

CONSEQUENCES OF EXPANDED US TREASURY SUPPLY

FINANCIAL ADVISORY ROUNDTABLE
FEDERAL RESERVE BANK OF NEW YORK
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PRESENTATION BY
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“Public” here includes the Federal Reserve

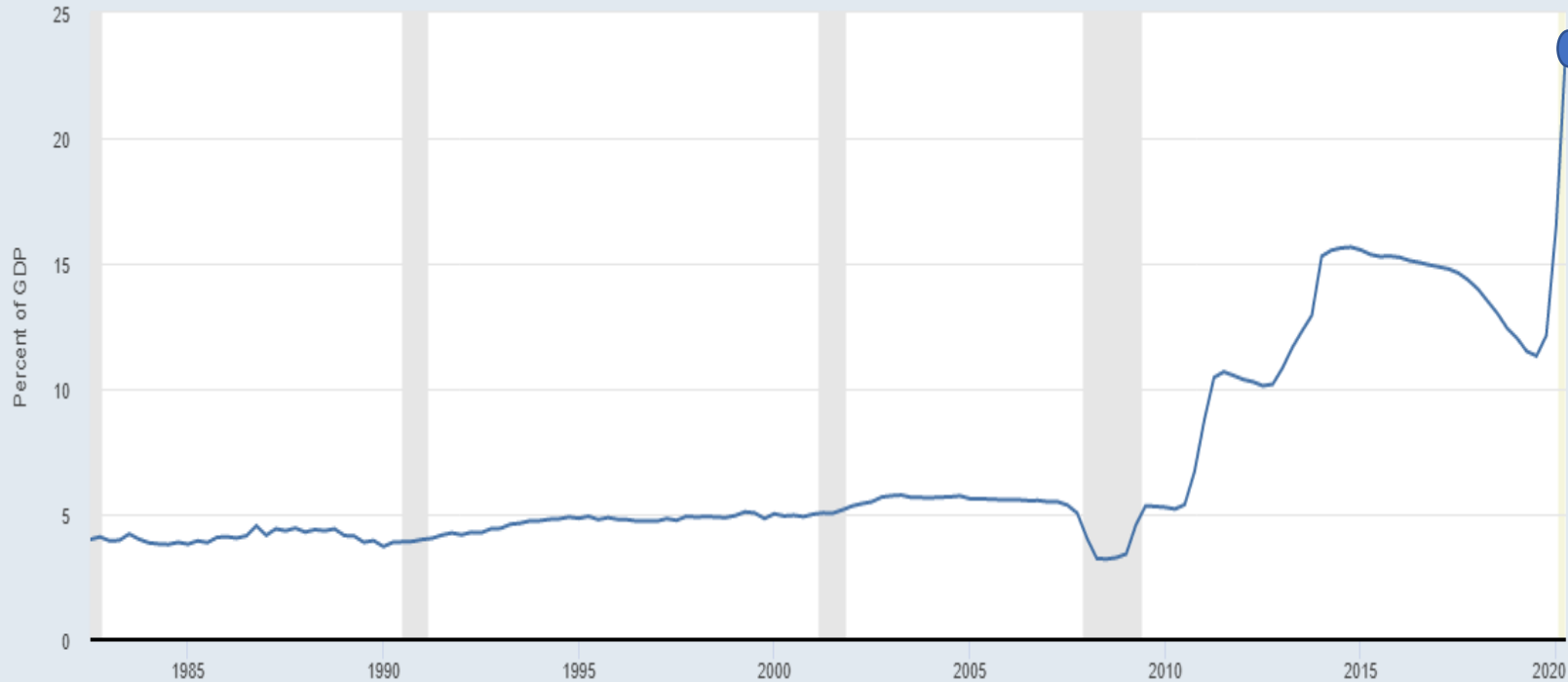


Q2 2020
105% of GDP

Federal
Debt/GDP



Federal Debt Held by Federal Reserve Banks as Percent of Gross Domestic Product



U.S. recessions are shaded; the most recent end date is undecided.

