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# MONETARY POLICY NORMALIZATION AND GLOBAL SPILLOVERS: THE US, CHINA AND THE REST

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## QUOTE

'[...] the answer to the question “What lies beyond price stability?” is *financial stability*, and particularly for emerging market economies, a better understanding of the transmission of macroprudential and monetary policies across borders is a key requirement for both better national policies and more effective international collaboration'

*Maurice Obstfeld, IMF, 24 July 2017*

# OUTLINE

International liquidity and monetary policy: the US and China

The normalisation of US monetary policy and global financial stability

International policy coordination and global governance

A suggestion for the G20 2019

## KEY POINTS

Impact of monetary policy normalization in the US on global financial stability: is this time going to be different?

Shifts in the US monetary policy cycle result in global financial instability

Recurrent financial instability, the secular fall in interest rates and the secular increase in global debt tend to be mutually reinforcing:

- the way the international monetary system is currently constructed reinforces the spillover impact;
- the impact of international spillovers tend to become more disruptive with each cycle as global indebtedness increases;
- vulnerabilities and exchange rate arrangements in EMEs, notably China, exacerbate global financial instability

The risk of financial instability today is rooted in monetary policy decisions yesterday

The international coordination of monetary policies in the developed world can help mitigate financial instability

# INTERNATIONAL LIQUIDITY & US MONETARY POLICY

When eased:

- stronger capital inflows in EMEs, higher domestic asset prices, stronger exchange rates and domestic credit growth;
- policy dilemma:
  - relax monetary policy to curb the inflows and the exchange rate, but domestic overheating and excessive credit growth;
  - tighten monetary policy to stem domestic credit growth, but more inflows and stronger exchange rates.

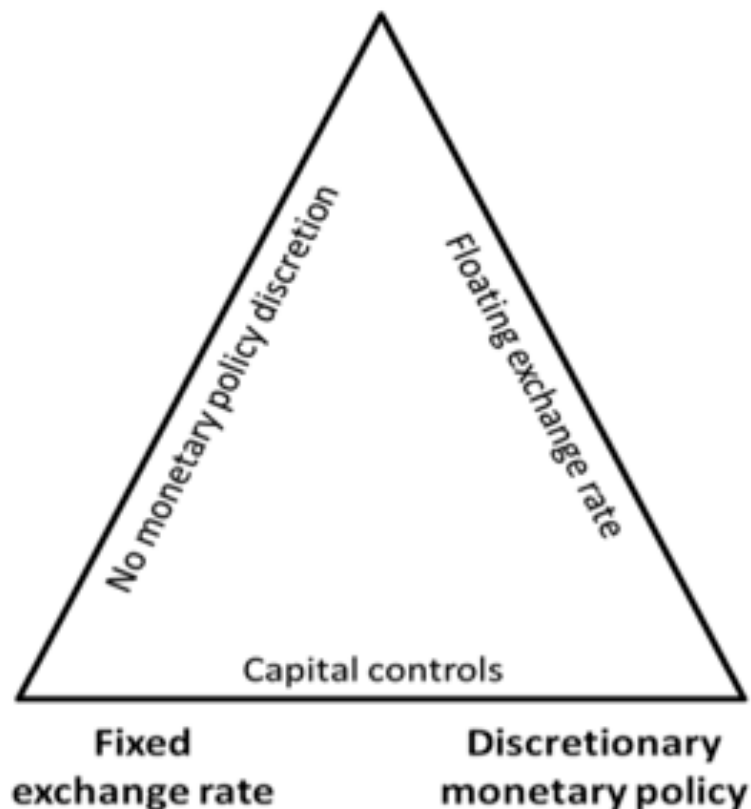
When reversed:

- a sudden stop in the inflows, if not a stampede of capital to the exit in the case of the countries with high vulnerability - measured using current account, foreign reserves, inflation, and external debt
- policy dilemma:
  - relax monetary policy to support domestic demand, but more capital outflows and increase in the cost of foreign-currency denominated credit
  - tighten monetary policy to stem capital outflows and support the exchange rate, but weaker domestic demand

# INTERNATIONAL LIQUIDITY & US MONETARY POLICY

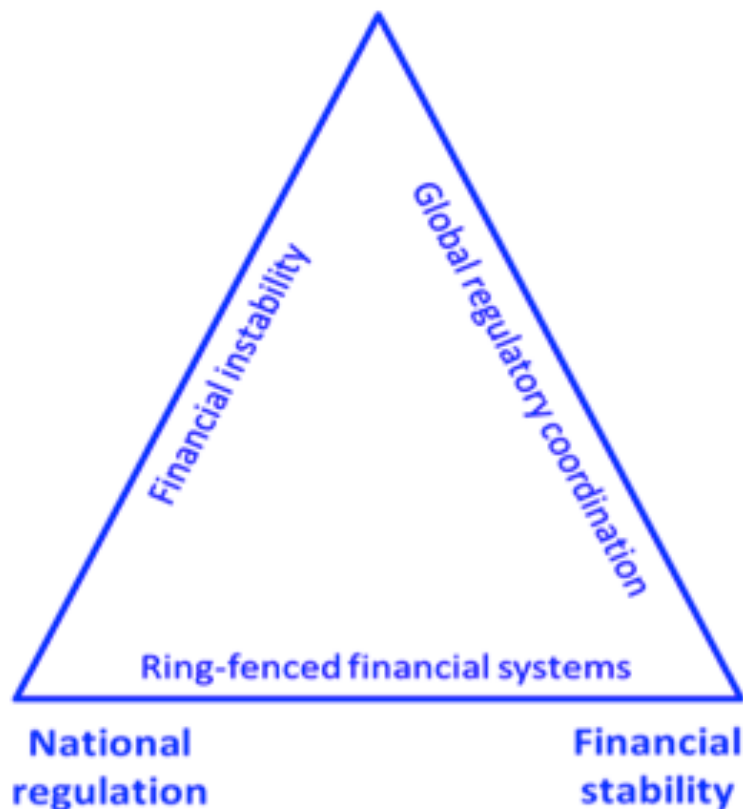
## *Open-economy Trilemma*

Free movement of capital



## *Financial Trilemma*

Financial Integration



- Trilemma 1: EMEs combine free movement of capital with discretionary monetary policy.
- Trilemma 2: EMEs combine financial integration with national regulation.
  - Monetary policy is constrained by financial instability

# INTERNATIONAL LIQUIDITY & CHINA'S 'CONSTRAINED' ADJUSTMENT

China's exchange rate arrangements: 'crawling pegging', recently replaced by 'dirty floating'

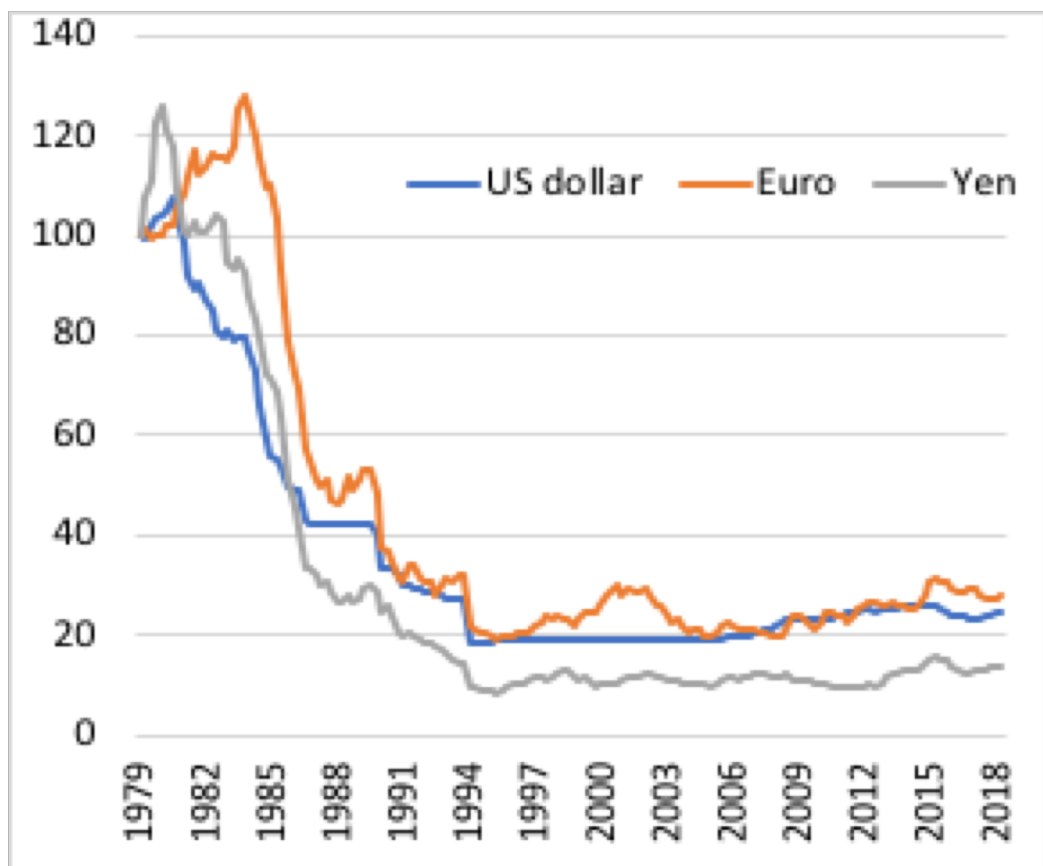
Objective: to keep the value of the renminbi in line with China's longer-term policy framework of export-led growth, with domestic demand contained by a comparatively high saving propensity

