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That Which Is Unsustainable Will Not Be Sustained

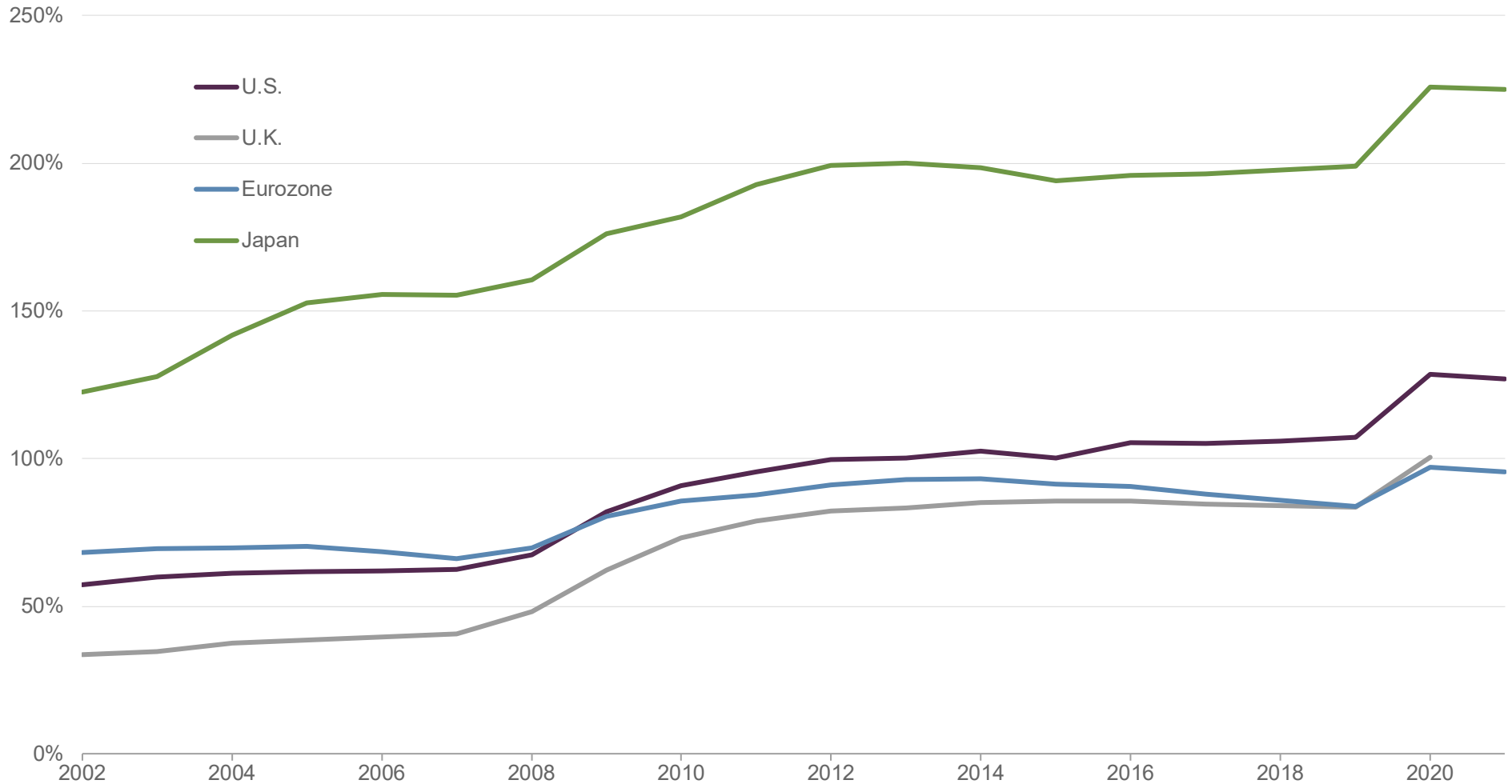
Scott Miner
Chairman of Guggenheim Investments,
Guggenheim Partners Global Chief Investment Officer

December 2022

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Japanese Government Debt Levels Are In a League of Their Own