Source: Federal Reserve Bank of St. Louis

fred.stlouisfed.org

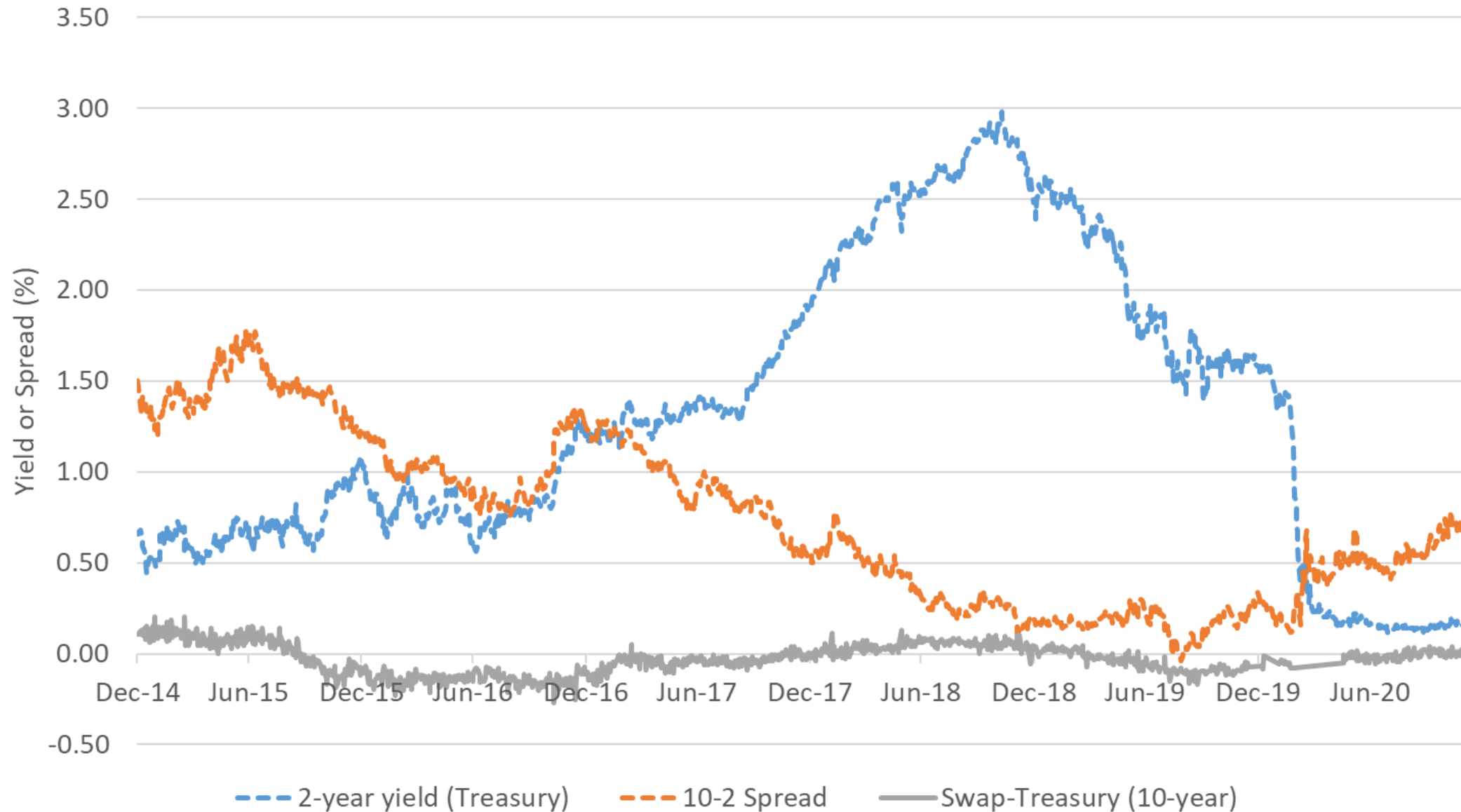
Q2 2020
23.6% of GDP

Treasuries
held by
Federal
Reserve
Banks

Agenda

- Term premiums
- Federal Reserve vs. Treasury and consolidation
- Foreign exchange rates and the role of the dollar

Yields and Spreads



Impact of Expanded UST supply on term premiums (and credit spreads)

- **Three channels:** (a) Increased supply of duration risk raises term premia (b) increased supply of Treasuries reduces specialness of Treasuries (c) expectations channel
- (a) and (b) are essentially taking a supply and demand perspective on the Treasury market
- Channel (a) suggests a simple measure: Dollars of net “ten-year equivalents” drives term premia
- Dozens of studies
 - Event studies: measure impact of QE announcements on term spreads and credit spreads
 - Gagnon et al (2018), Joyce, Lasosa, Stevens (2011), Neely (2015), Swanson (2020)
 - Time-series studies:
 - Greenwood and Vayanos (2014): Debt supply and term premia
 - Krishnamurthy and Vissing-Jorgensen (2012): Debt supply and credit spreads
- Magnitudes: Meta-analysis in Williams (2014) of QE
 - \$600 billion LSAP (\$397 billion in 10-year equivalents) lowers 10-year term premium by approximately 20 basis points
 - It is unrealistic to extrapolate these magnitudes to, say, a doubling of the debt:
 - Different holders have varying demand elasticity
 - Cannot hold constant savings rates or supply of other safe assets in the system