In practice this means:

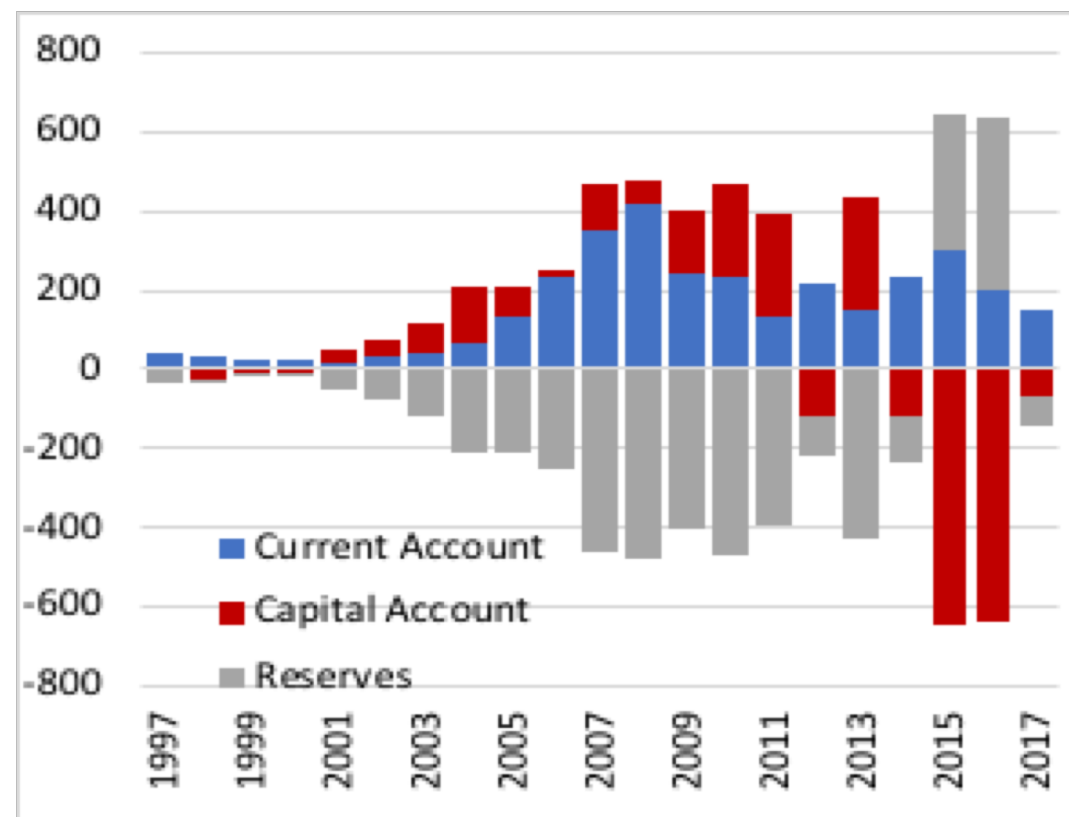
- exchange rate fixed against the dollar for long stretches of time (Chart 1.1, Panel A), at a level that was structurally too low given the pace of output growth and the surplus in the trade balance
- FX interventions to maintain the exchange rate structurally undervalued
- control on capital movements for independent monetary policy and protection of domestic banks
- 'sterilisation' of FX interventions and large accumulation of FX reserves

# CHINA GRAPPLING WITH DOWNWARD PRESSURE ON THE RMB

Bilateral exchange rate of the renminbi against major currencies  
(index, 1979 Q1 = 100)



Balance of payments of China (bn US dollars)





# THE 'GLOBAL FINANCIAL CYCLE' & THE 'TRILEMMA'

The US: keeps the global financial cycle in motion by maintaining diversified financial markets and holding no restrictions to capital movements

China: keeps the global financial cycle spinning by having a macroeconomic framework that is based on a managed exchange rate and constraints on capital movements

China overcomes the 'Trilemma': manages both the exchange rate and capital movements, and conducts monetary policy independently

China's rebuttal of the "trilemma" has forced the US monetary policy to 'work harder'

# THE 'TRILEMMA' AND THE INTERNATIONAL MONETARY SYSTEM

## Stylized description of the IMS

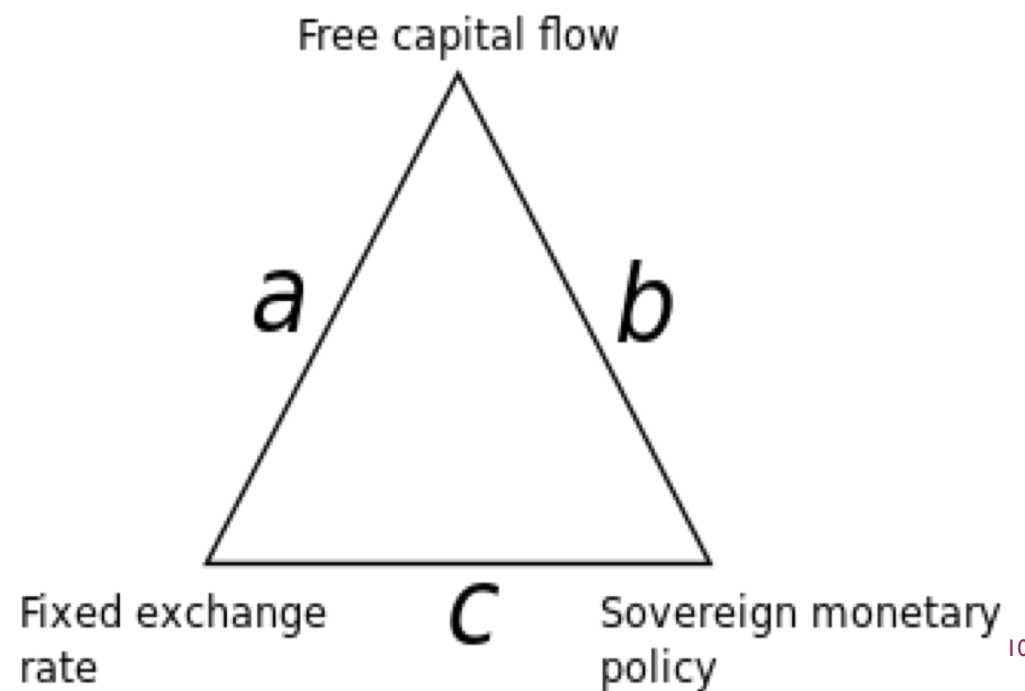
The US is on side *b* (free capital flow and sovereign monetary policy)

China is on side *c* (sovereign monetary policy and fixed exchange rate), though flirts with *a* and *b*

Other emerging markets aim for *b* but are often pushed to side *a* (free capital flow and *de facto* fixed exchange rate)

