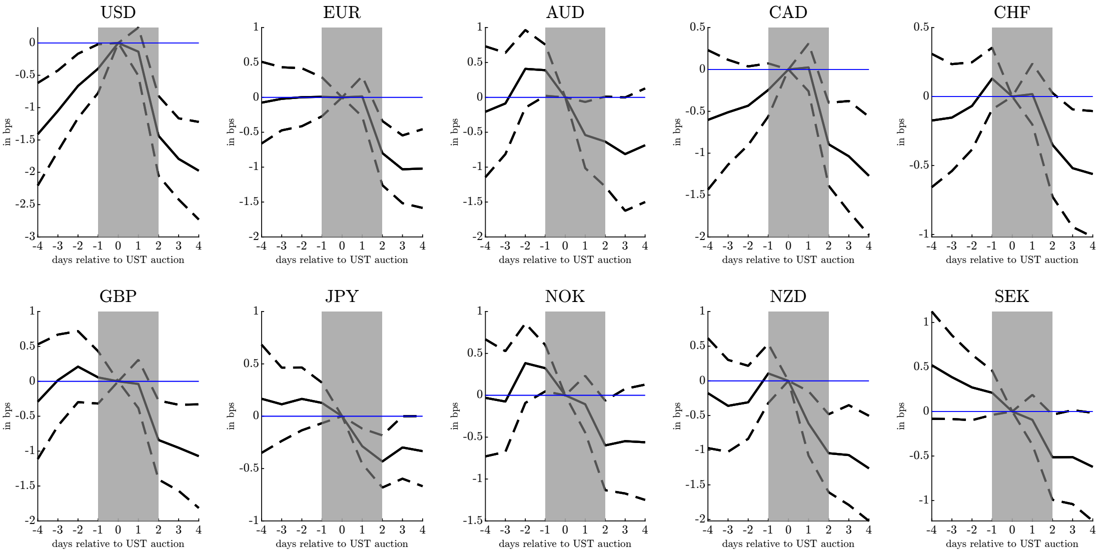
Decline of US and G10 Long-Term Yields Around Auctions



Secular Decline of Long-Term Yields Excl. 10-year UST Auctions

		UST auctions without 10-year		Local auctions		
	All days	Auction	No auction	Auction	No auction	Share in %
USD	−4.18	−5.57***	1.40	−5.57***	1.40	20.99
	[0.88]	[2.69]	[0.32]	[2.69]	[0.32]	
G10	−5.36**	−5.30***	−0.74	0.17	−5.56**	22.21
	[1.98]	[4.01]	[0.30]	[0.19]	[2.36]	
EUR	−6.17*	−5.22***	−0.95	−1.50	−4.67	27.69
	[1.69]	[3.19]	[0.29]	[0.78]	[1.50]	
AUD	−5.29	−5.07**	−0.22	2.97	−8.26*	20.54
	[1.01]	[2.24]	[0.05]	[1.25]	[1.74]	
CAD	−5.26	−3.49*	−1.78	1.64	−6.90*	10.05
	[1.22]	[1.94]	[0.45]	[1.30]	[1.67]	
CHF	−3.90	−2.87**	−1.03	1.05*	−4.96	6.40
	[1.10]	[2.26]	[0.31]	[1.68]	[1.42]	
GBP	−5.00	−4.23**	−0.78	−0.12	−4.88	21.46
	[1.15]	[2.13]	[0.20]	[0.06]	[1.25]	
JPY	−3.26	−2.94***	−0.32	−0.35	−2.91	29.11
	[1.23]	[2.90]	[0.13]	[0.26]	[1.31]	
NOK	−3.63	−4.31**	0.68	1.18	−4.81	5.91
	[0.85]	[2.41]	[0.18]	[1.22]	[1.15]	
NZD	−7.19	−7.78***	0.59	−2.18	−5.01	17.22
	[1.63]	[3.73]	[0.15]	[1.08]	[1.27]	
SEK	−6.66**	−4.14***	−2.52	−1.39	−5.28*	22.47
	[2.09]	[3.09]	[0.88]	[0.85]	[1.96]	

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Sharpe Ratios of Long-Term Yields around Macroeconomic News