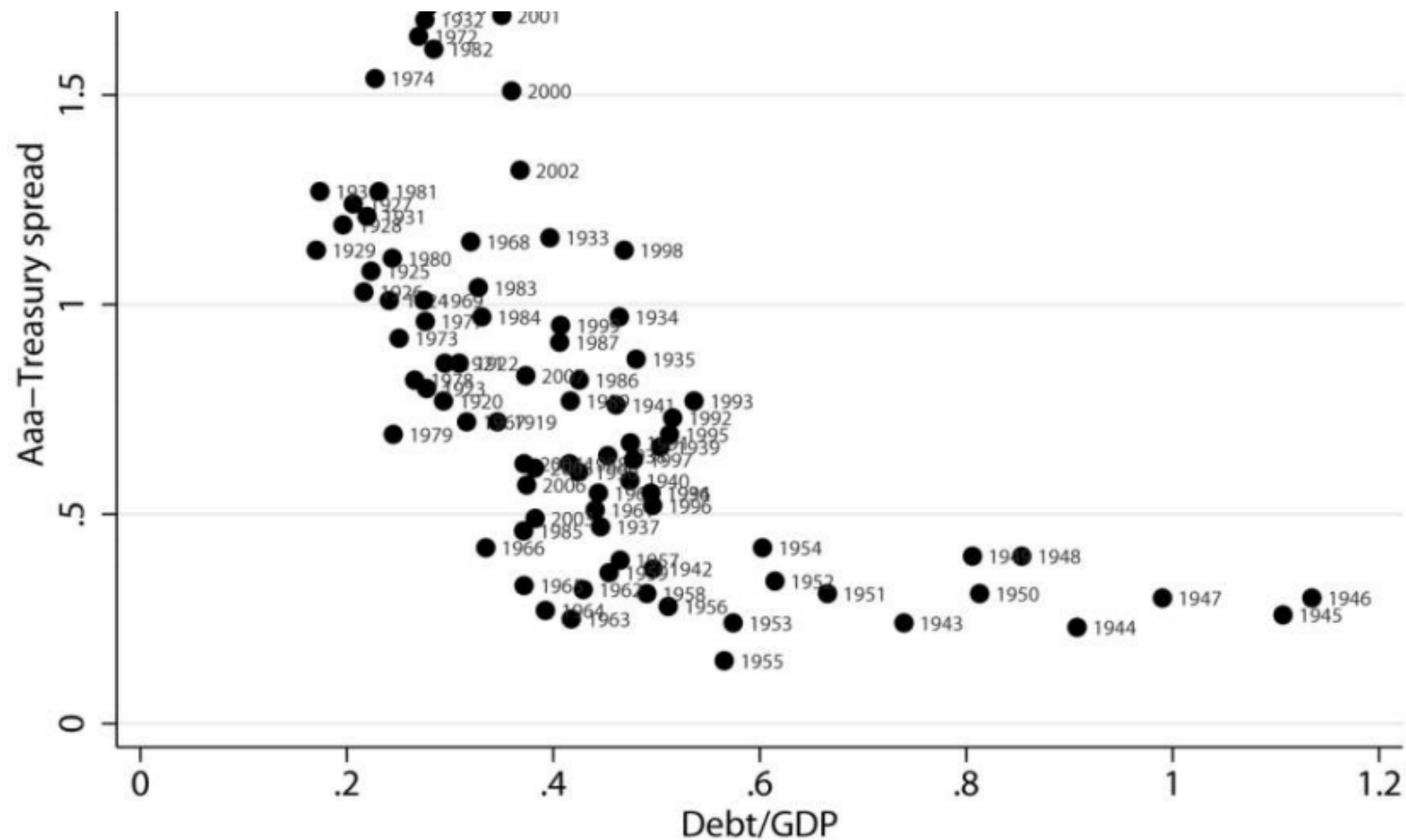


FIG. 1.—Corporate bond spread and government debt. The figure plots the Aaa-Treasury corporate bond spread (y axis) against the debt-to-GDP ratio (x axis) on the basis of annual observations from 1919 to 2008. The corporate bond spread is the difference between

Credit spreads

Aaa and Treasuries are not perfect substitutes. When Treasury supply expands, it reduces the specialness of Treasuries relative to other fixed income securities.