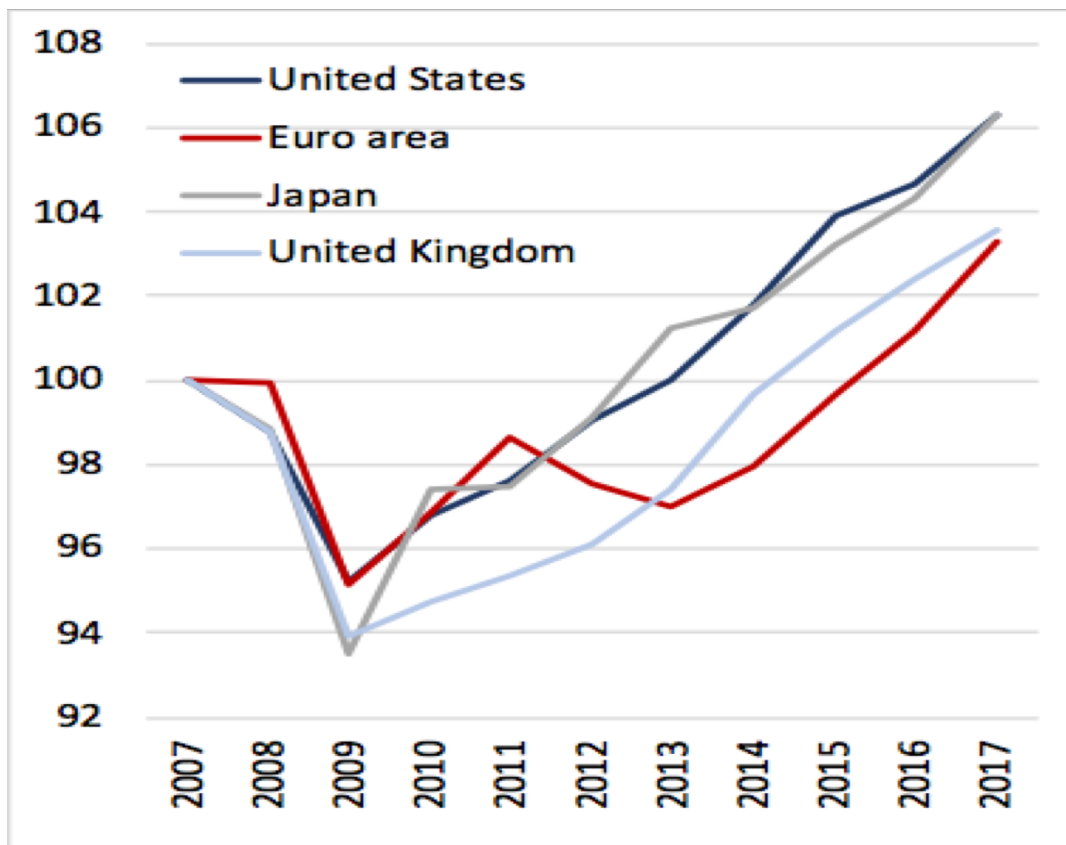
US monetary policy needs 'to work harder' as it lacks the knock-on effect of the exchange rate

## Trilemma or the Impossible Trinity

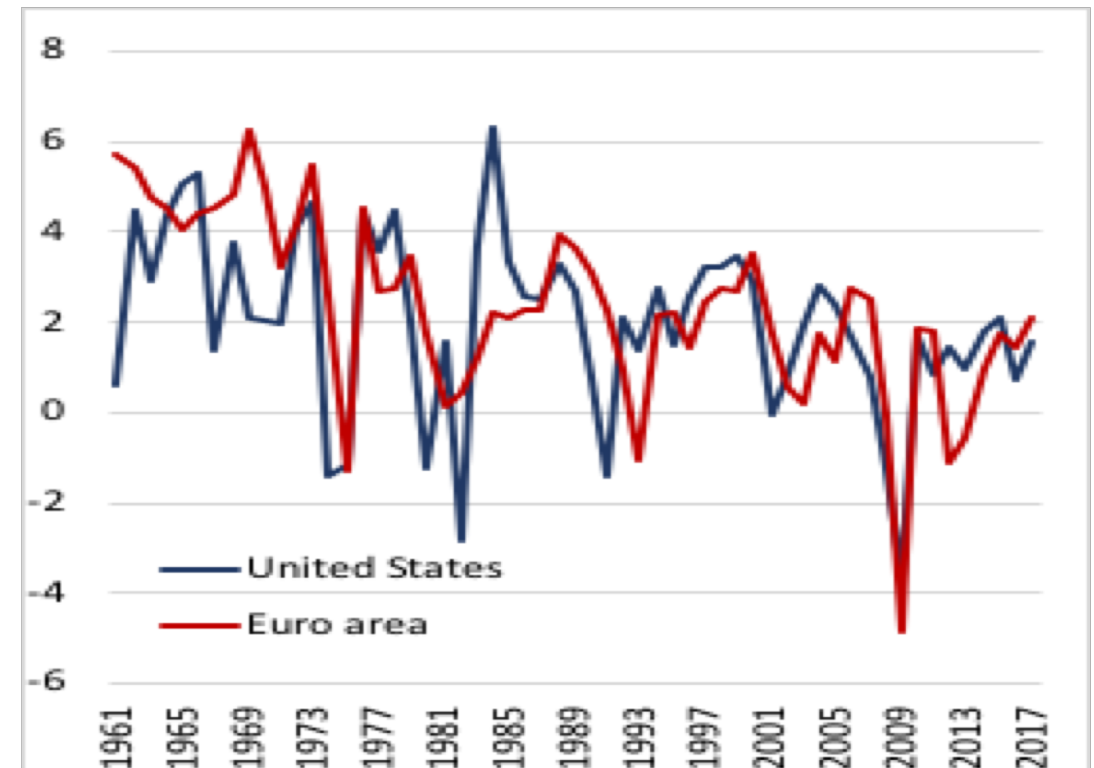


# THE US BUSINESS CYCLE IS THE MOST ADVANCED

Real per capita GDP in major developed economies (2007=100)

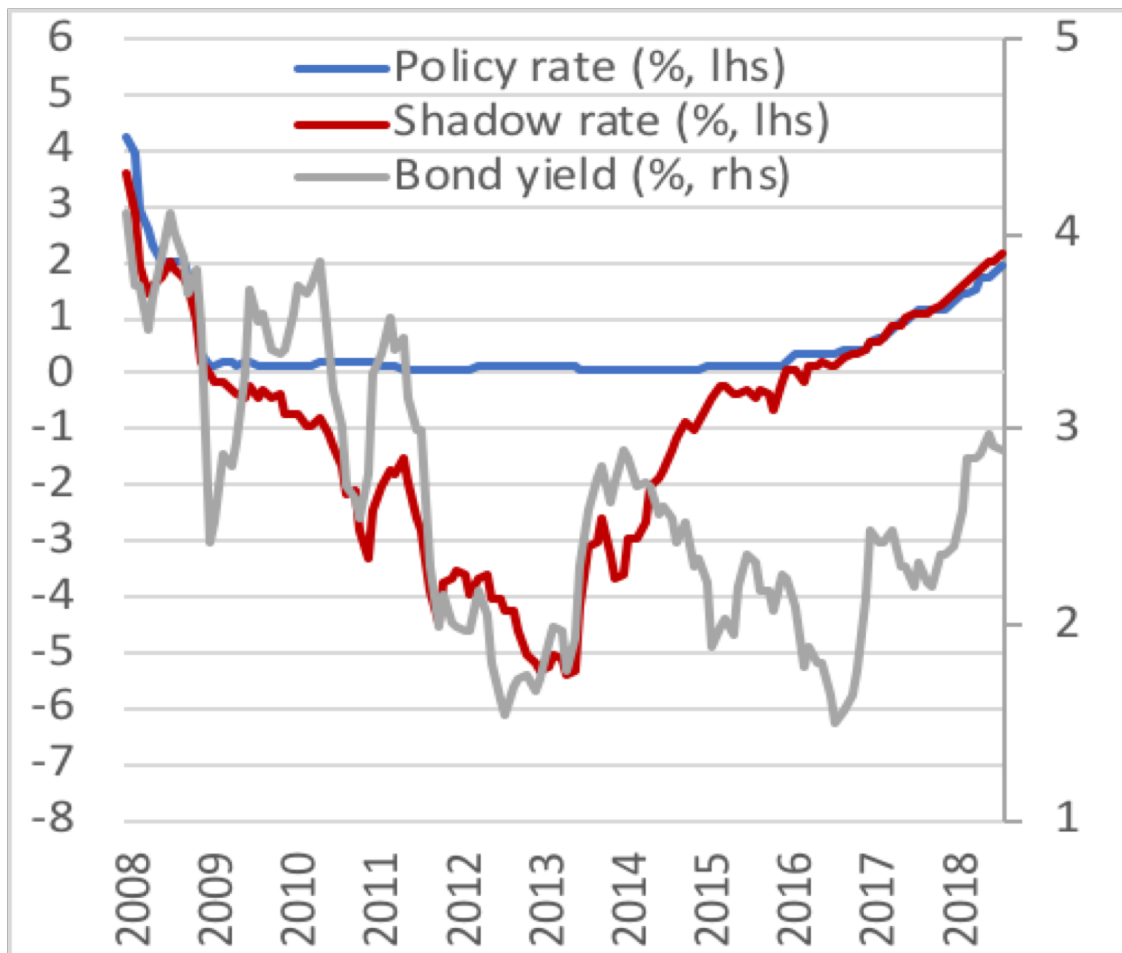


Real per capita GDP growth in the United States and euro area (%)

