

Financial Crises of Thoughts: Investors Psychology & Financial Stability

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**Istanbul Finance Congress
2019**

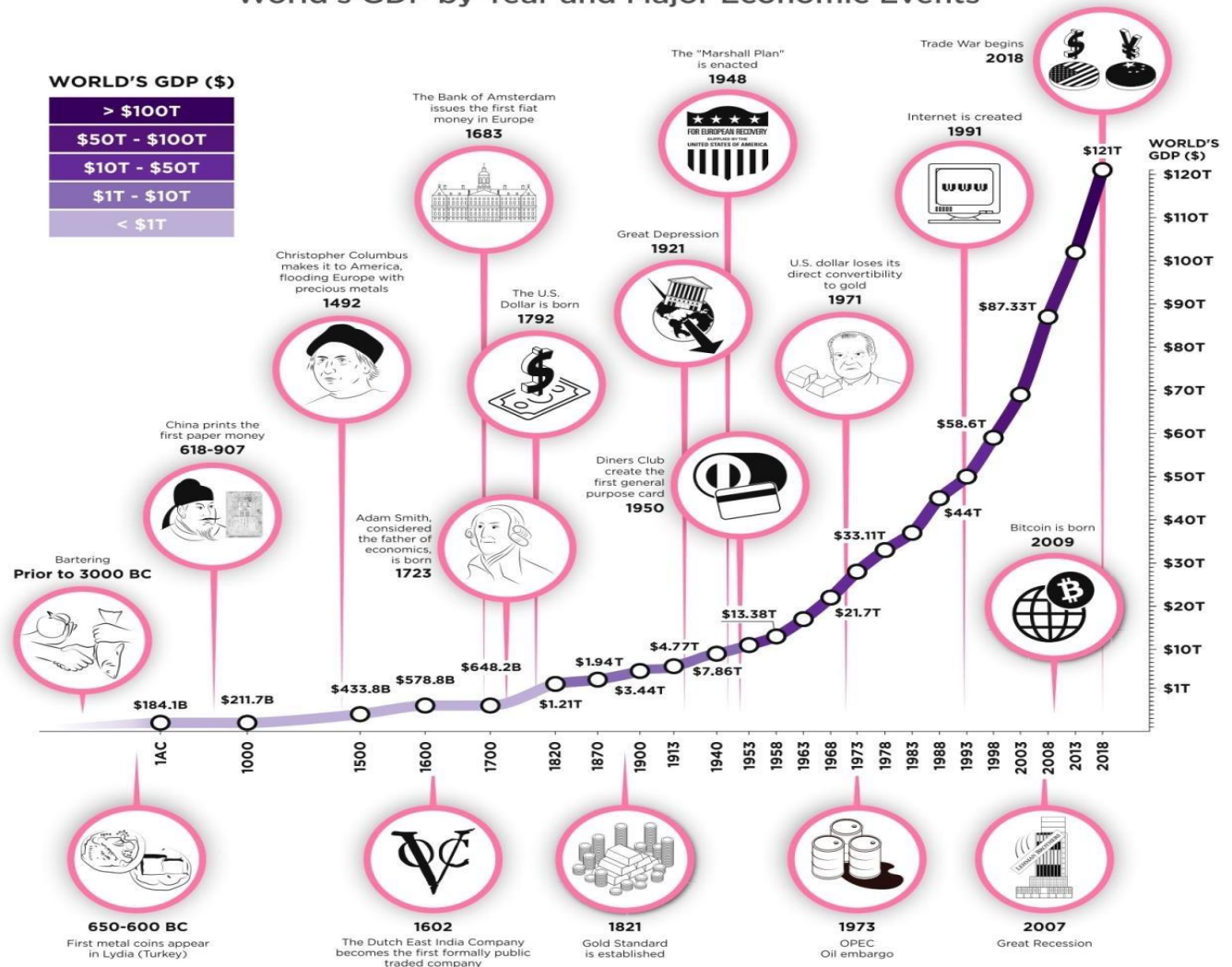
November 1, 2019 - Beykent University

Main Points

- Researches on credit cycles shows that financial crises follow credit expansions, are long time coming, and in part predictable.
- US housing bubble and the crisis of 2008 look very much like a standard credit boom followed by a crisis and a recession.
- 2018 Turkish Currency & Interest rate crises is also a standard boom & bust type of foreign currency & local credit cycle roots which starts from 2009.