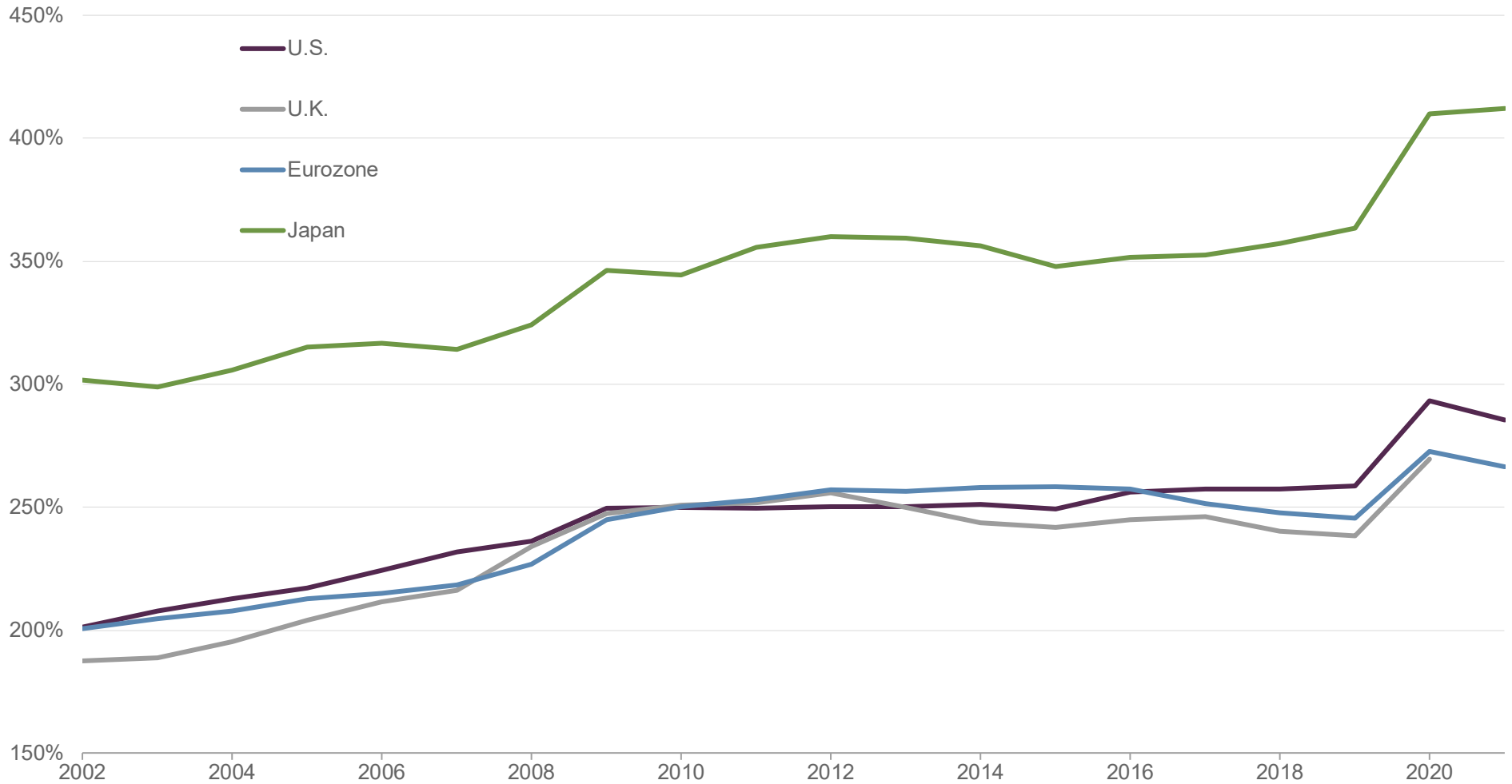
U.S., U.K., Eurozone, and Japan Central Government Debt as a % of Gross Domestic Product (GDP)



Source: Guggenheim Investments, Haver Analytics. Data as of 12/31/2021.

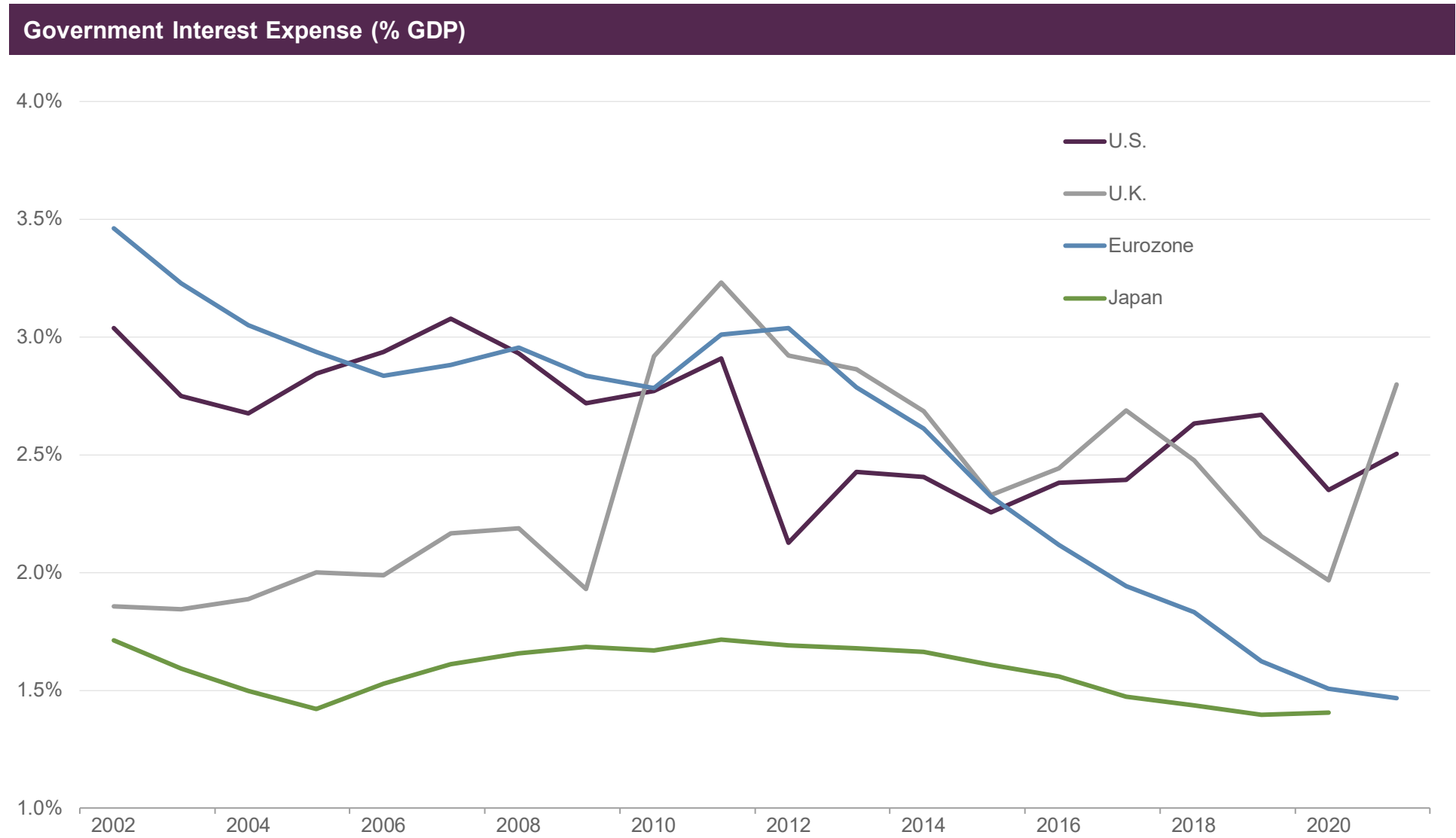
Total Debt Will Resume Climbing This Year

U.S., U.K., Eurozone, and Japan Central Government Debt + Private Nonfinancial Sector Debt (% GDP)



Source: Guggenheim Investments, Haver Analytics. Data as of 12/31/2021.