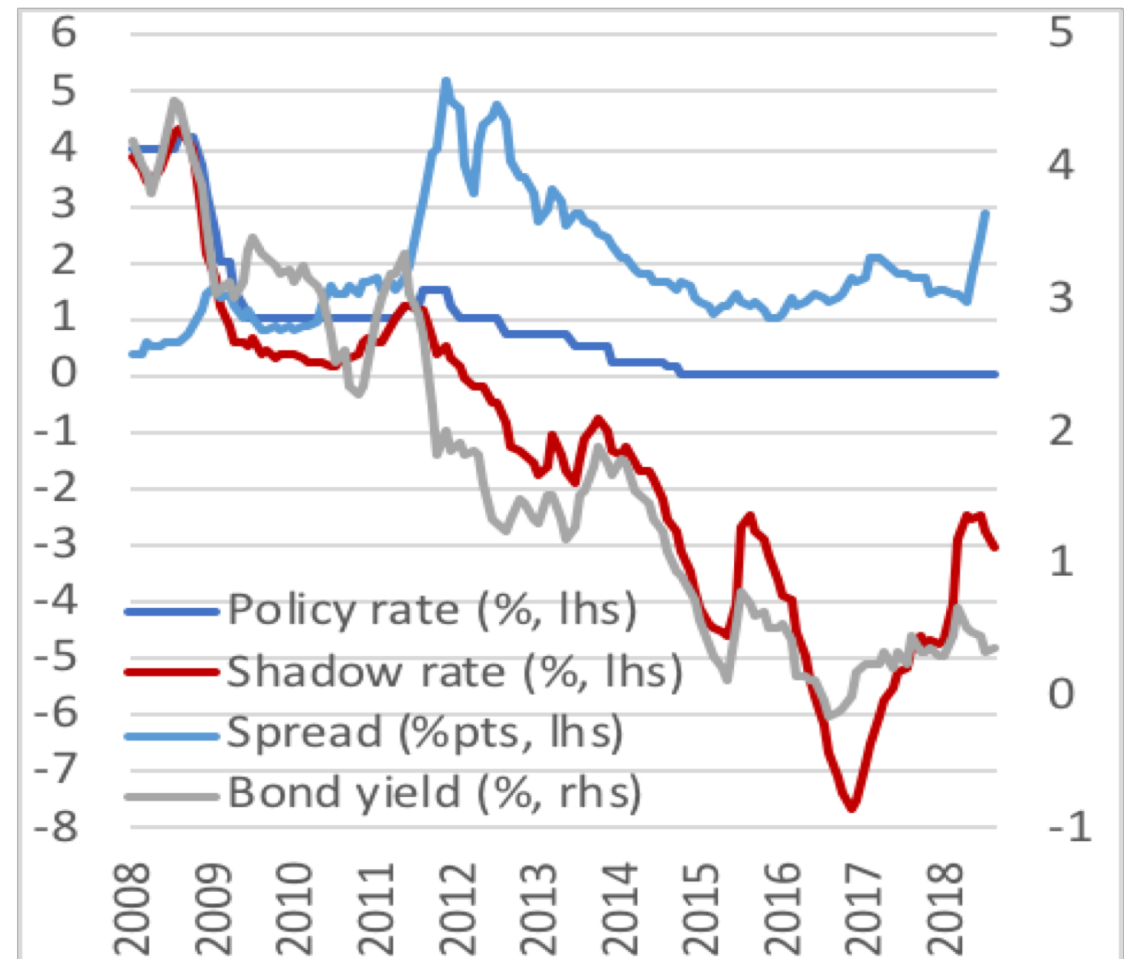


# US MONETARY POLICY CYCLE ALSO MOST ADVANCED

United States

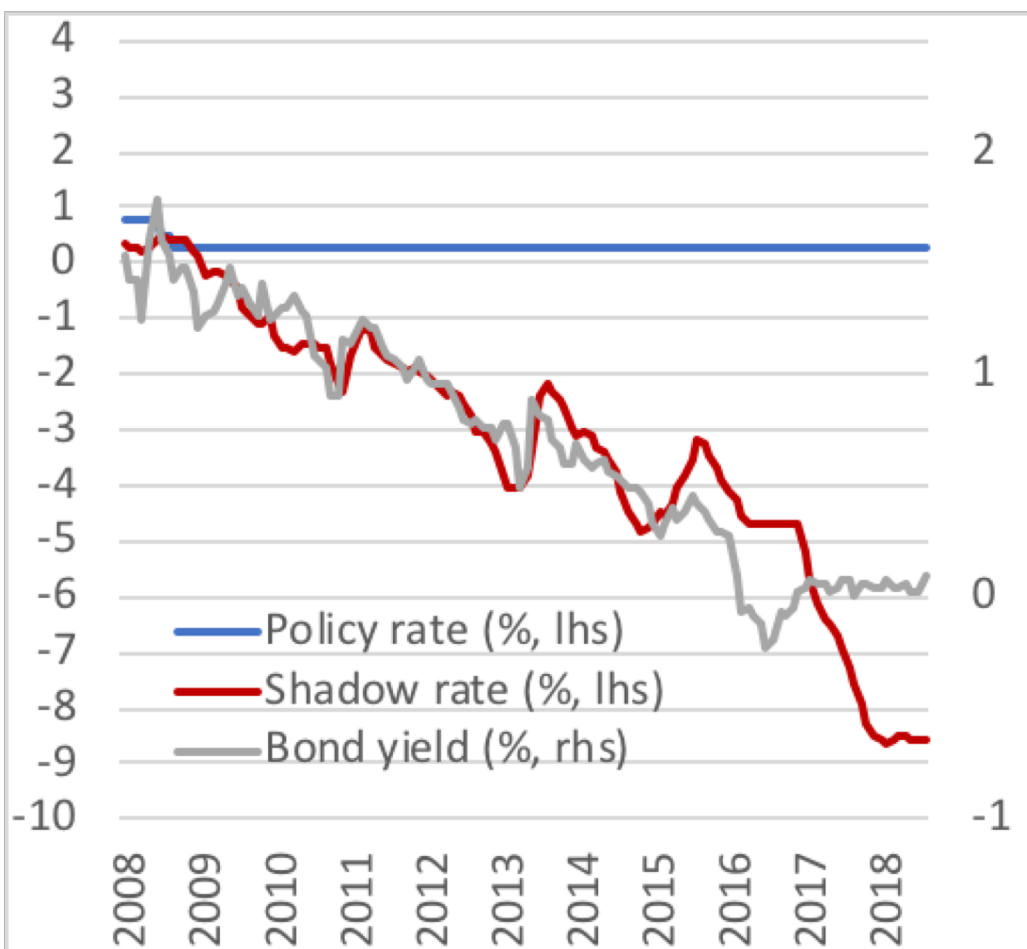


Euro area

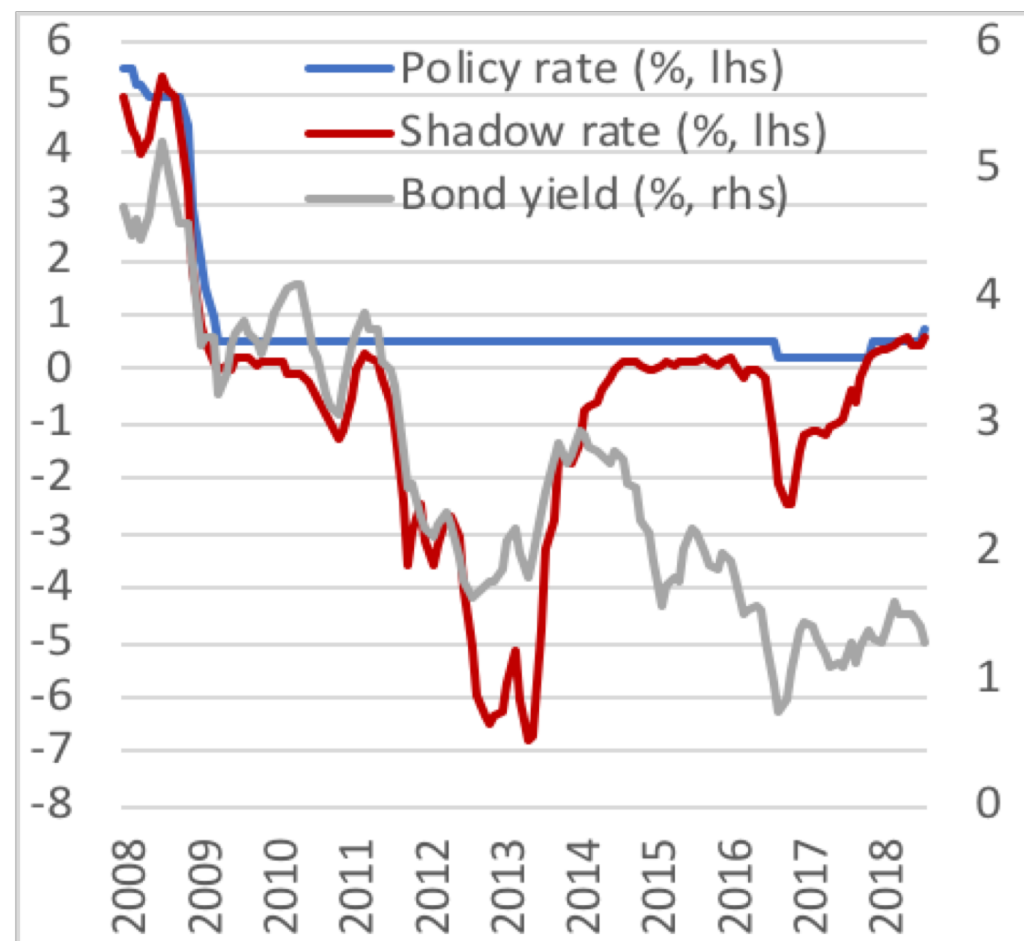


# US MONETARY POLICY CYCLE ALSO MOST ADVANCED

Japan



United Kingdom



# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

## Transmission mechanisms I

The US attract capital inflows, leading the US dollar to appreciate, boosting economic growth elsewhere. This is welcome for the euro area or Japan.