World Economic History

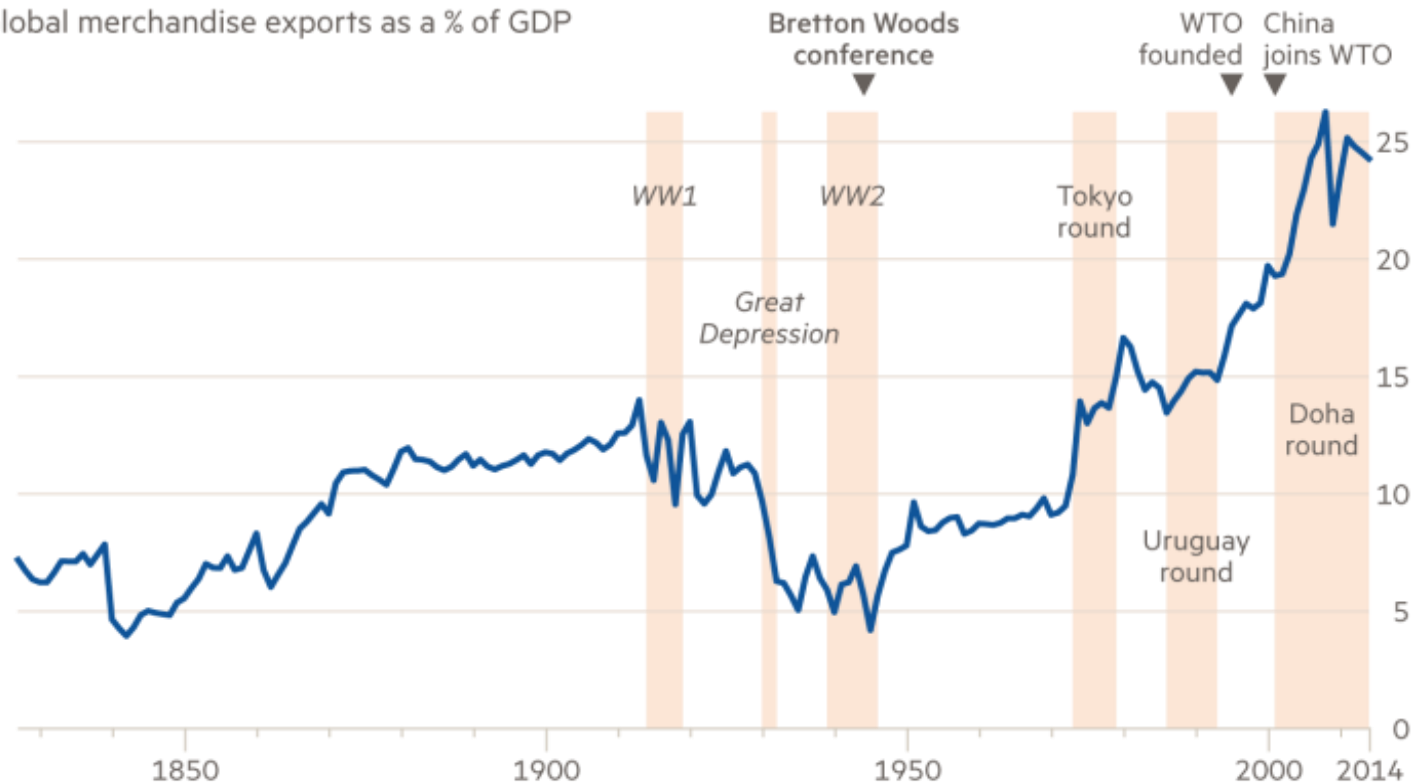
A Timeline of the World's Economic History World's GDP by Year and Major Economic Events



World Trade Levels

The world's openness to trade reached record levels before the financial crisis

Global merchandise exports as a % of GDP



Sources: Fouquin and Hugot, "Two Centuries of Bilateral Trade and Gravity Data: 1827-2014" (CEPII 2016); ourworldindata.org