When both Fed and Treasury respond to a crisis or recession

- Federal Reserve

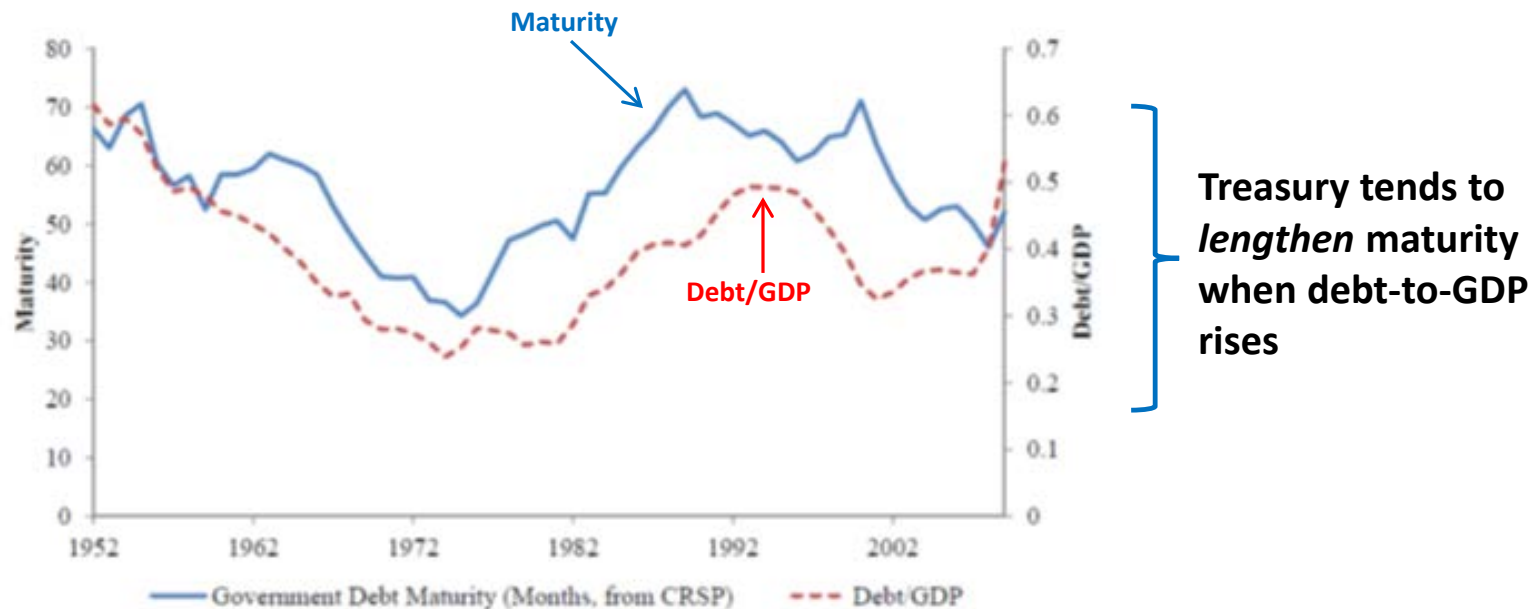
- In both 2008/2009 and 2020, Federal Reserve responded by expanding its balance sheet
- In both cases, Fed was a net purchaser of long-term Treasuries, taking “dollars of duration” off the market