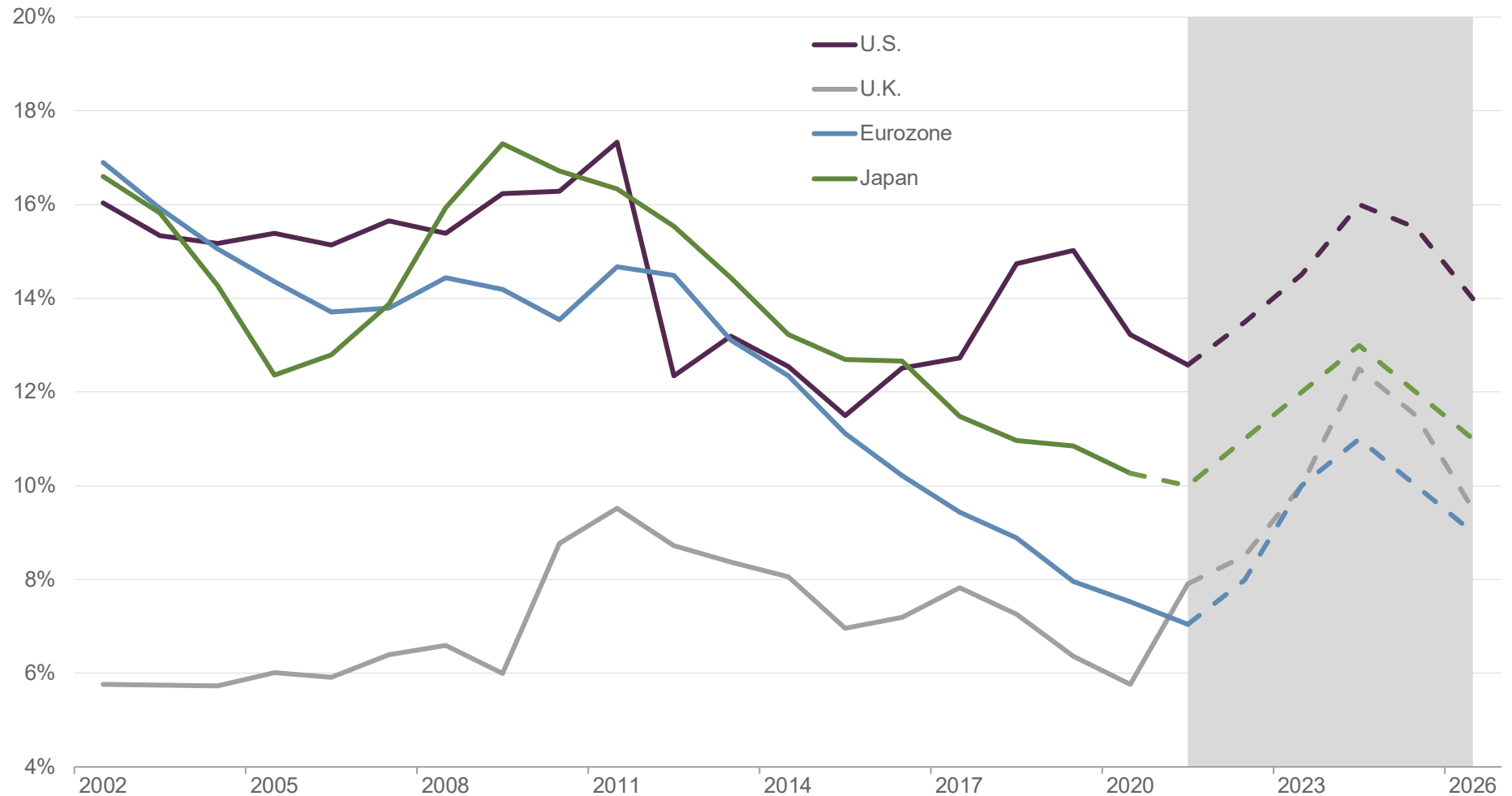
Government Interest Expenses Have Been Declining ...



Source: Guggenheim Investments, Haver Analytics. Data as of 12/31/2021. Note: All interest expense figures are central government except Eurozone, which is general government.