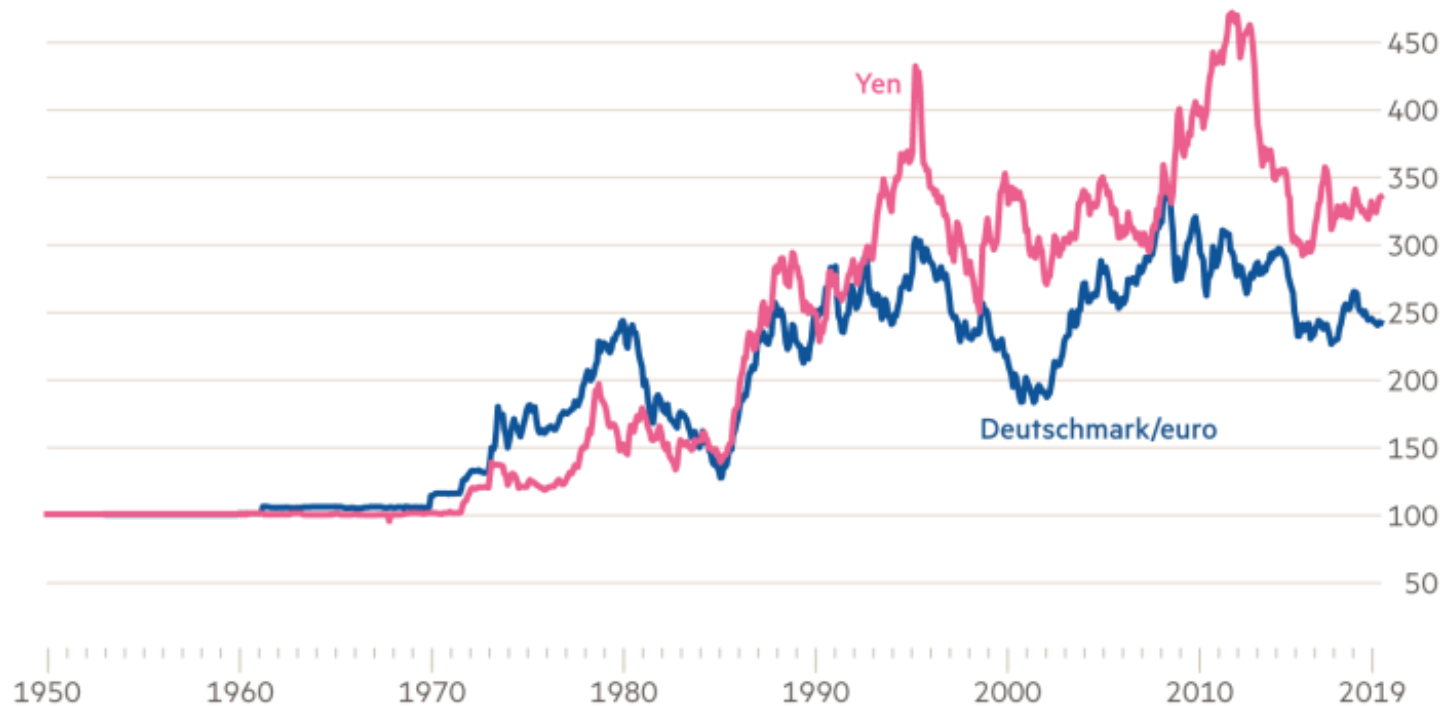
Bretton Woods Deal



Exchange Rates Volatility

Big fluctuations followed the end of the era of fixed exchange rates

Currencies against the dollar (\$ per currency, rebased 1950 = 100)



Source: IMF
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Inflation Under Control

Inflation was brought back under control after the turbulent 1970s

Inflation in developed countries (annual % change)



Source: OECD
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FED Target Interest Rates

Federal Open Market Committee (FOMC) target federal funds rate (%)

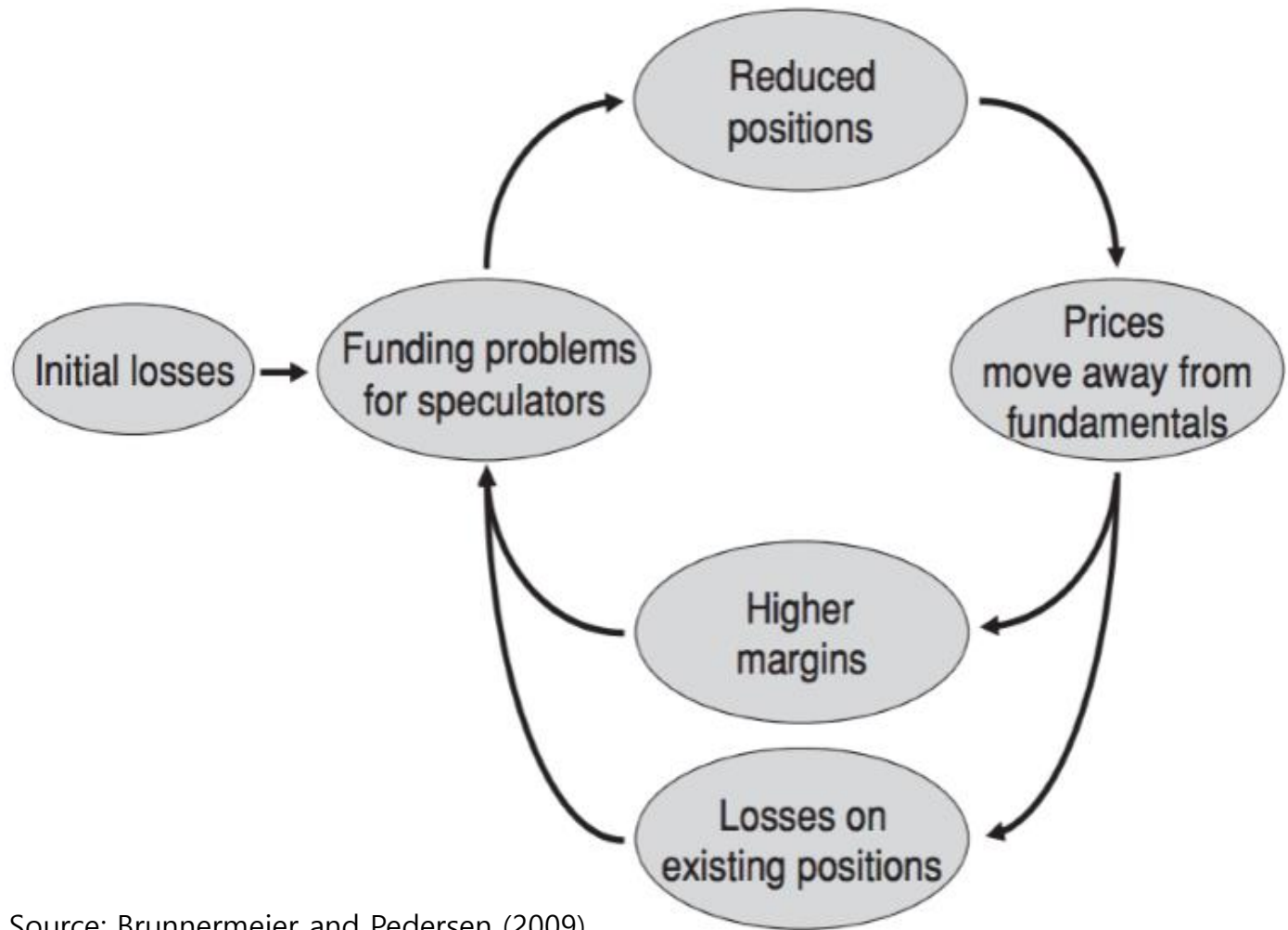


Source: St. Louis Fed.
Gray areas show recessions.