China prevents capital outflows and concomitant currency depreciation so as to preserve domestic financial stability. US monetary policy will have to work harder.

Other emerging markets face a trade-off between exchange rate depreciation and domestic monetary restraint, both of which entail financial stability risk. “Fear of floating” means US monetary policy will need to work harder.

## Transmission mechanisms II

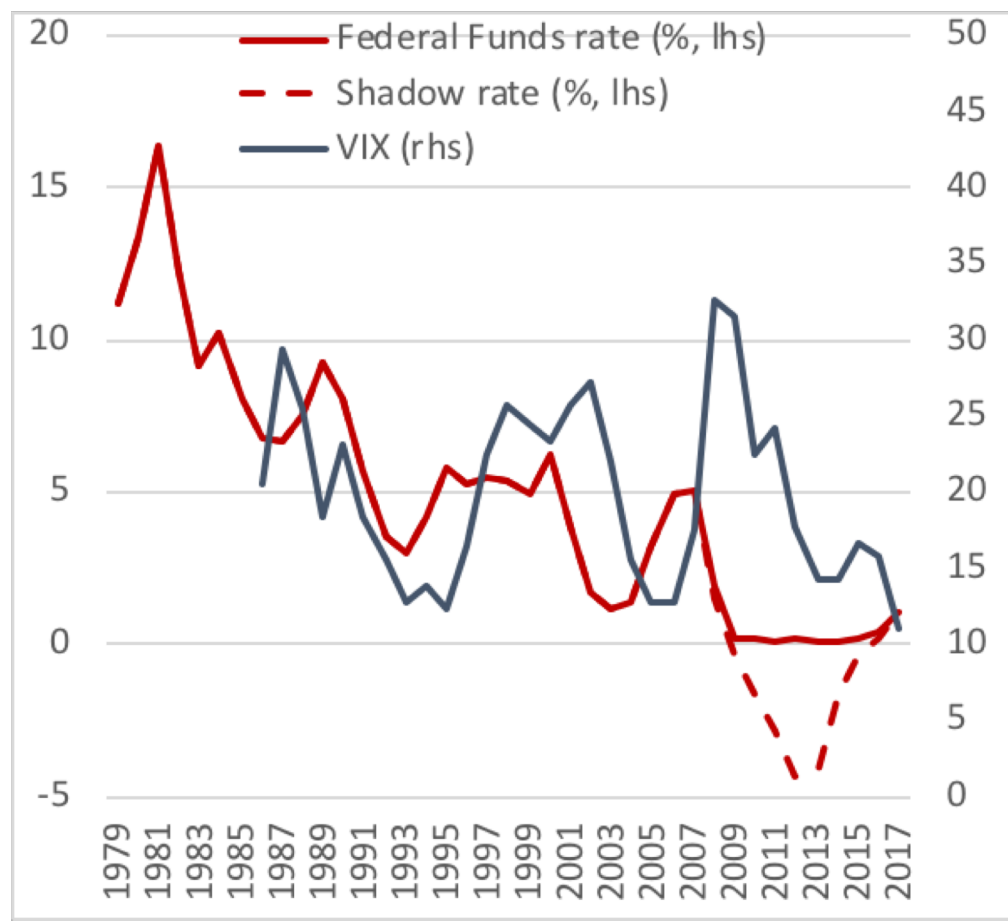
Financial stability implications in the US itself: leveraged buy-outs financed by cheap credit set to end and could trigger a global risk-off.

This could trigger capital flows to safe havens, including e.g. Japan, the euro area (in particular Germany) and – paradoxically – the United States itself.

Vulnerable emerging market currencies would be depressed further (Argentina, Turkey). The UK may be hit in case of a disorderly Brexit, as may be Italy, whilst already at the brink of political and/or financial collapse.

# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

Federal Funds rate leading the VIX ...



... by about two years

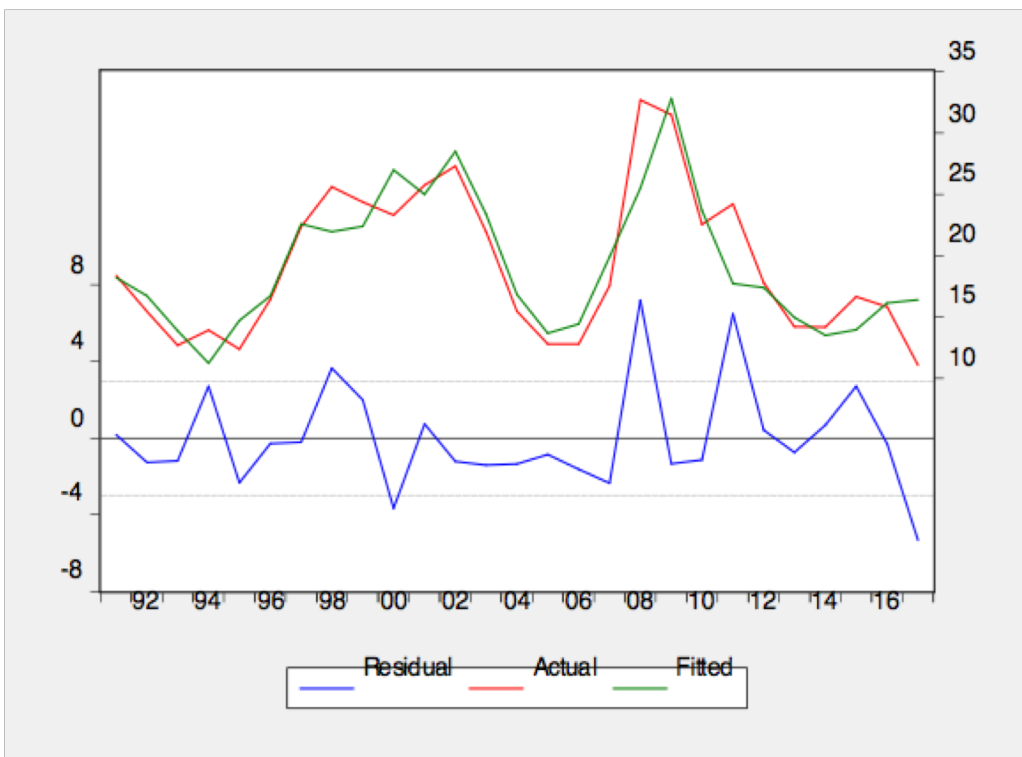
The federal funds rate leads the VIX by about two years.

The sensitivity of the VIX to US monetary policy has become stronger.

Other gauges of global financial stability are also correlated with the federal funds rate.

# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

Regression analysis...



... does not reject the relationship

Global financial instability, gauged by the VIX, is positively correlated with the federal funds rate and the level of global debt, with a two-year lag.

The impact of variations of the federal funds rate on global financial stability is stronger if global debt is higher (the relationship is non-linear).