	All days	Treasury auctions	Local auctions	FOMC	Local MP news	US macro news	Local macro news
USD	−0.16	−1.02**	−1.02**	−1.28**	−1.28**	−0.11	−0.11
	[0.84]	[2.47]	[2.47]	[2.11]	[2.11]	[0.27]	[0.27]
G10	−0.34*	−1.26***	−0.12	−1.49**	−0.30	−0.20	−0.42
	[1.77]	[3.02]	[0.38]	[2.38]	[0.83]	[0.51]	[0.71]
EUR	−0.33*	−0.98**	−0.51	−1.35**	0.19	−0.49	−0.40
	[1.71]	[2.36]	[1.35]	[2.20]	[0.34]	[1.25]	[1.06]
AUD	−0.18	−0.96**	0.56	−1.48**	0.66	0.30	−0.47
	[0.93]	[2.33]	[1.34]	[2.47]	[0.86]	[0.76]	[1.07]
CAD	−0.24	−0.72*	0.65	−1.44**	−0.14	−0.08	−0.02
	[1.24]	[1.76]	[1.16]	[2.37]	[0.19]	[0.21]	[0.06]
CHF	−0.15	−0.73*	0.54	−0.72	0.14	−0.49	0.24
	[0.76]	[1.76]	[0.73]	[1.17]	[0.08]	[1.24]	[0.53]
GBP	−0.21	−0.89**	−0.05	−0.79	−0.22	−0.19	0.19
	[1.11]	[2.12]	[0.13]	[1.31]	[0.40]	[0.49]	[0.50]
JPY	−0.24	−1.09***	−0.12	−0.63	−1.14	−0.34	−0.03
	[1.25]	[2.72]	[0.37]	[0.94]	[0.85]	[0.85]	[0.06]
NOK	−0.18	−0.98**	0.53	−1.40**	−1.67**	−0.25	−0.27
	[0.91]	[2.36]	[0.76]	[2.12]	[2.29]	[0.63]	[0.72]
NZD	−0.30	−1.19***	−0.63	−0.52	−0.58	0.19	−0.12
	[1.52]	[2.87]	[1.59]	[0.84]	[0.86]	[0.49]	[0.20]
SEK	−0.43**	−0.99**	−0.34	−1.25**	−0.48	−0.42	−0.36
	[2.03]	[2.38]	[0.87]	[2.10]	[0.58]	[1.07]	[0.88]

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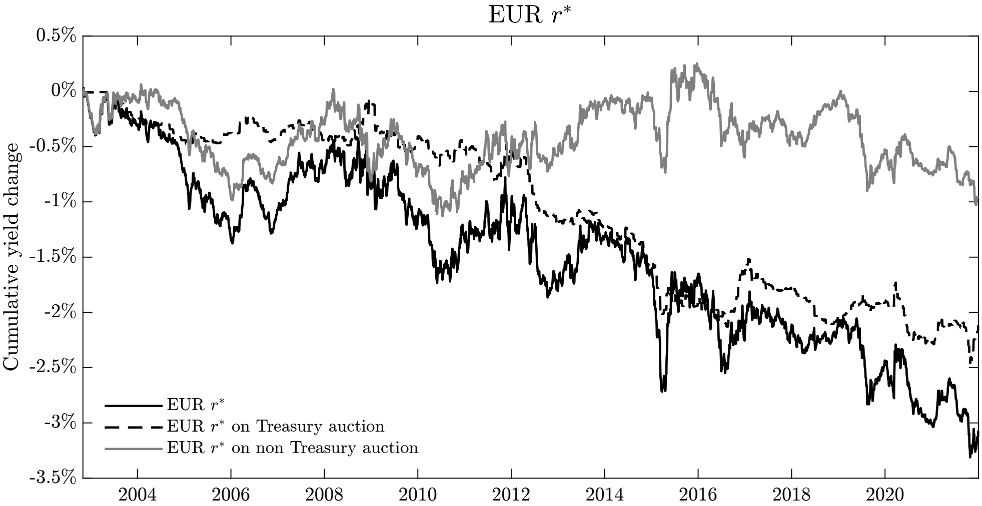
Changes in Inflation Swap Yields Around Auctions