Financial Regulations

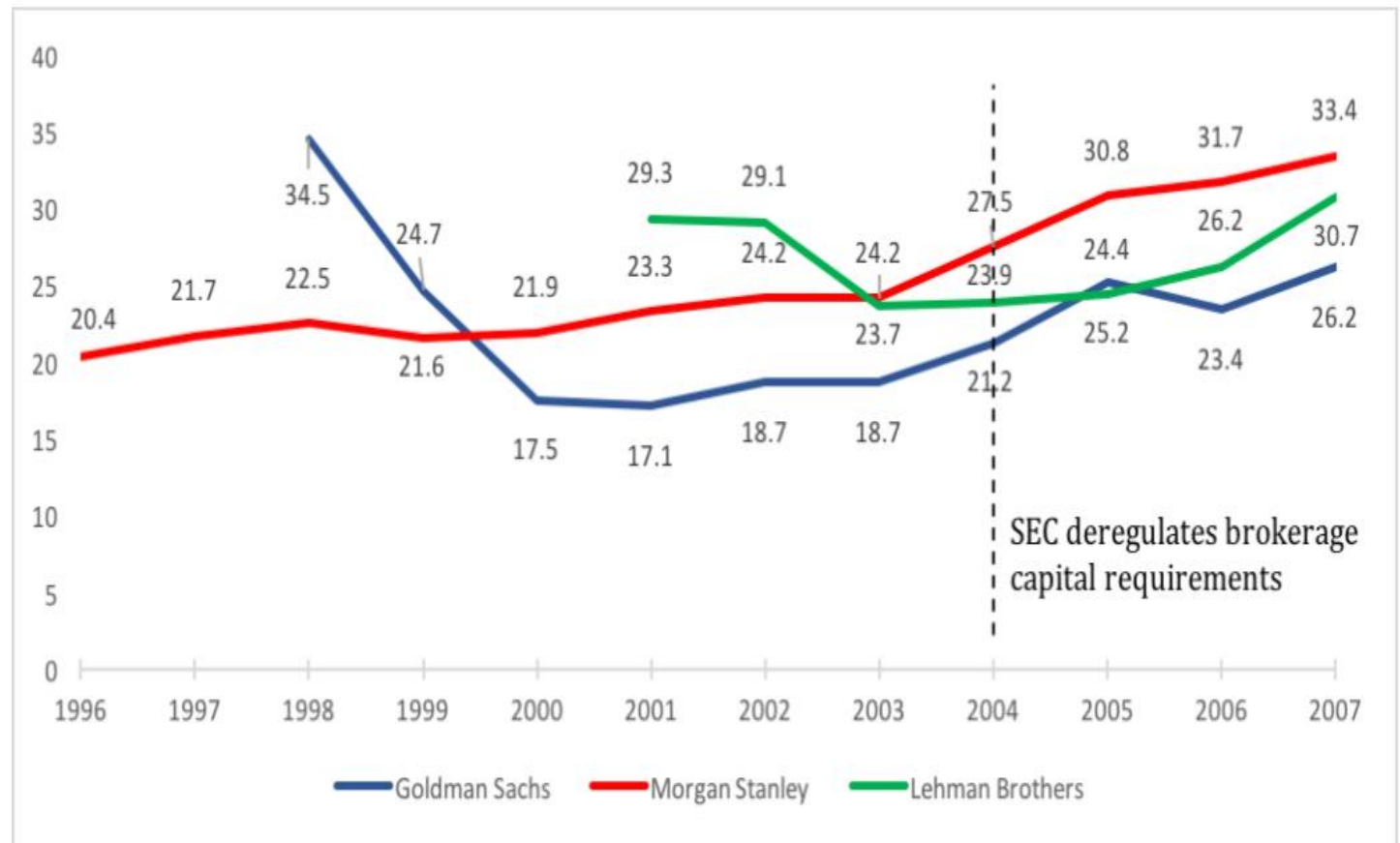


Liquidity Spirals



Source: Brunnermeier and Pedersen (2009).