- Treasury

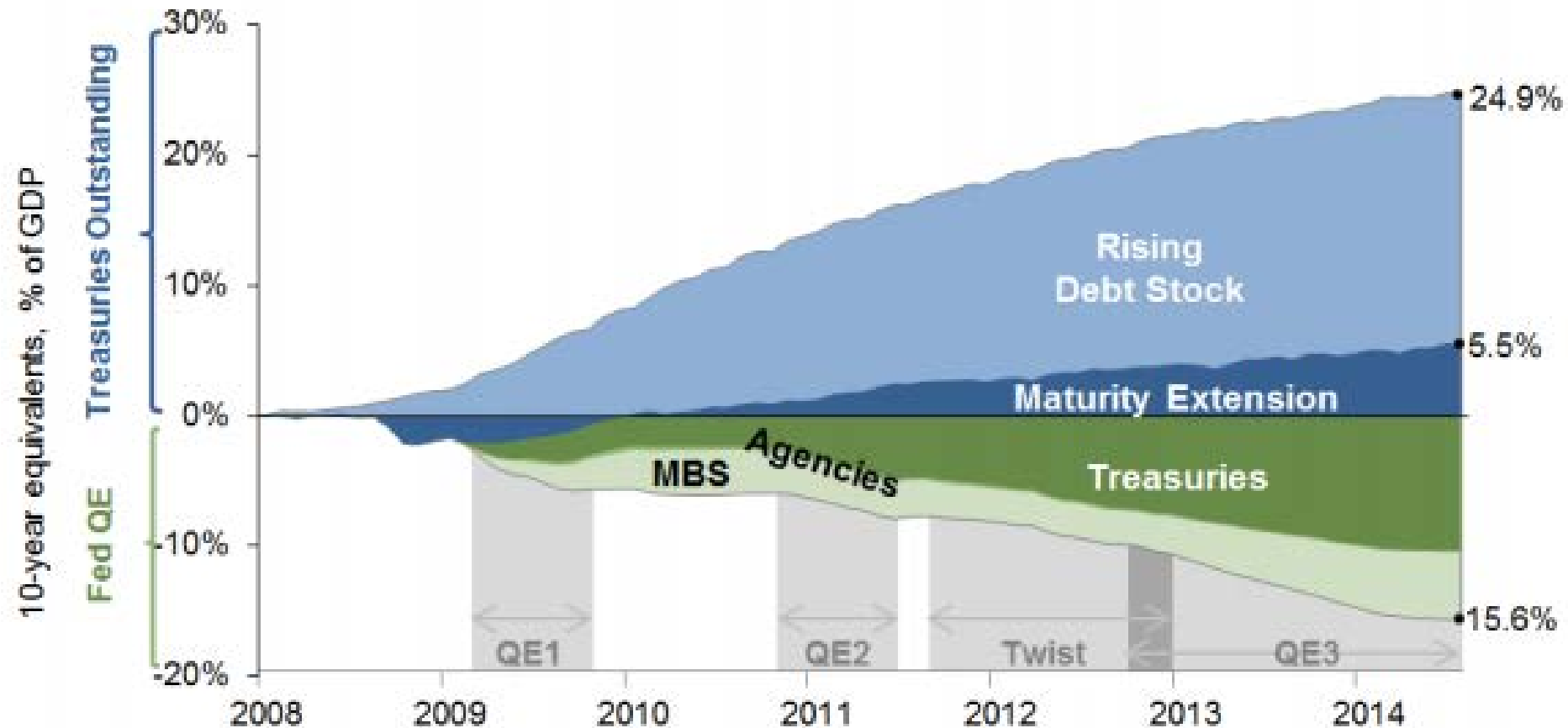
- Expands Treasury supply as a natural consequence of fiscal policy
- Historically, expanded Treasury supply was associated with terming out of maturities, in principle offsetting Fed QE

Treasury's Perspective

- Finance the government at the lowest cost over time, with minimal fiscal risk.
 - This mandate has historically made the Treasury averse to issuing too many T-bills, in spite of significantly lower cost.
 - Is fundamental concern with variable interest rates or too much exposure to auction risk?



Fed vs. Treasury during the 2008-2010 period



Consolidating the Balance Sheets today

Assets (\$ billion)		Liabilities (\$ billion)
Bills 326 short		Currency 2,062
Notes + Bonds 3,925 long		Reverse Repo 196
TIPS 301 long		US Treasury General Account 1,517 short
MBS 2,050 long		Other 444
Other 700		Bank Reserve Balances 3,083 short
TOTAL 7,302		TOTAL 7,302

Federal Reserve

Maturity profile a bit longer than that of Treasury Issuance

Treasury

Assets (\$ billion)		Liabilities (\$ billion)
		Bills 4,984 short
		Notes and Bonds 13,414 long
		TIPS 1,544 long
		Floating Rate Notes 478 ?

History suggests that in the short run Treasury expands supply mostly via bills but then over a few years will term out (Bills increased from 2,564 in Feb 2020 to 4,984 October 2020)