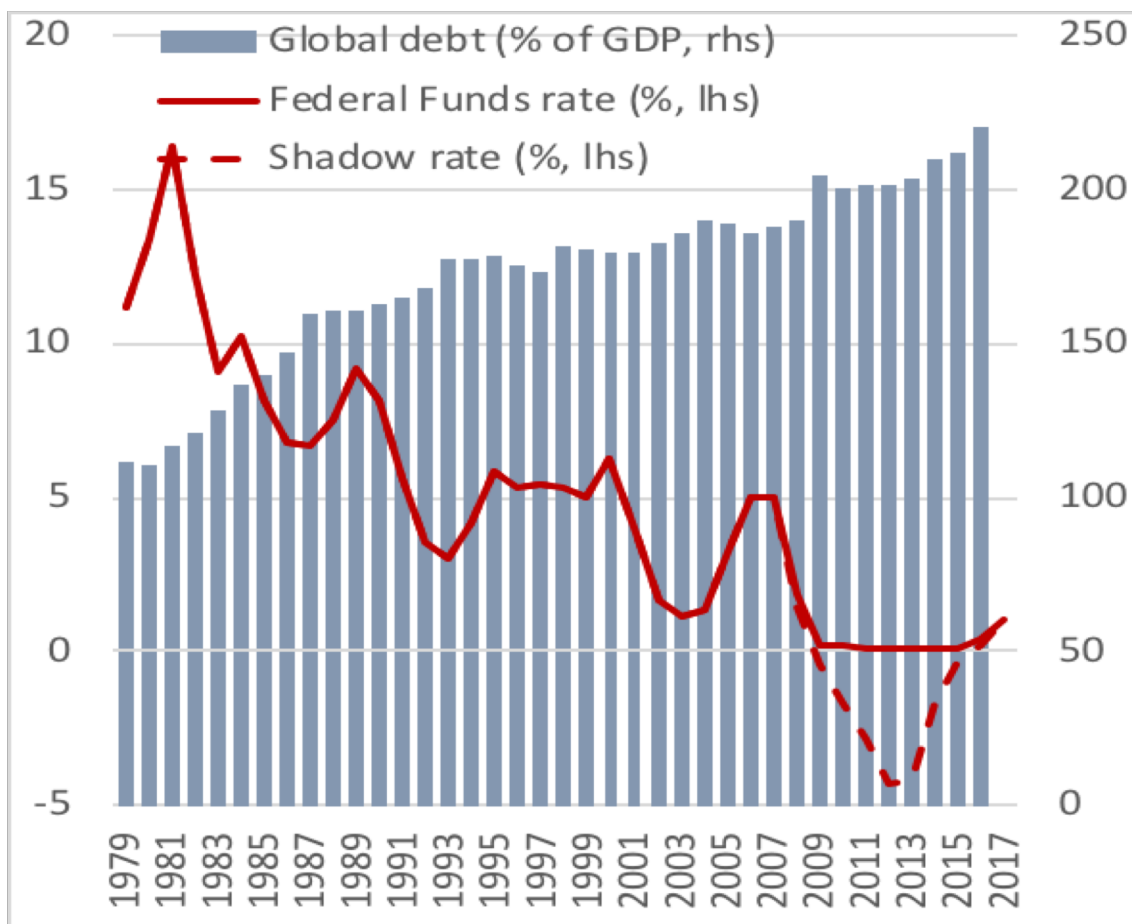
$$\Delta V = -33.1 - 0.60V_{-1} + 0.20D_{-2} - 10.6r_{-2} + 0.07(D_{-2}.r_{-2}), R^2 = 0.62, DW = 2.2$$

(-1.9)(-5.4)(2.3)(-3.6)(4.4) Sample: 1991 – 2017



# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

Growth of global debt ...



... possibly driven by US monetary policy

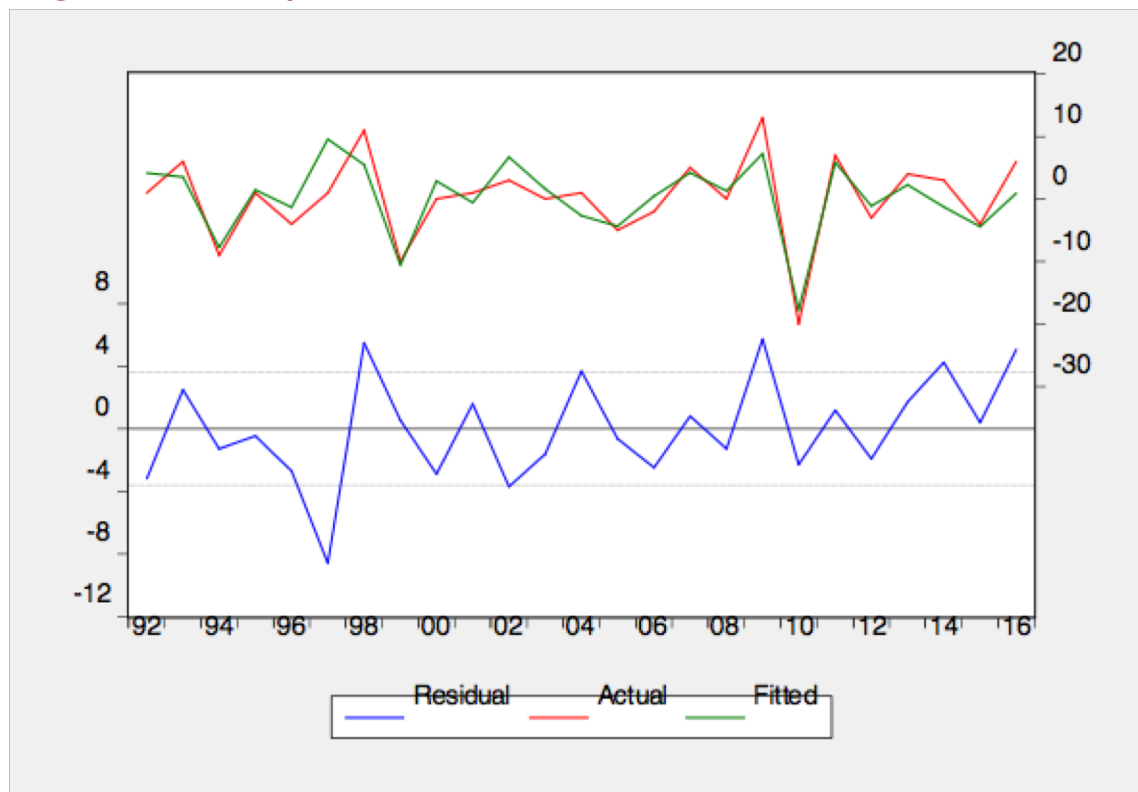
Growing concerns over increasing leverage and global financial integration may explain the tendency of financial crises to become more disruptive.

Global debt as such need not be an issue; rather would be high leverage, maturity mismatches and a tendency of more reckless risk taking with the secular decline in interest rates.

We test if global debt is driven by the federal funds rate

# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

Regression analysis...



... does not reject the hypothesis

The impact of the federal funds rate on global debt is statistically and economically significant.

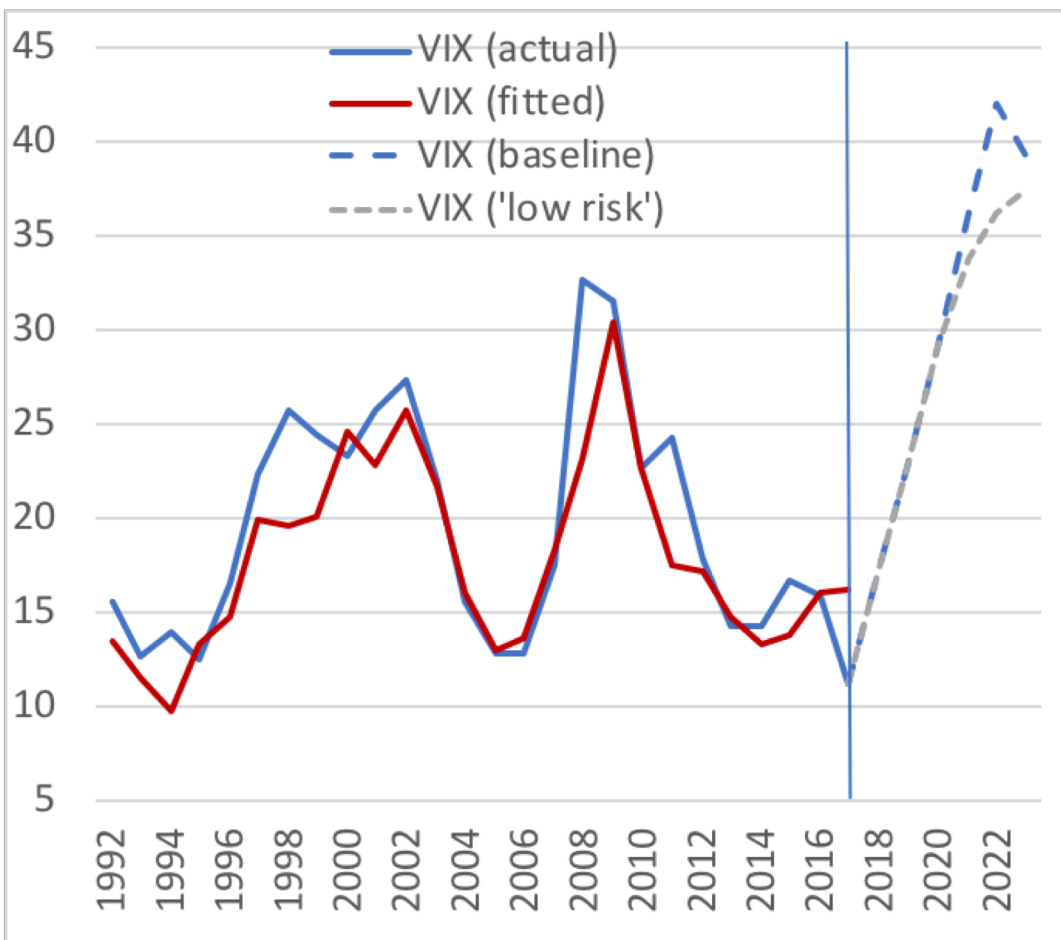
The secular fall in the federal funds rate in past decades may well have been one of the drivers of the increase in global indebtedness.

$$\Delta^2 D = 7.7 - 1.37\Delta D_{-1} - 2.3\Delta r_{-1} - 0.27V_{-2}, R^2 = 0.73, DW = 2.3$$

(2.9)(-7.6)(-3.8)(-2.1) Sample: 1992 - 2016

# US MONETARY POLICY AND GLOBAL FINANCIAL STABILITY

Two scenarios ...