Evolution of leverage ratios at major investment banks

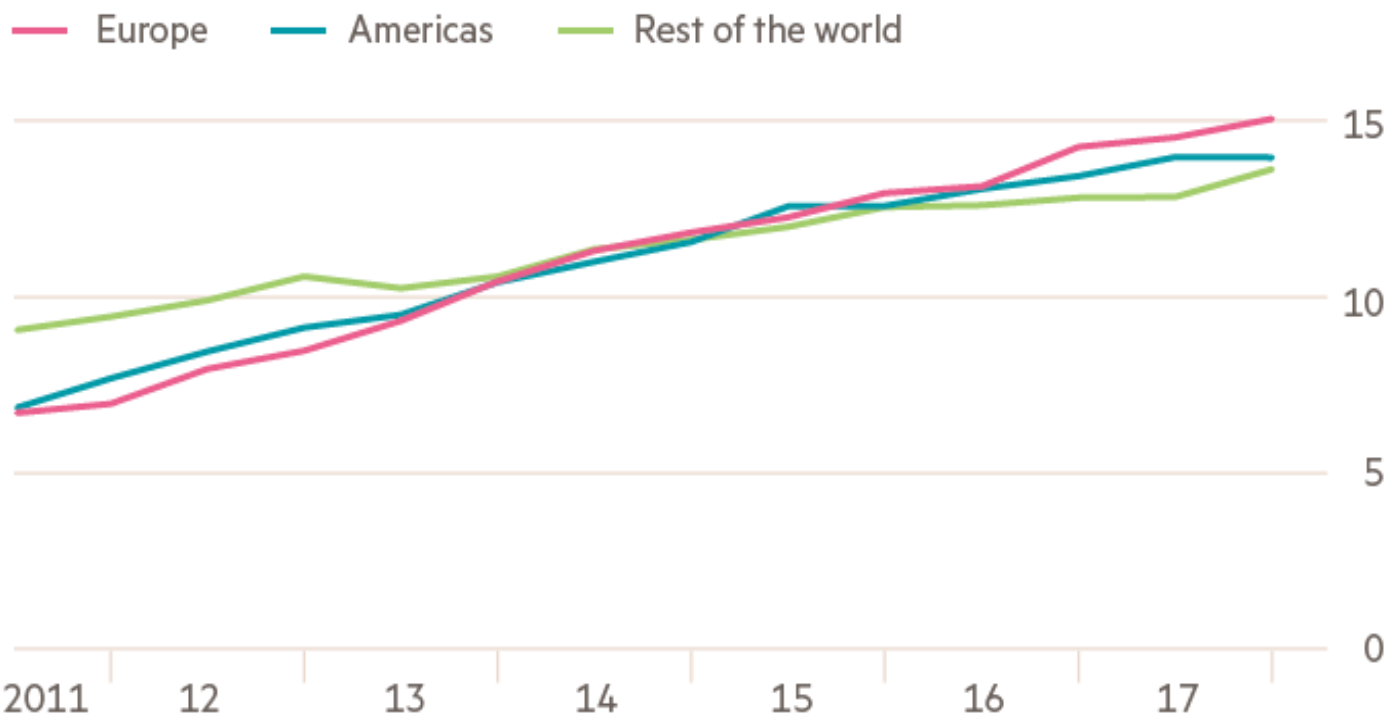


Note: Leverage ratio = Total Assets / Shareholders' Equity.
Source: Company 10K reports.

Banks Capital Ratios

Banks have higher capital ratios

Ratio of tier 1 capital (equity capital plus disclosed reserves) to risk-weighted assets, by region, %)



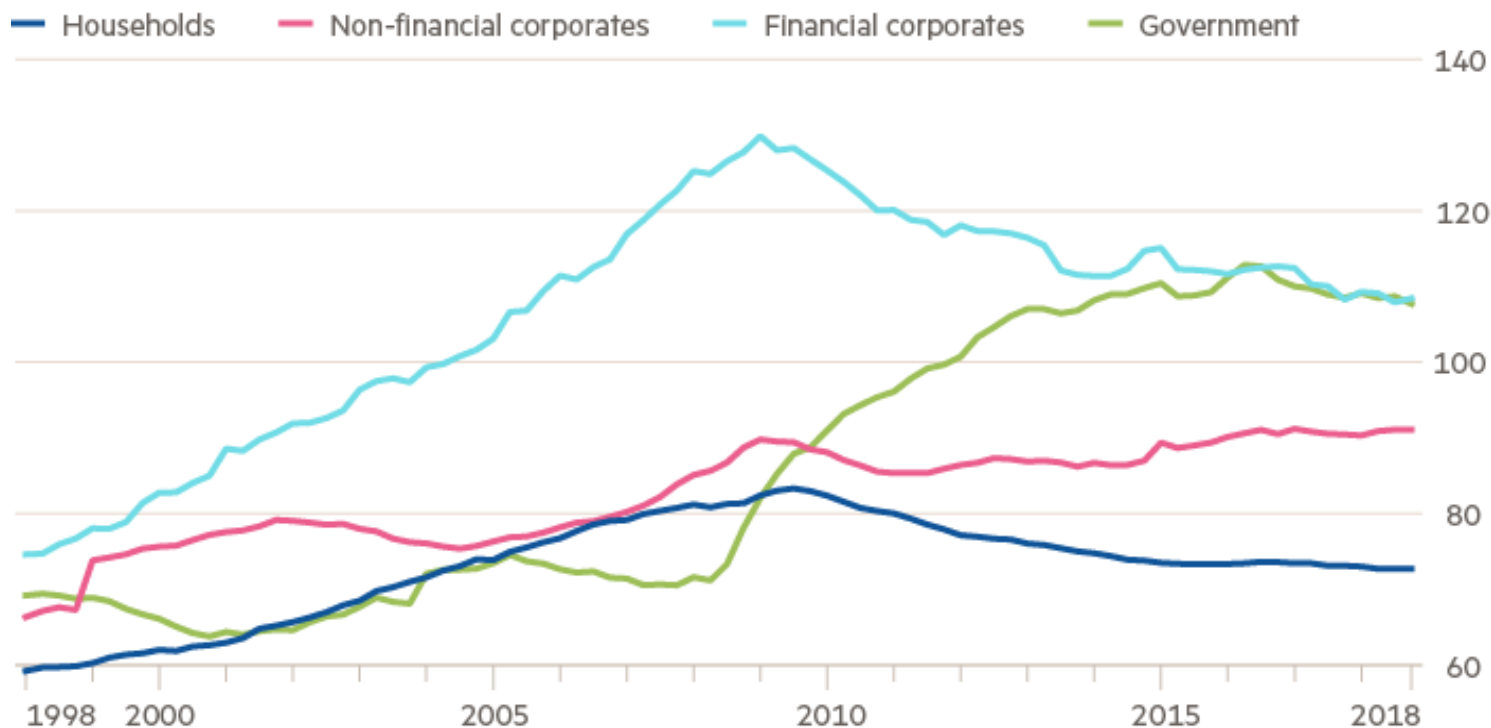
Source: Bank for International Settlements