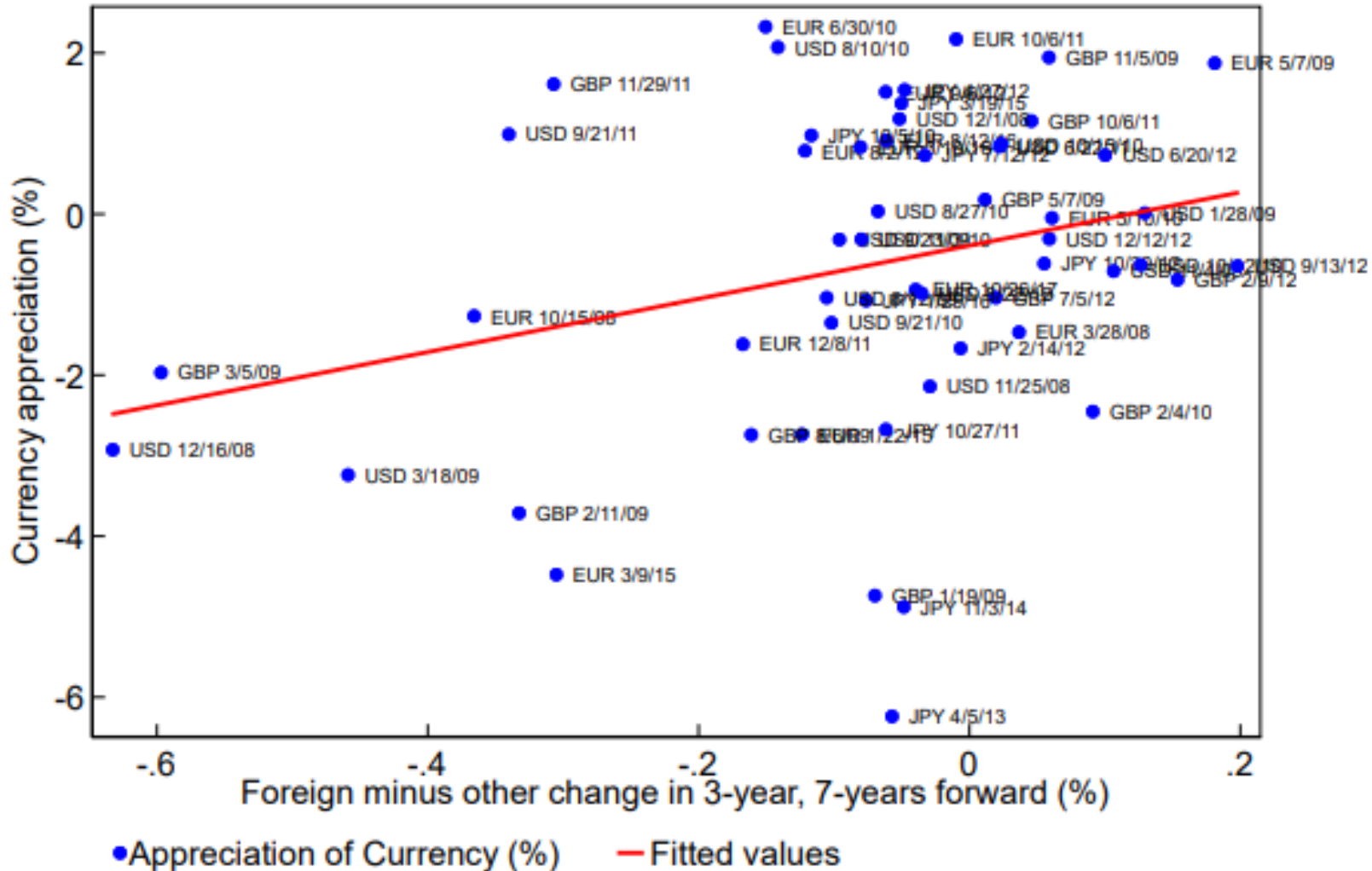
Most questions best addressed using consolidated balance sheet

- Fiscal risk
 - Suppose we get an inflationary shock that forces Fed to raise rates
 - Net interest expense to government will increase just as if there was no Fed buying and the Treasury had funded largely short
 - Hit will show up in reduced remittances
- Supply and Demand forces and the Yield Curve
 - In principle, Fed buying long maturity Treasuries should have same impact as Treasury shifting their maturity towards shorter maturity securities

Exchange Rates

- Rising (dollar denominated) Treasuries
- Two channels to consider operating at different horizons
 1. **Portfolio balance**
 - **Treasury supply** ↑ Exposure to US rate risk ↑ Term Premium US Bonds ↑ Risk premium on borrow-in \$ lend in Euro FX trade ↑ Euro must depreciate against the US\$ and expected to appreciate going forward **US \$ Appreciates**
 - **Evidence:** Federal Reserve long-term bond purchases associated with a large depreciation of the US\$ vis-à-vis other major currencies (Neely 2011; Bauer and Neely 2014; Swanson 2017)
 - **Caveats:** Cannot hold global bond supply fixed

FX Appreciation vs. Δ Forward Rates on QE Dates



Exchange Rates

- Rising (dollar denominated) Treasuries
- Two channels to consider operating in different directions

2. Inflation and Deficits

Eichengreen (2011): *“The plausible scenario for a dollar crash is not one in which confidence collapses on the whims of investors or as the result of a geopolitical dispute but rather because of problems with American’s own economic policies. The danger here is budget deficits out of control...”*

Chronic budget deficits have frequently been the precipitant for crises. Recent experience in Greece, Portugal, Spain and elsewhere in Europe illustrate how the process works.[...] one morning [investors] will wake up with a start and conclude that the debt is unsustainable. They will sell its bonds en masse and its currency will collapse on the foreign exchange market.”