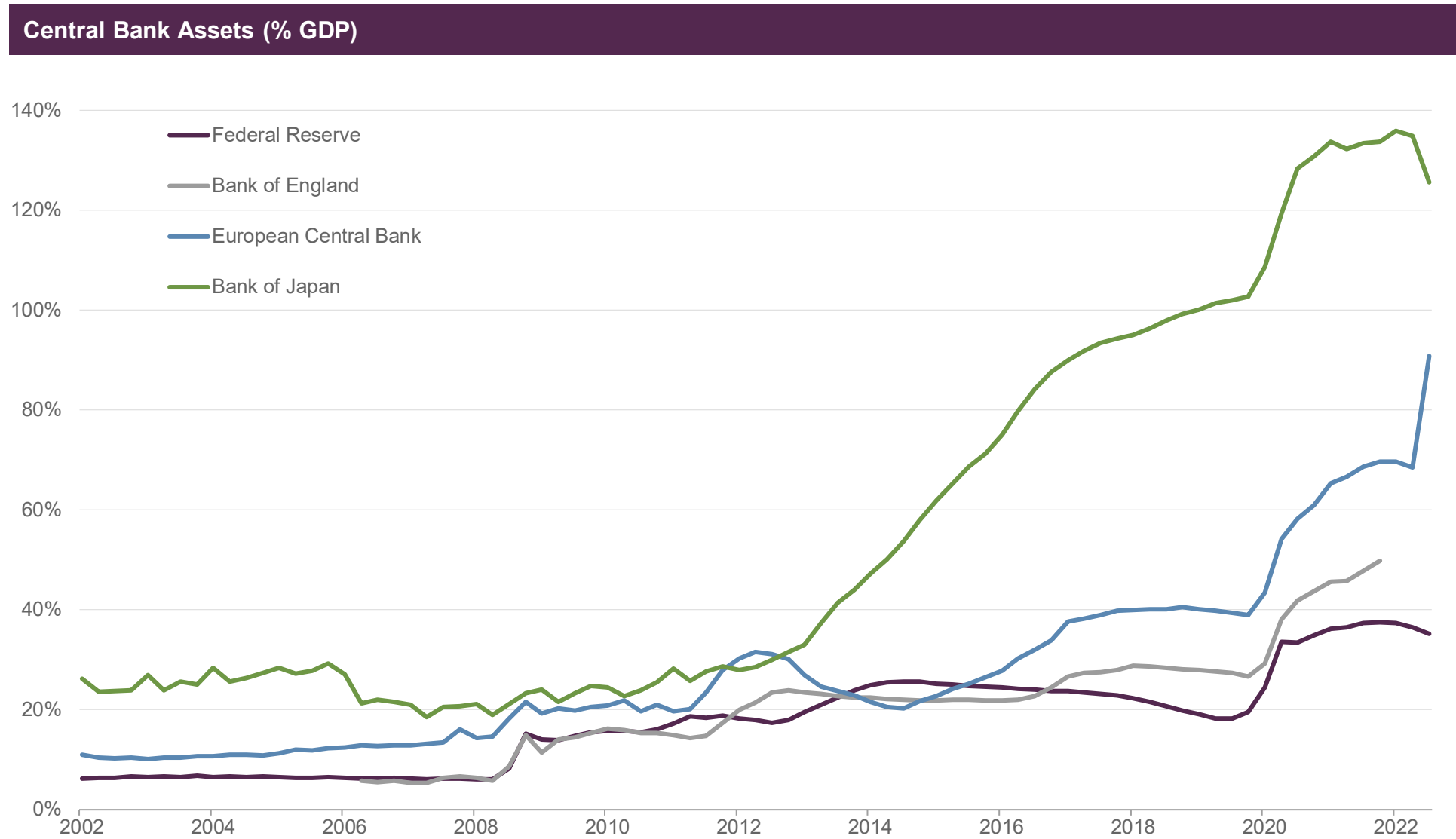
... But They Will Increase Again as Yields Rise and GDP Growth Weakens

Government Interest Expense (% Government Revenues)



Source: Guggenheim Investments, Haver Analytics. Data as of 12/31/2021. Note: All interest expense figures are central government except Eurozone, which is general government.

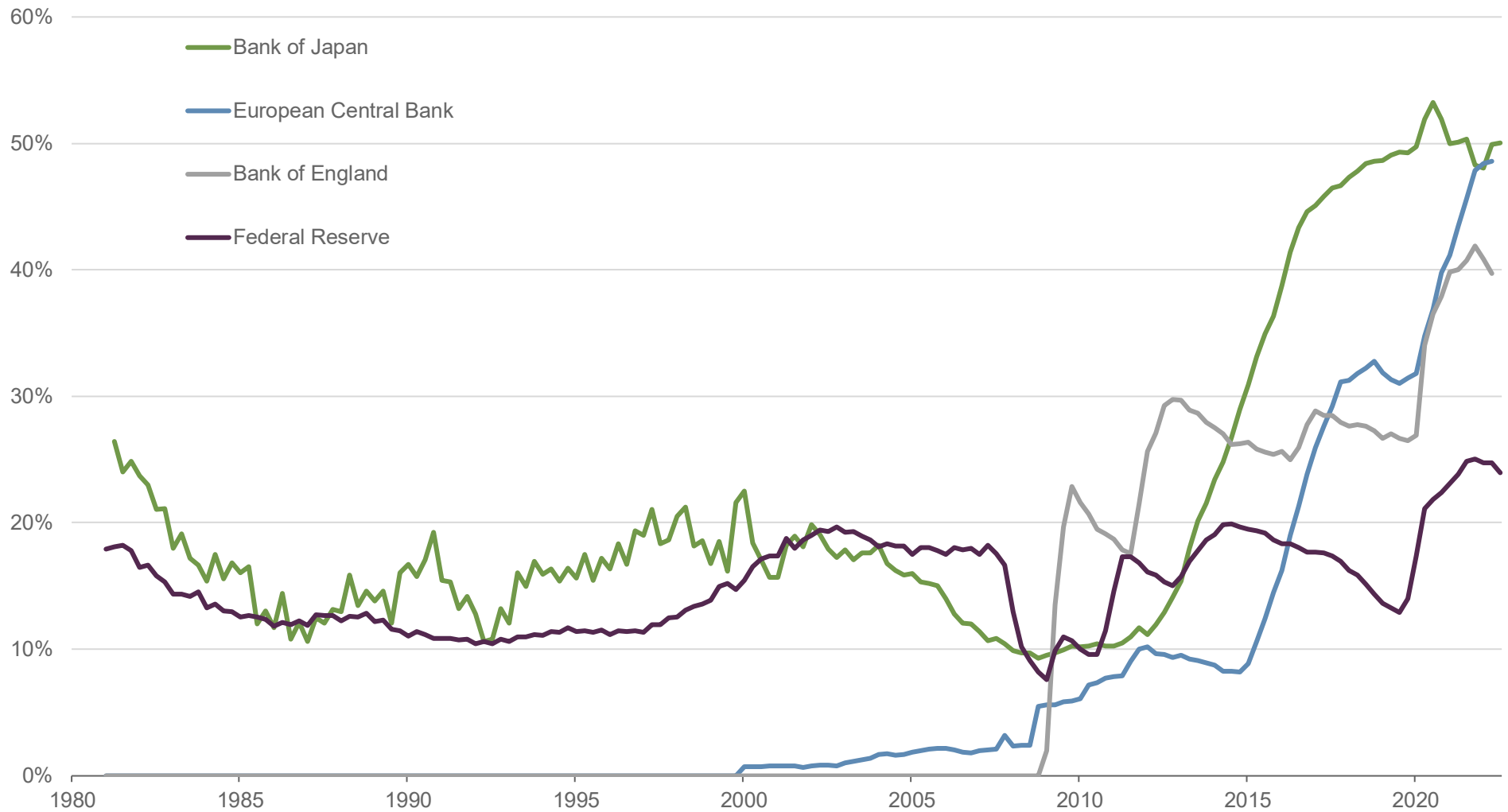
Bank of Japan May Be Reaching the Limits of Its Support for JGBs