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Government Debt Problem

Government debt jumps as financial and household debt shrinks

Debt as a % of GDP in developed economies*, by sector



* 21 countries, weighted by GDP

Source: Institute of International Finance

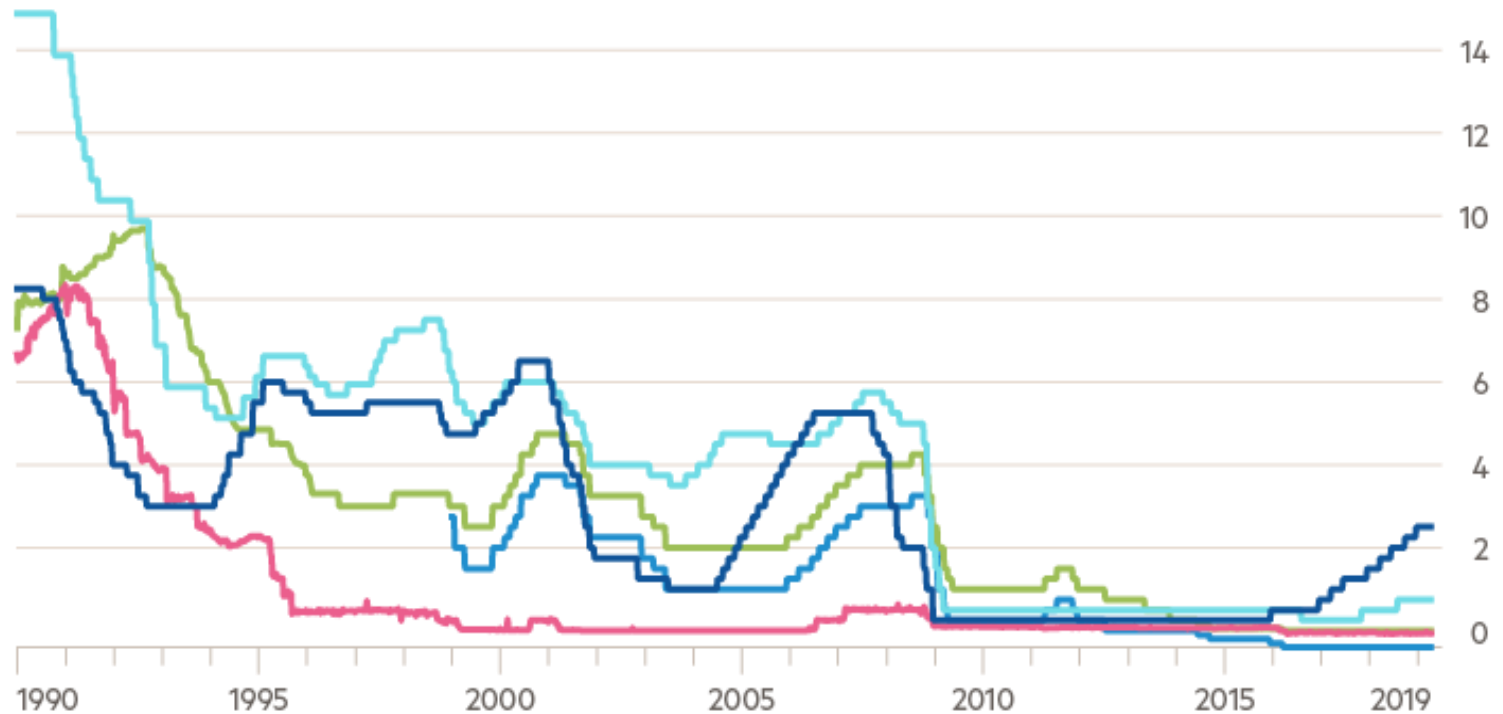
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Central Bank's Policy Rates

Crises have led to interest-free lending by central banks to banks

Central bank policy rates (%)

US (Fed funds target rate) Japan (BoJ overnight rate) UK (Base rate/Bank rate)
Eurozone (ECB repo)/German rates pre-1999 ECB deposit rate