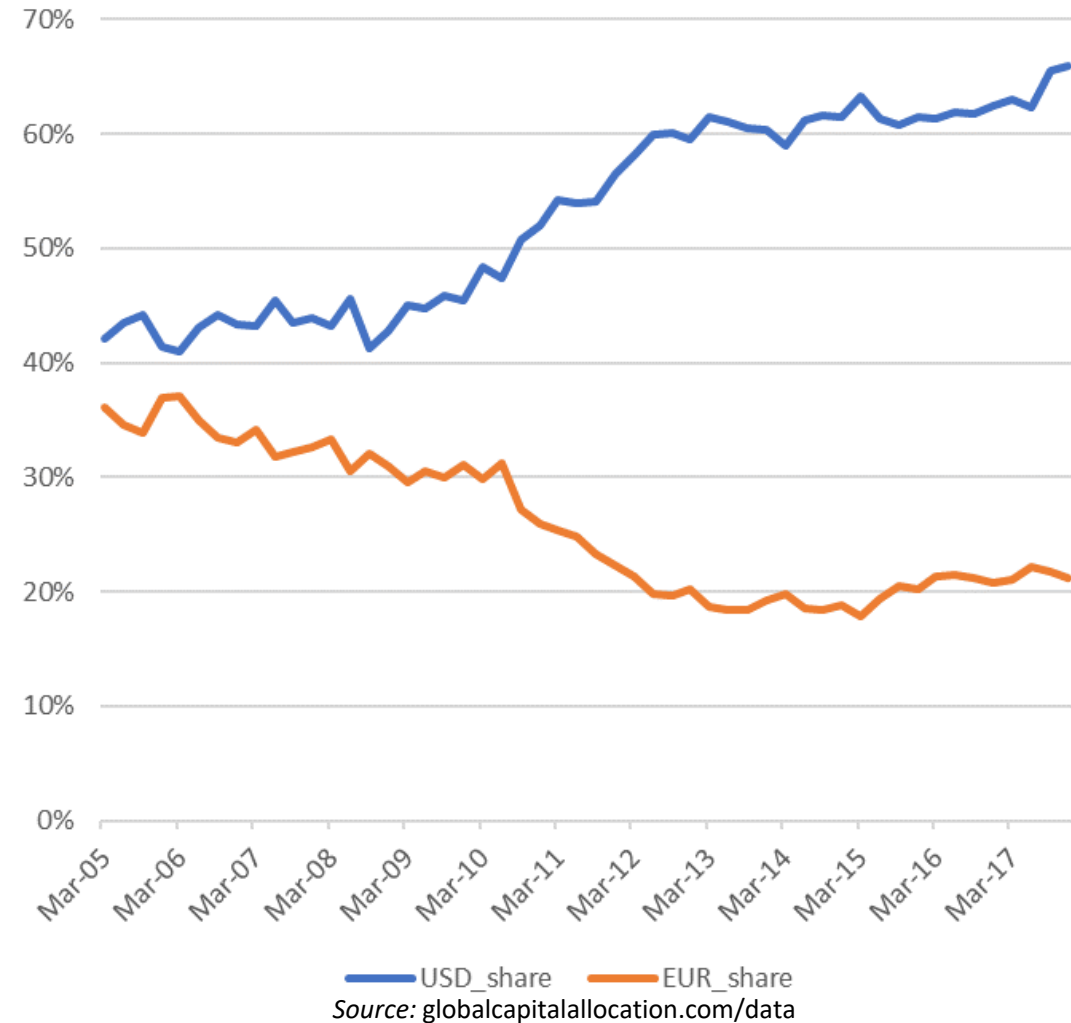
No evidence (yet) of a lean away from the US\$