... point to a global crisis in a few years

Financial instability (gauged by the VIX), reaches its highest level since 2009 by 2019 and to peak at an all-time high in 2021.

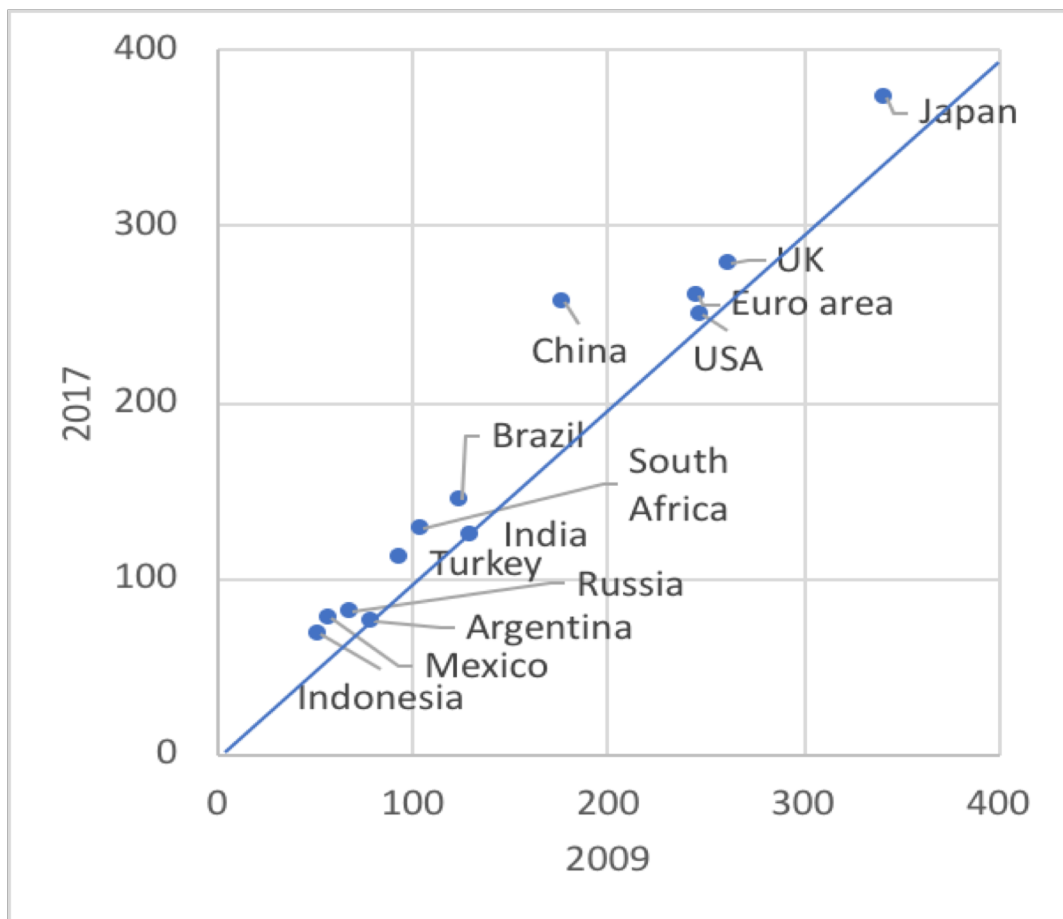
We assume the federal funds rate to average  $1\frac{3}{4}\%$  in 2018,  $2\frac{1}{2}\%$  in 2019 and 3% in 2020., and then to drop to an average 2% in 2021, 1% in 2022 and back to nil in 2022.

If we assume the federal funds rate to level off at 2 % in 2019-2021 and then to resume its baseline time path, the VIX would by 2021 still match its 2009 peak ('low risk scenario').

These projections suggest that another financial crisis is in store as a result of the tightening of monetary policy in the United States, and that this crisis would be more disruptive than its predecessor.

# GLOBAL VULNERABILITIES

## Debt ratio to GDP, 2009-2017 (%)



## Debt grew mostly in China and Japan

Rise in debt after the Great Financial Crisis has been led by China (where it surged from 180% to 260% of GDP).

Much of it in the burgeoning shadow banking sector which transforms large household savings into risky corporate debt.

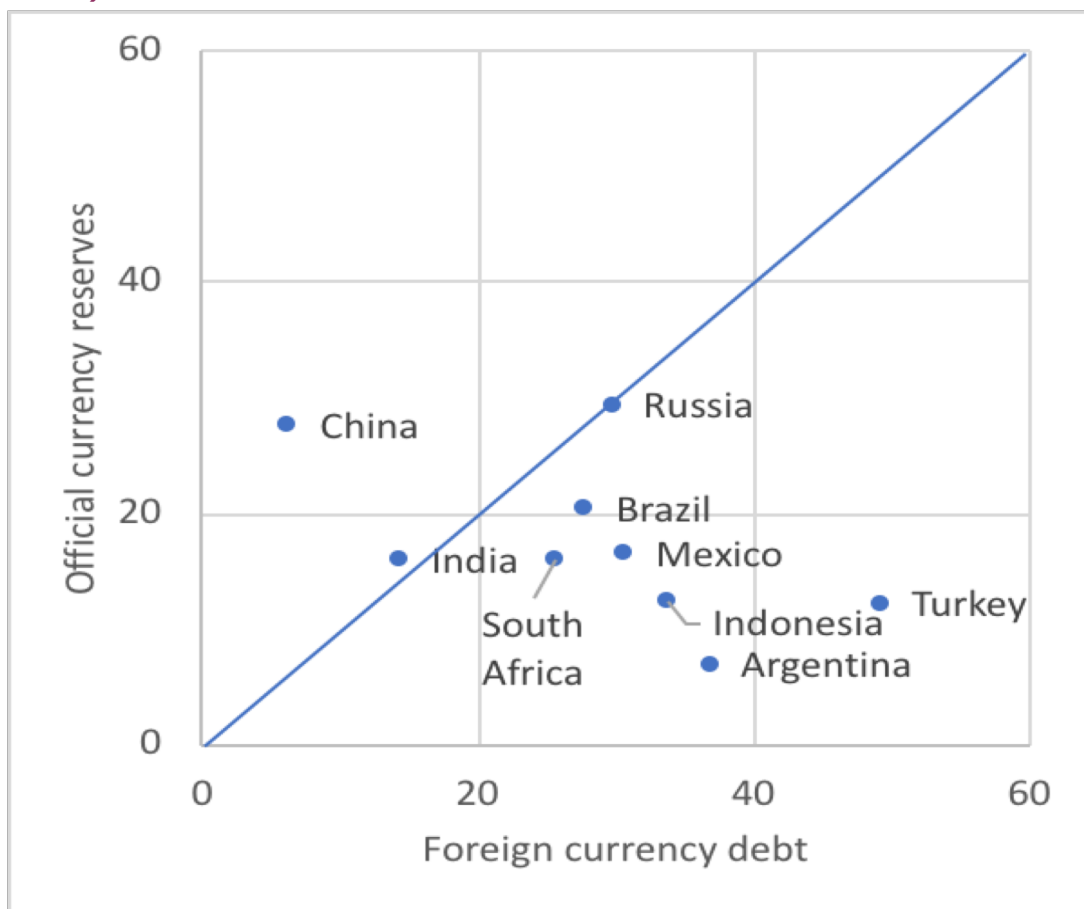
This is unlike the situation in the run-up to the crisis, when the bulk of global debt creation occurred in developed economies.

Japan has seen the second-largest increase in debt after China -- mostly public.

In both cases is debt mostly domestic.

# GLOBAL VULNERABILITIES

Foreign currency debt and official reserves (2017, % of GDP)



## FX-debt a problem in only some (large) emerging markets

Foreign currency debt has remained modest as a percentage of GDP.