Source: Guggenheim Investments, Haver Analytics. Data as of 09/30/2022. JGB = Japanese Government Bond.

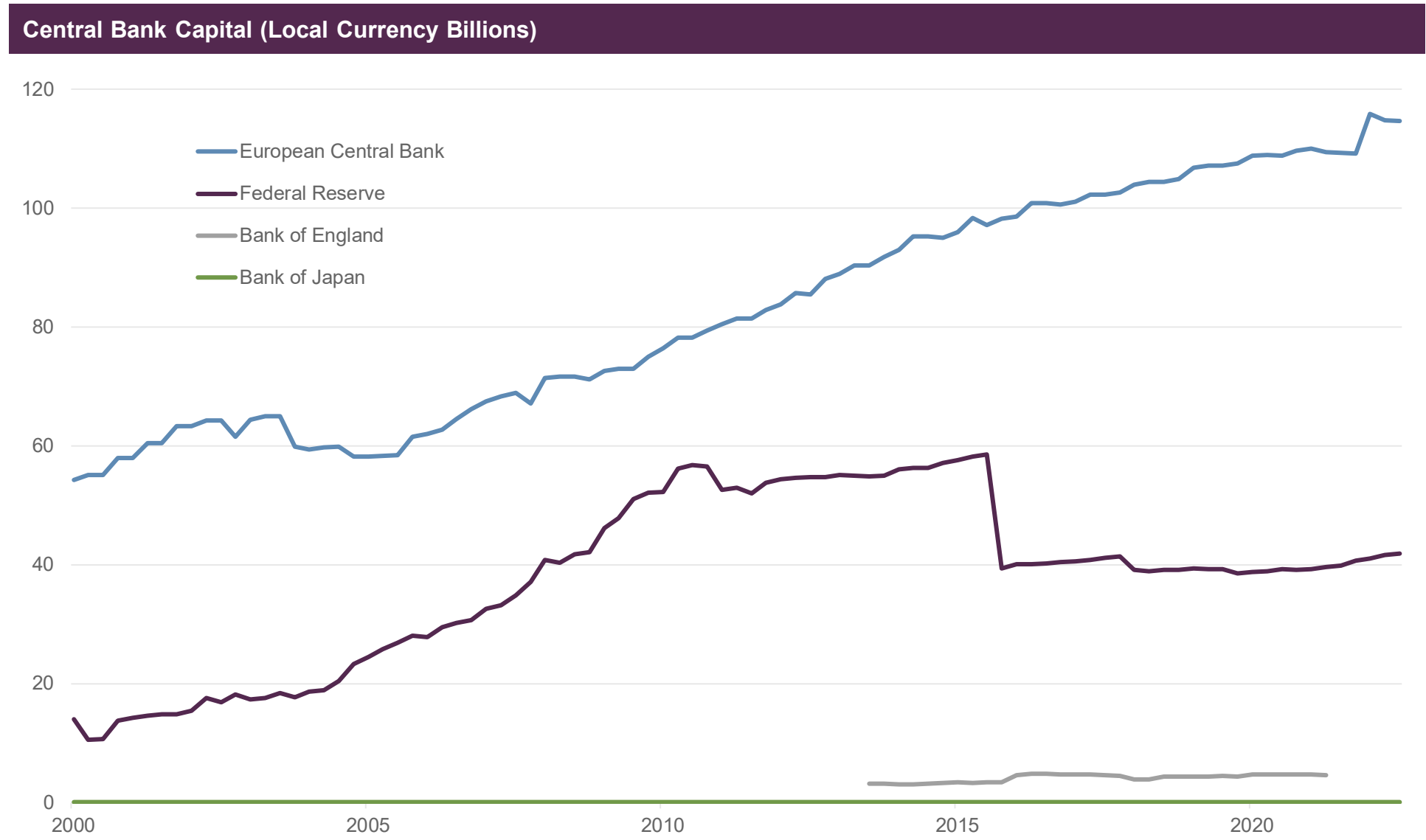
BOJ, ECB, and BoE All Hold About Half of Outstanding Government Bonds

Central Bank Holdings as a Share of Outstanding Government Bonds



Source: Guggenheim Investments, Haver Analytics. Bank of England data as of 06/30/2022; other data as of 09/30/2022.

Bank of Japan Operates With Only a Nominal Capital Base



Source: Guggenheim Investments, Haver Analytics. Data as of 09/30/2022.