		UST auctions		Local auctions		
	All days	Auction	No auction	Auction	No auction	Share in %
USD	−0.01	−0.18	0.04	−0.18	0.04	22.41
	[0.08]	[0.64]	[0.30]	[0.64]	[0.30]	
G4	0.11	1.12	0.00	−0.13	0.40	22.82
	[0.73]	[1.25]	[0.01]	[0.44]	[1.10]	
AUD	−0.05	−0.06	−0.01	0.04	−0.04	19.61
	[0.39]	[0.41]	[0.19]	[0.28]	[0.58]	
GBP	0.08	0.23	0.01	−0.23	0.14	22.45
	[0.62]	[0.99]	[0.09]	[1.01]	[1.41]	
JPY	0.36***	0.10***	−0.01	0.04***	0.01	29.19
	[2.64]	[5.09]	[1.37]	[4.81]	[0.94]	
SEK	0.36***	0.16***	0.01	0.02	0.05***	24.08
	[2.87]	[3.34]	[0.75]	[0.85]	[2.75]	

Note: This table reports the average change in 10-year US and foreign inflation swap yields in basis points around long-term debt auctions. The row G4 is estimated from a panel regression of 4 foreign inflation swap yields (Australia (AUD), UK (GBP), Japan (JPY), and Sweden (SEK)). The sample is daily and spans from January 1994 to December 2021.

Natural Rates over Treasury Auction Days



Note: This figures shows cumulative changes for the Euro area “r-star” estimates from Christensen and Mouabbi (2024).

Recent Period of Increasing Yields

- From **2021** to **2025 long-term yields** have risen by nearly 400 bps for the US and 300 bps for G10 currencies — "revoking" the secular decline from **1994** to **2021**.
- This sharp rise in long-term yields has been accompanied by rapidly **rising inflation**.

⇒ How have long-term yields evolved around **Treasury auctions** and over **FOMC**?

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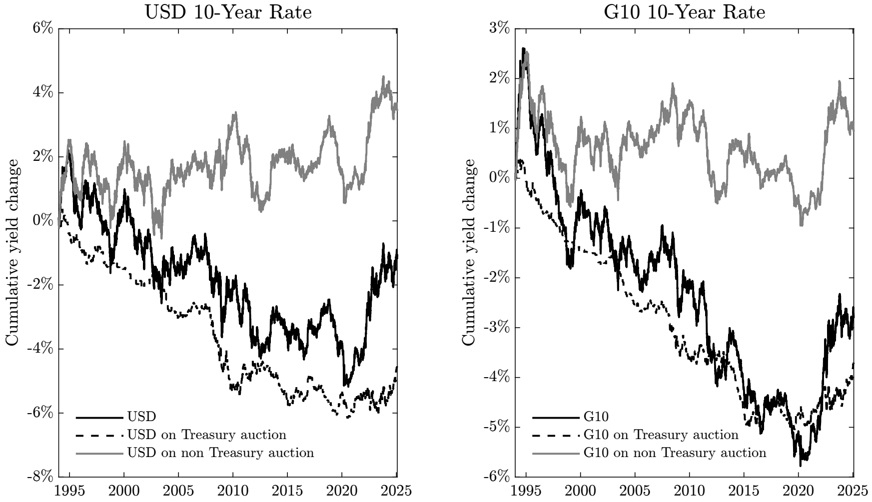
$\Rightarrow$ How have long-term yields evolved around **Treasury auctions** and over **FOMC**?