Foreign Official Holdings of LT Treasuries



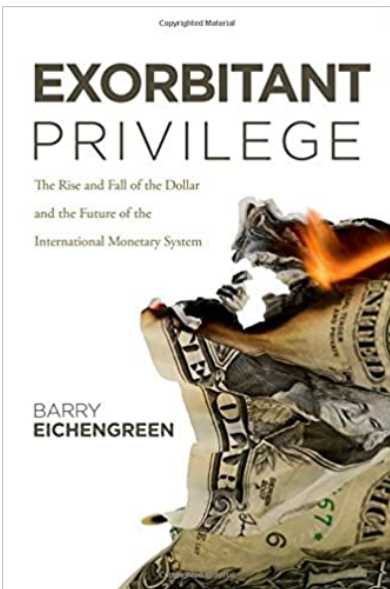
Source: TIC data

Shift away from the Euro



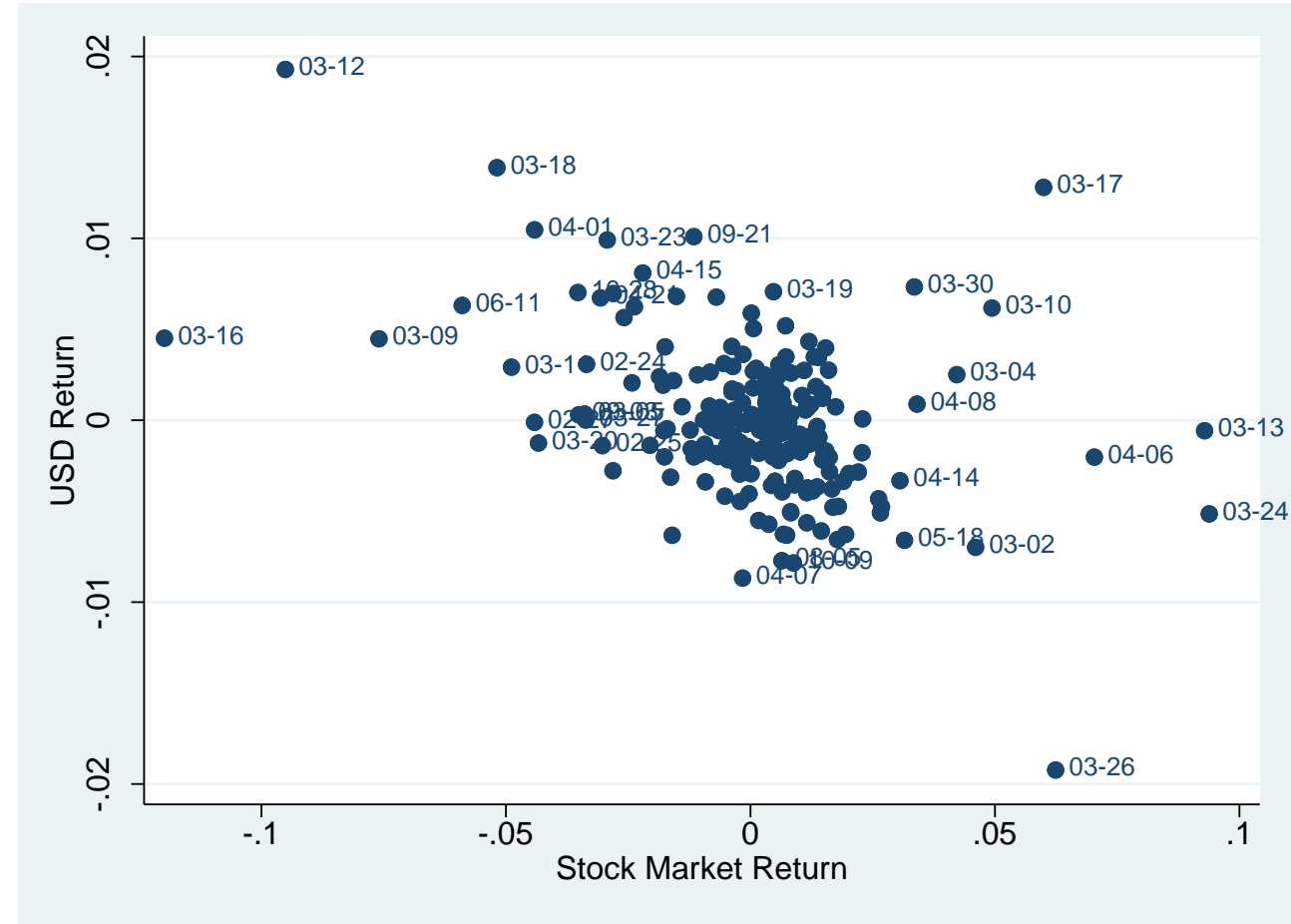
Source: globalcapitalallocation.com/data

Rise of the Dollar



- Properties of the reserve currency: Liquid, Safe, Stable, Convenient
- Gopinath and Stein (2020): currency's role as a unit of account for invoicing decisions is complementary to its role as a safe store of value
 - Invoicing of International Trade: Overwhelming fraction of international trade is invoiced and settled in dollars (Goldberg and Tille 2008)
 - Non-US banks raise large amounts of dollar-denominated deposits
 - Non-US firms borrow from the corporate bond market in US\$
 - 64% of worldwide official foreign exchange reserve are in US\$
- Some advantages to incumbency
- But US\$ took over the pound over the course of just a few decades in the early 1900s
 - Trade acceptances, sovereign and corporate borrowing
- Efforts throughout the 1900s to replace the dollar, including the SDR at the IMF and OPEC to abandon dollar-based pricing
- Most of the recent exchange rate movement seems driven by risk-on and risk-off, and not by sustainability questions

Exchange Rates: risk on, risk off



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