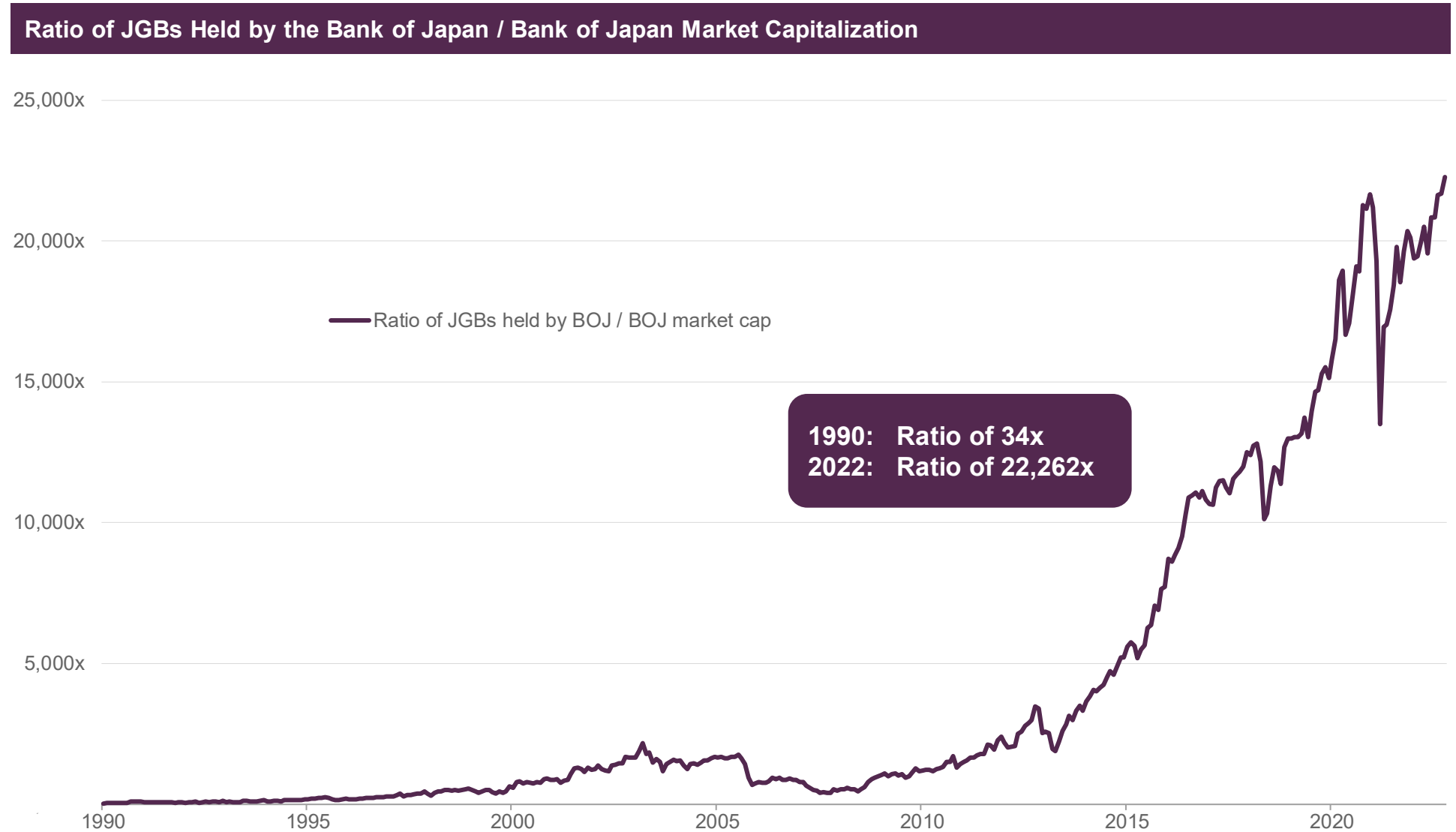
... As It Buys More JGBs and Its Market Cap Decreases

Bank of Japan Market Capitalization (¥ bn)



Source: Guggenheim Investments, Bloomberg. Data as of 10/31/2022.

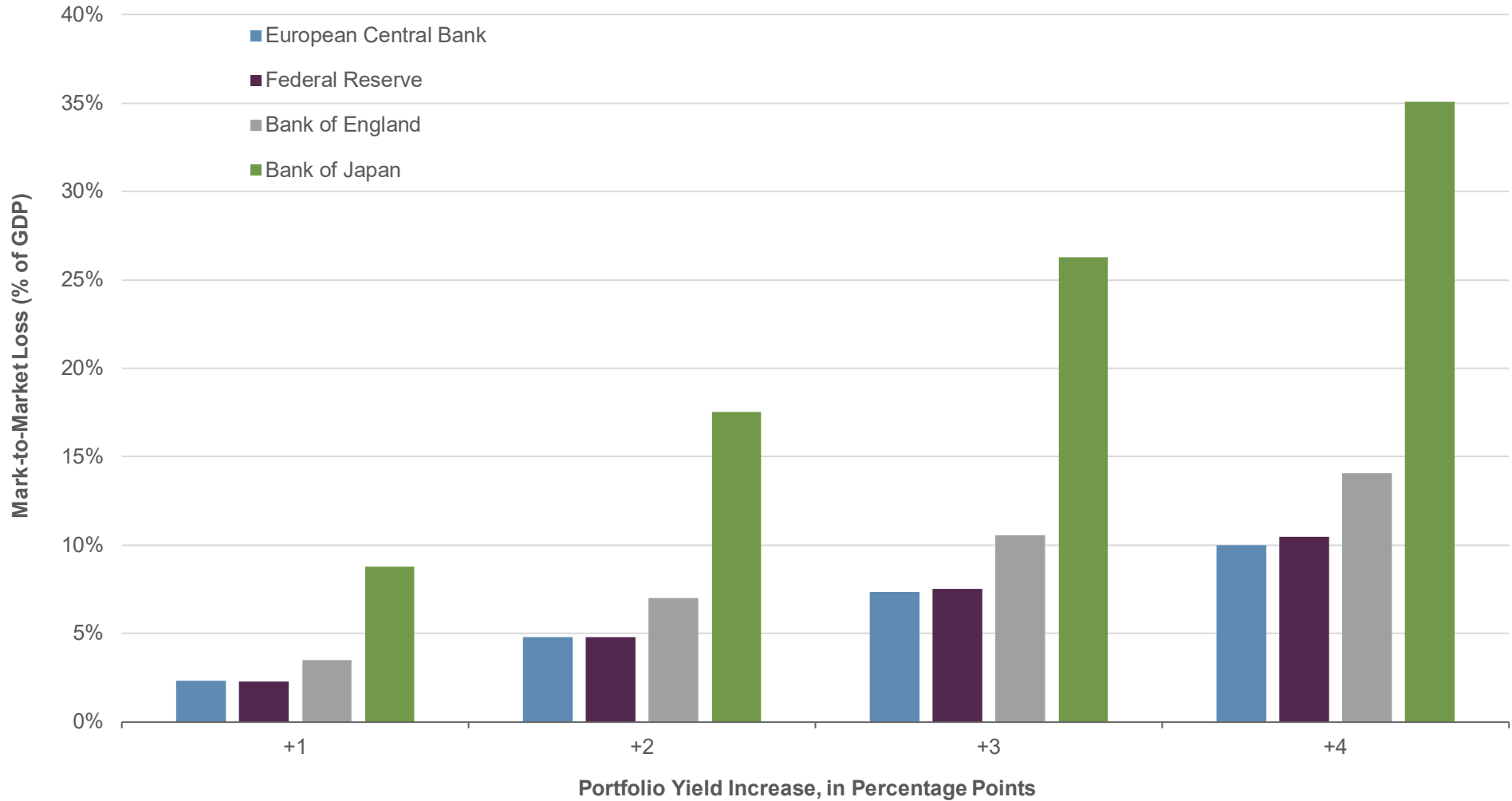
The Bank of Japan Becomes Increasingly Levered ...