US and G10 Long-Term Rates over Treasury Auctions until 2025

Go back



US and G10 Long-Term Rates over FOMC until 2025

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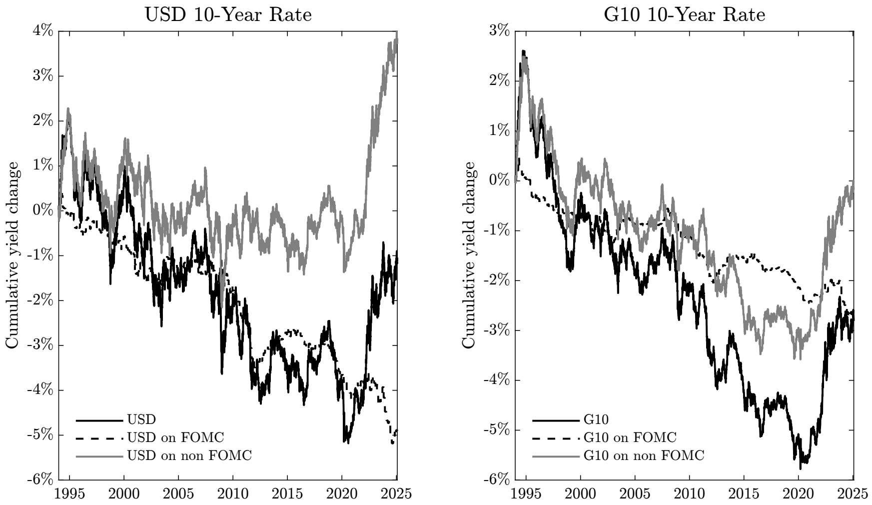

Long-Term Rates over Treasury Auctions from 2021 to 2025

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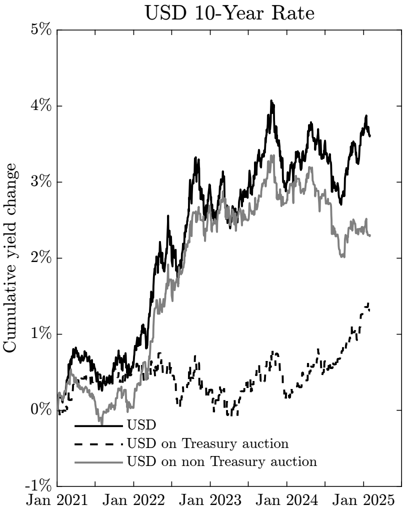
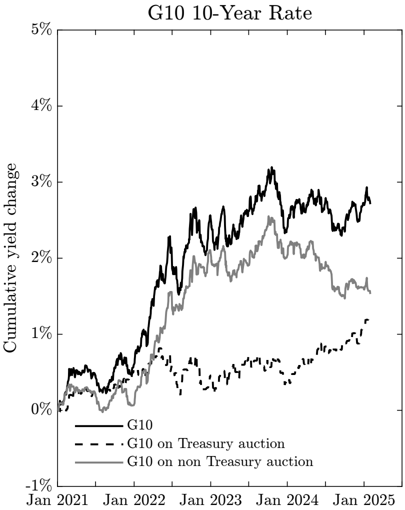
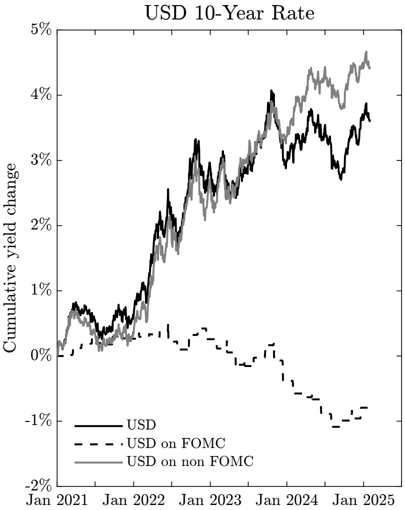
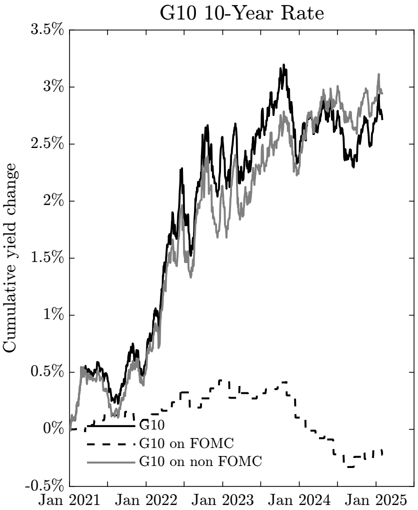




Long-Term Rates over FOMC from 2021 to 2025

◂ Go back





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