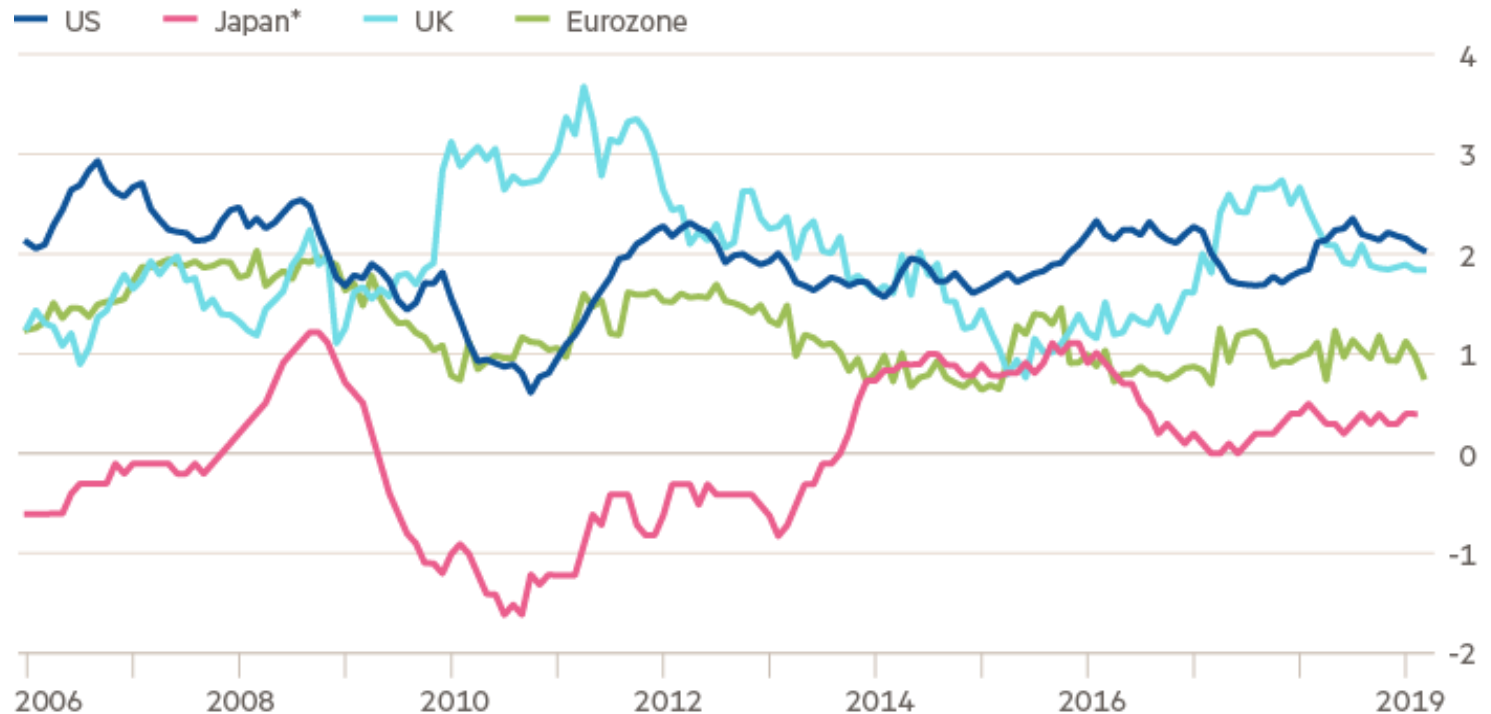


Source: Refinitiv
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Low Inflation Rates

Inflation stays low despite the attempted monetary loosening

'Core' Inflation – annual % change in CPI excluding food and energy



* Excluding effect of sales tax, 2014-15

Source: Refinitiv

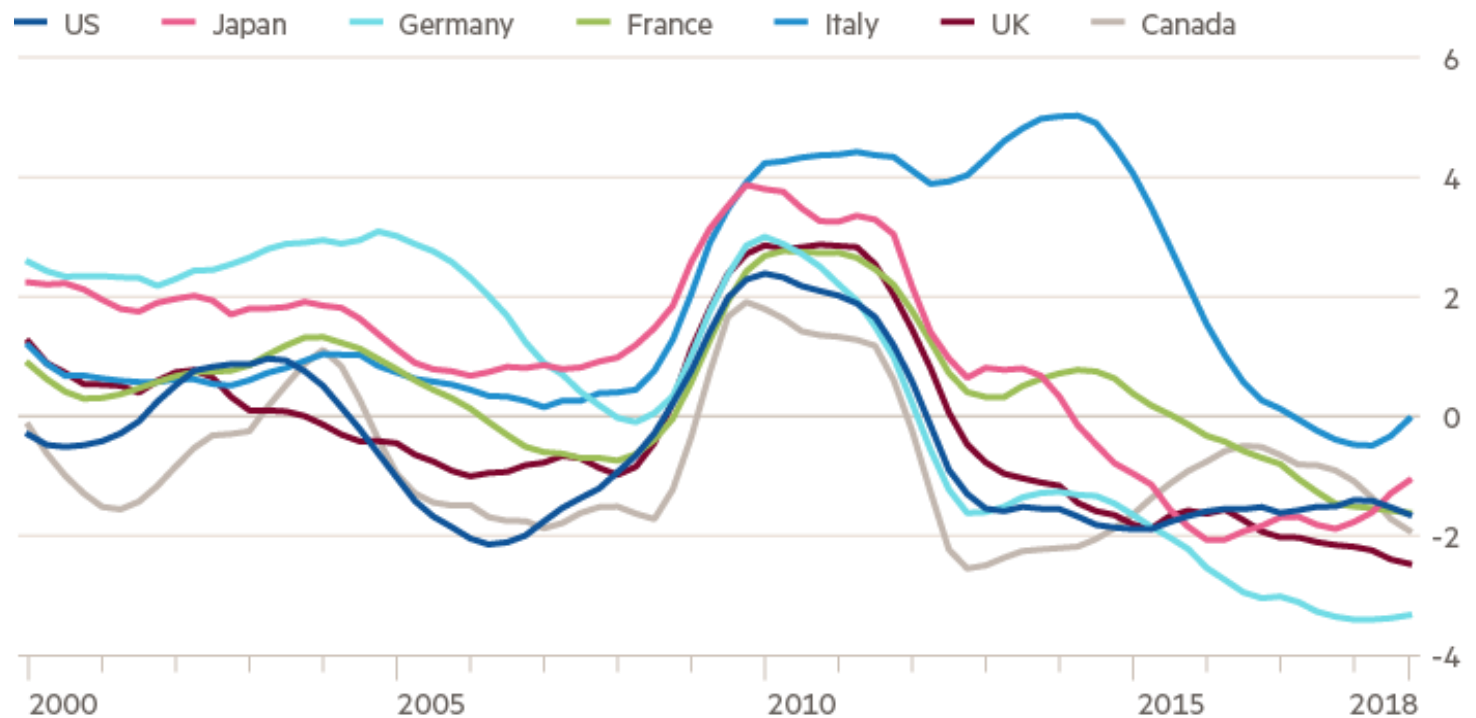
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Low Interest Rates