Source: Guggenheim Investments, Bloomberg, Haver Analytics. Data as of 10/31/2022.

Central Banks Face Large Losses as Bond Yields Rise

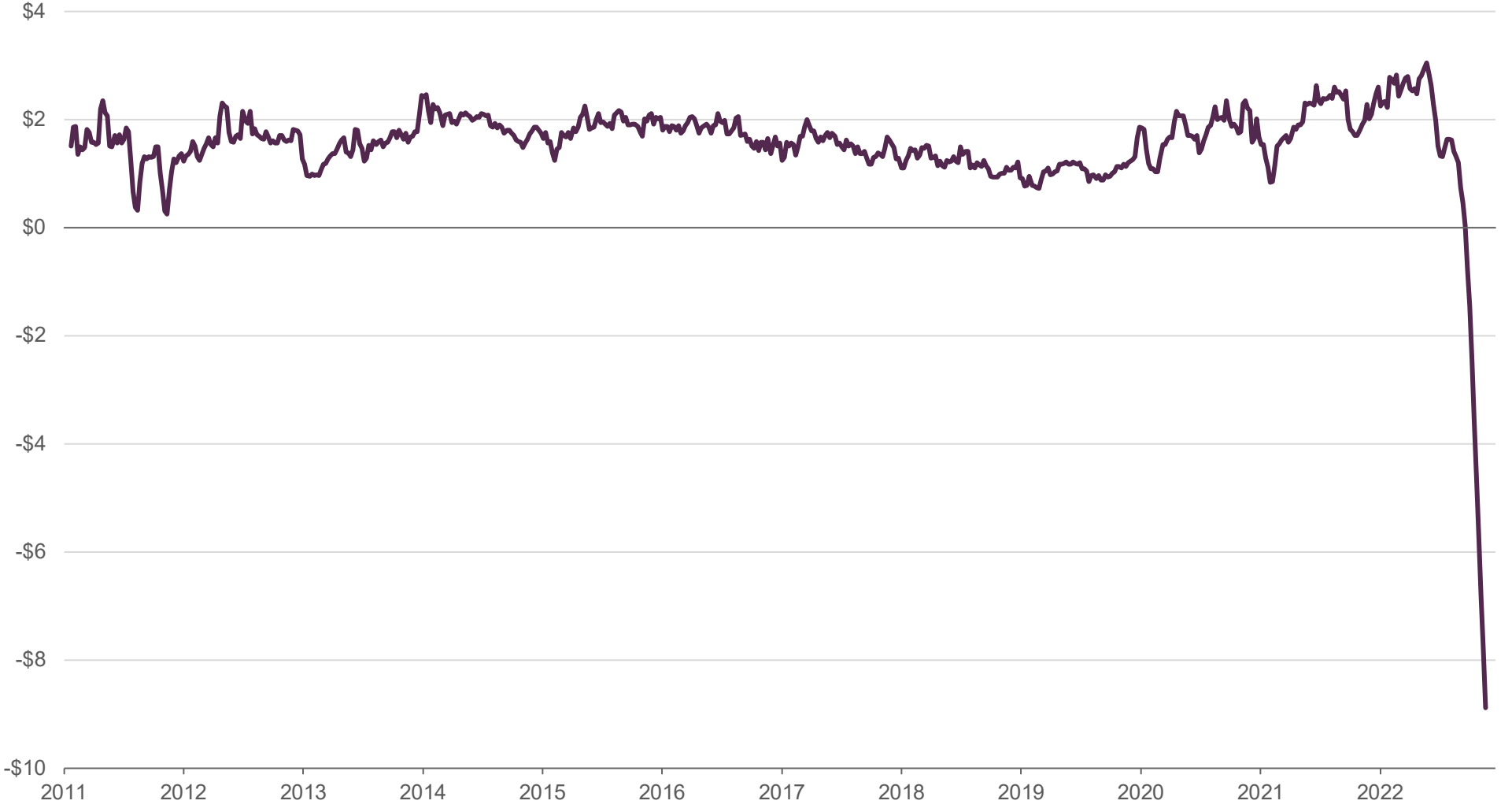
Estimated Mark-to-Market Losses on Bond Holdings as a Function of Bond Yields (% of GDP)



Source: Guggenheim Investments, Haver Analytics, New York Fed. Guggenheim estimates as of 11/28/2022.