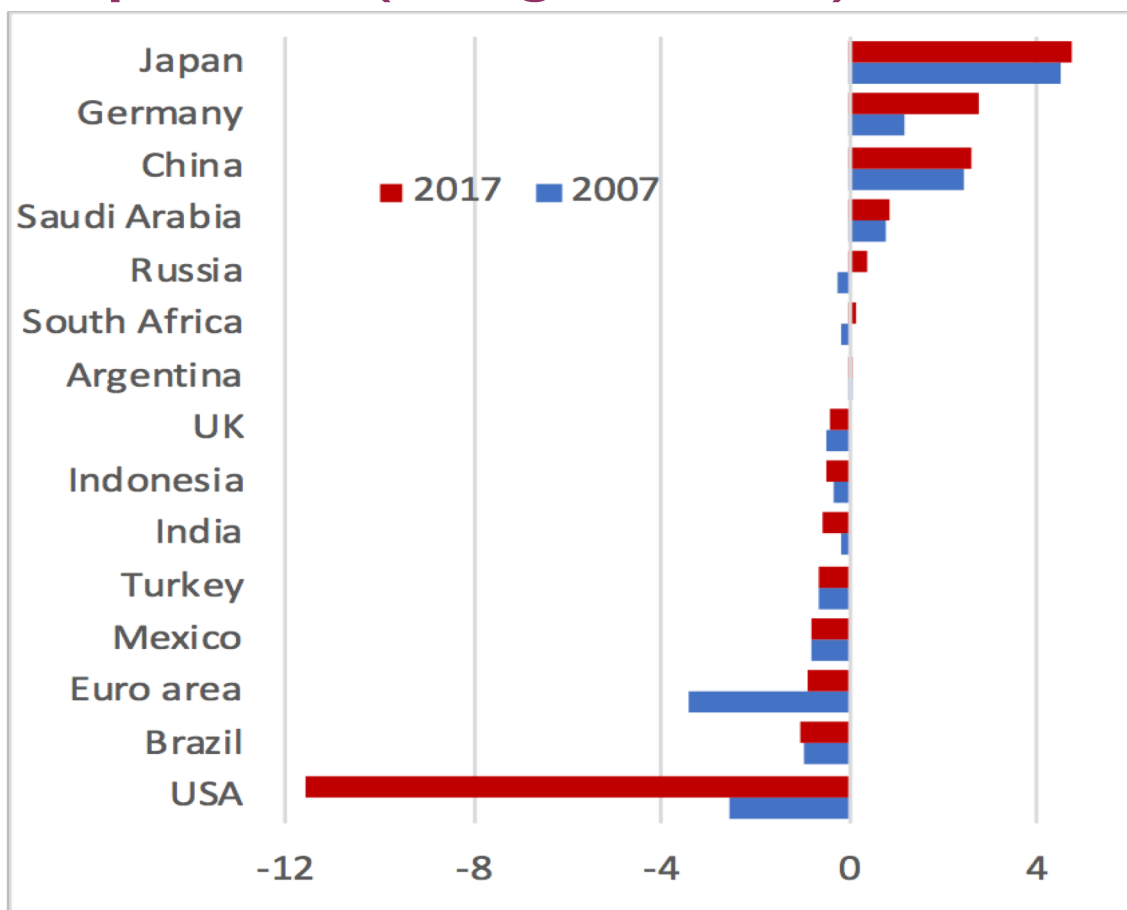
Some emerging markets have substantial foreign exchange reserves relative to their foreign debt.

But some, like Argentina and Turkey, are vulnerable to exchange rate risk due to a comparatively high share of foreign exchange debt and comparatively small foreign exchange reserves.

China is a class of its own, with comparatively small foreign debt dwarfed by huge foreign exchange reserves.

# GLOBAL VULNERABILITIES

## NII positions (% of global GDP)



## “Global imbalances” persist

The US remains by far the biggest debtor globally, with Japan, China and Germany by far the biggest creditors.

Reflecting the absence of exchange rate adjustment in the presence of large current account surpluses (in the case of Germany creditor position is mostly against the euro area’s periphery).

Other developed economies broadly finance emerging market economies’ current account deficits aside from China.

Capital flows downhill as predicted by text books, but not in the US (and China) where it moves the other way around.

# GLOBAL VULNERABILITIES

## A benign assessment?

Strong rationales for the Fed to “go slow”

The bulk of the global increase in debt occurred in China and Japan, and is mostly domestic.

Emerging market (FX) debt is less of a concern because EM have a higher growth potential and can deploy FX reserves.

FX debt is mostly contracted by the commodities sector which is less vulnerable to FX mismatch as its revenues are also FX denominated.

## What are the risks?

Turmoil in weak emerging markets (Argentina, Turkey) could spread.

Stock repurchase programs of US companies could go in reverse as monetary policy tightens.

The trade war heightens uncertainty and could entail stagflation, adding a trade-off to monetary policy (inflation control vs activity).

Refugees problem and a conflict between Germany and Italy on fiscal leeway could undermine the single currency.

Government protection of the burgeoning Chinese shadow banking sector may be tested.

# THE TRADE-OFF BETWEEN MACROECONOMIC AND FINANCIAL STABILITY

Inter-temporal choices of the monetary authorities:

- any change in monetary policy today has ramifications for financial stability tomorrow through changes in asset prices, leverage positions and indebtedness

Financial stability defined as the stability of the financial system and its capacity to fulfil its basic functions of financial intermediation and payments

Trade-off between short-term macroeconomic stabilization and medium-term financial stability

The current international monetary system generates forces that complicate this trade-off, potentially leading to a too fast build-up of debt when the US monetary policy is loose, and financial instability when the US monetary policy normalizes



# INTERNATIONAL POLICY COORDINATION

Coordination involved the conduct of monetary policy to pursue the reduction of global financial instability

This coordination refers only to financial stability

Monetary authorities stick to their mandate to minimise macroeconomic instability at home

Central banks are primarily accountable to their domestic constituencies and any deviation from this principle would be politically acceptable only to the extent that it would help prevent unintended spillover effects

# THE SCOPE FOR INTERNATIONAL COORDINATION

## Developed economies

The supply of US dollars the main source of global liquidity and the supply of US treasury bonds the main source of risk-free financial assets

The liberalization of capital movements and financial deregulation throughout the 1980s and early 1990s reinforced the US-dollar's role as the global currency.

US monetary policy thus has a powerful impact on exchange rates and, via the monetary policy reactions this triggers, interest rates in the developed world.

## Emerging economies

Whenever US monetary policy is eased, capital flows come their way in search for higher returns, boosting their asset prices and exchange rates but also preparing the ground for difficulties.

Whenever the US monetary policy is reversed, this triggers a loss of confidence and a stampede of capital to the exit, leaving emerging markets in a financial crisis and their monetary policy trapped in a dilemma – easing exacerbates risk perceptions while tightening triggers a domestic downturn.

In view of this experience China opted to manage its capital account and peg its exchange rate against (predominantly) the US dollar.

# THE SCOPE FOR INTERNATIONAL COORDINATION

## Developed economies

With coordination the time profile of interest rates over the cycle is smoother and the yield spreads between the economies narrower.

Importantly, with the smoother time profile of interest rates the levels of indebtedness are lower and the financial stability risk smaller.

Yield spreads between 'profligate' and 'thrifty' members of EMU, and hence financial stability risk in EMU, is also smaller.

Coordination of monetary policies is welfare-enhancing for all (Pareto-optimality).

## Emerging economies

Coordination of monetary policies between developed and emerging market economies is not Pareto-optimal.

Emerging market economies gain but developed economies lose. The loss of monetary policy independence in the developed economies is too costly relative to the financial stability gain.

But this makes coordination of monetary policies among the developed economies even more rewarding.

By smoothing the monetary policy cycle, it would mitigate financial instability in emerging market economies.

## TO WRAP-UP

The entrance in the international monetary system of emerging market economies with still fragile financial systems, alongside the liberalisation of capital movements, has been one of the root causes of recurrent financial crises

China manages its exchange rate as a means to preserve domestic financial stability, but with spillovers on developed economies whose monetary policies need to 'work harder' to achieve a desired level of macroeconomic stability in the absence of the support of exchange rate adjustment. Associated debt build-up in EMEs and greater vulnerability to monetary policy tightening

Financial instability in EMEs because they are forced to align their monetary policies with that of the dominant global reserve currency issuer regardless of their own business cycle, thus fuelling a domestic financial boom-bust cycle. In addition, they suffer from greater macroeconomic instability

Coordination of monetary policies: welfare enhancing only in specific cases

But coordination of monetary policies among the developed economies could diminish financial instability they are normally exposed too and also mitigate financial instability on EMEs

# TO CONCLUDE

Crisis prevention vs crisis resolution: policy coordination should help prevent crises

Understand how the system works

Need to focus international policy action to create a robust system of crisis prevention - not just to ensure that the appropriate financial safety nets are in place for when a crisis occurs.

Perhaps a policy area where to focus the G20 in 2019 under Japan's stewardship?