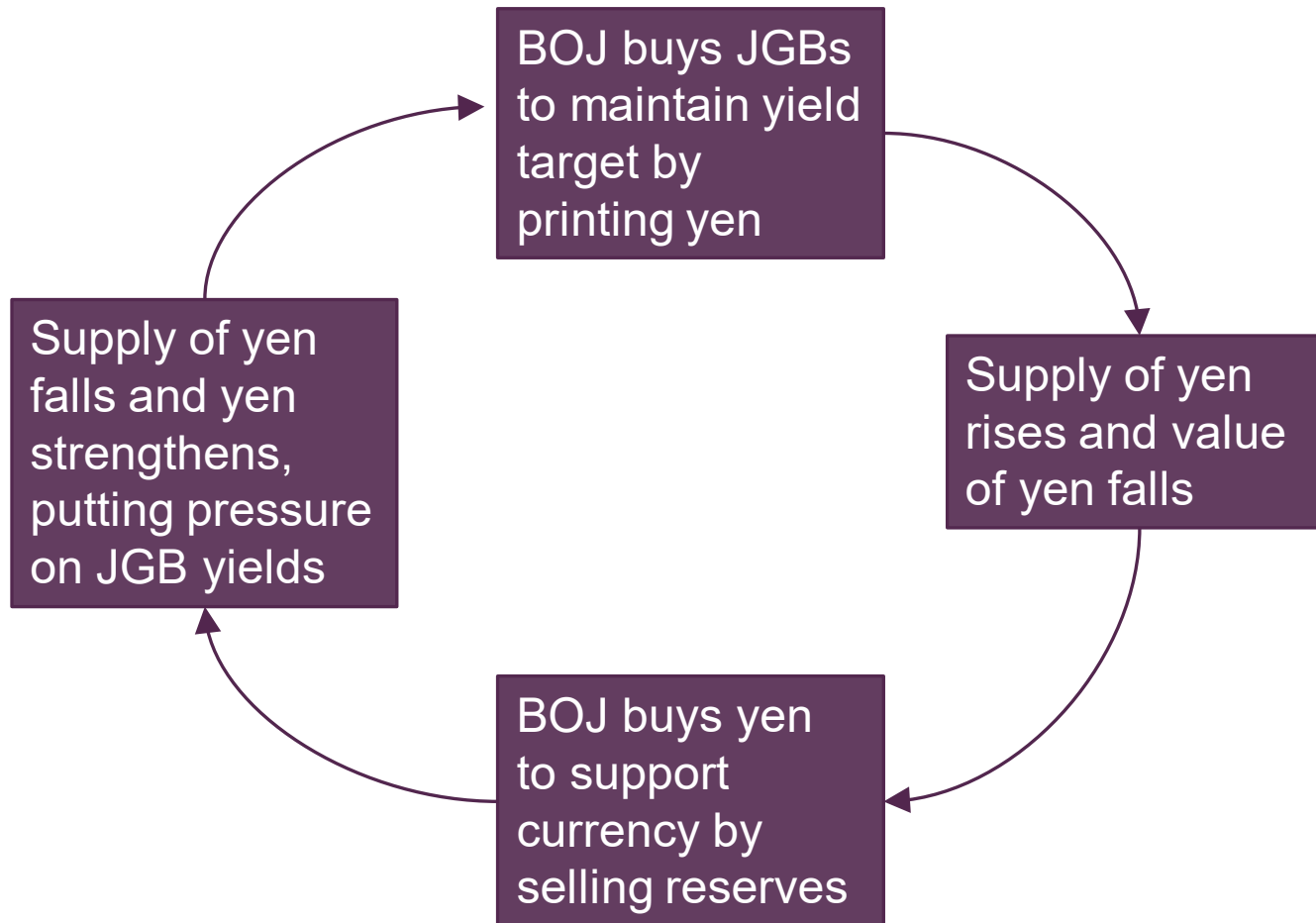
The Days of Large Fed Profits Are Over

Weekly Federal Reserve Remittances to the U.S. Treasury (USD Billions)



Source: Guggenheim Investments, Haver Analytics. Data as of 11/23/2022.

What Is Unsustainable Will Not Be Sustained



Source: Guggenheim Investments

Inflation Rises

- JGB announces new yield target
- BOJ portfolio declines in value
- Market challenges the new JGB yield cap
- BOJ intervenes to stabilize market by buying JGBs
- Supply of yen rises and inflation increases

Source: Guggenheim Investments

Inflation Rises Further

- BOJ sets new target for higher JGB yields
- BOJ portfolio declines further in value
- Market challenges the new JGB yield cap
- BOJ defends JGB yield by increasing JGB purchases
- Supply of yen rises and inflation increases further

Source: Guggenheim Investments

Option 1: BOJ Stops Capping of JGB Yields

- JGB yields rise
- Financial instability ensues
- BOJ attempts to reduce portfolio holdings of JGBs to reduce money supply increasing supply of JGBs in the market and causing more upward pressure on rates

Option 2: BOJ Has More Liabilities Than Assets (namely JGBs) and Cannot Liquidate Portfolio

- BOJ calls on government for support
- Government can raise taxes putting downward pressure on economic activity
- Government attempts to issue bonds putting more pressure on JGB prices

Option 3: BOJ Can Engage in Reverse Repo or Matched Sales

- Reverse repo rate results in higher money market yields which puts more downward pressure on economic activity
- Rate on repo much higher than yield on JGB portfolio depleting BOJ capital further

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