Low interest rates make debt more sustainable

Debt sustainability

10-year bond yield less annual growth in nominal GDP (average over past three years, % points)



Source: Refinitiv

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Growth Forecasts

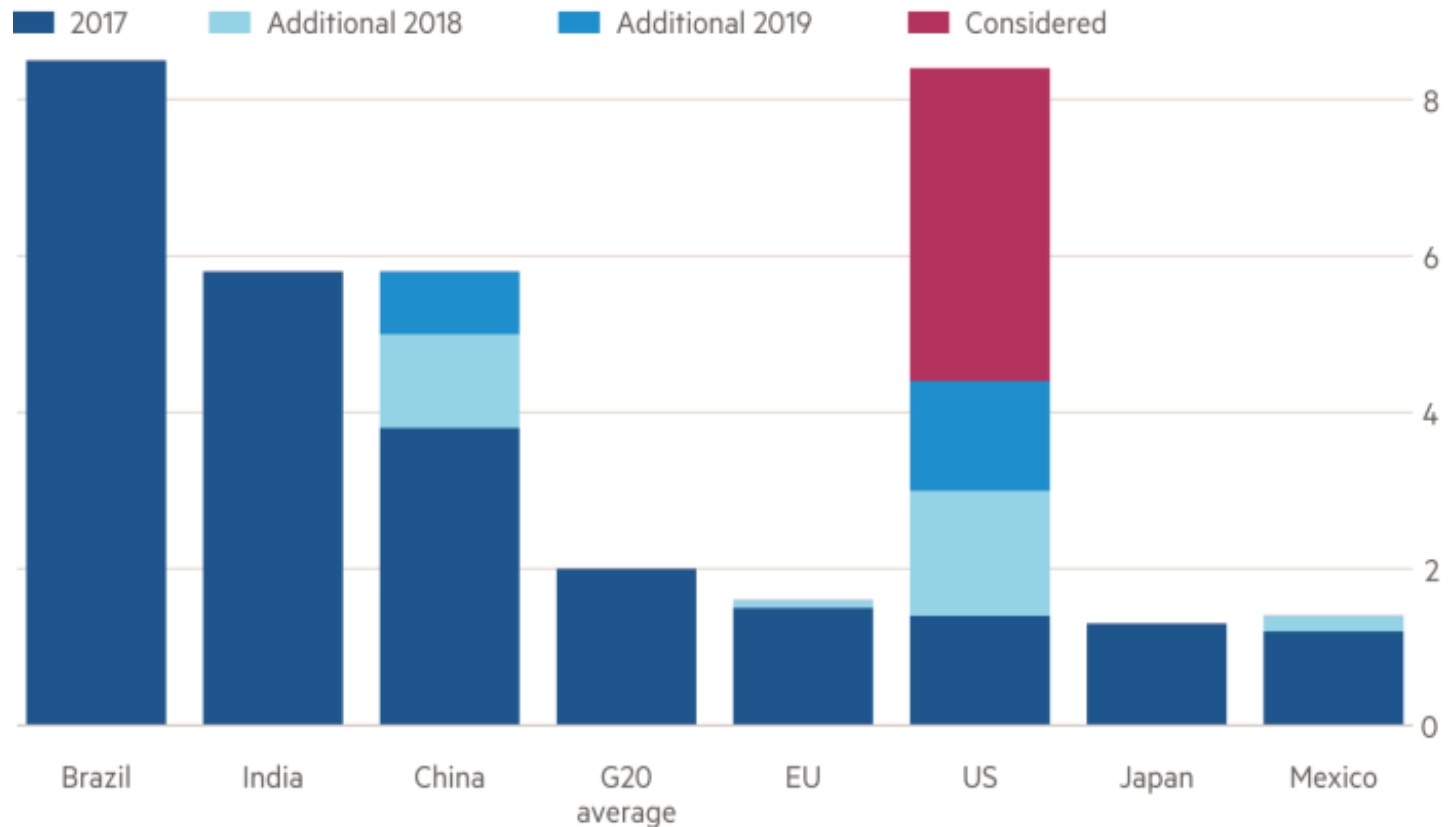
(%)	Annual Average 2014-2018	2018	2019f	2020f	2021f
GDP Growth					
US	2.5	2.9	2.3	1.7	1.7
Eurozone	2.0	1.9	1.1	1.1	1.2
China	6.9	6.6	6.1	5.7	5.7
Japan	1.0	0.8	0.8	0.3	0.6
UK	2.0	1.4	1.1	1.2	1.7
Developed ^a	2.0	2.2	1.6	1.3	1.5
Emerging ^b	4.7	5.1	4.4	4.6	4.8
World ^c	3.0	3.2	2.6	2.5	2.7
Inflation (end of period)					
US	1.5	1.9	2.2	2.3	2.5
Eurozone	0.8	1.5	1.3	1.4	1.5
China	1.8	1.9	2.8	2.2	2.1
Japan	1.0	0.3	1.1	0.7	0.8
UK	1.5	2.1	2.4	2.5	2.2

Source: FITCH Ratings, Global Outlook September 2019

USA-CHINA Trade War...

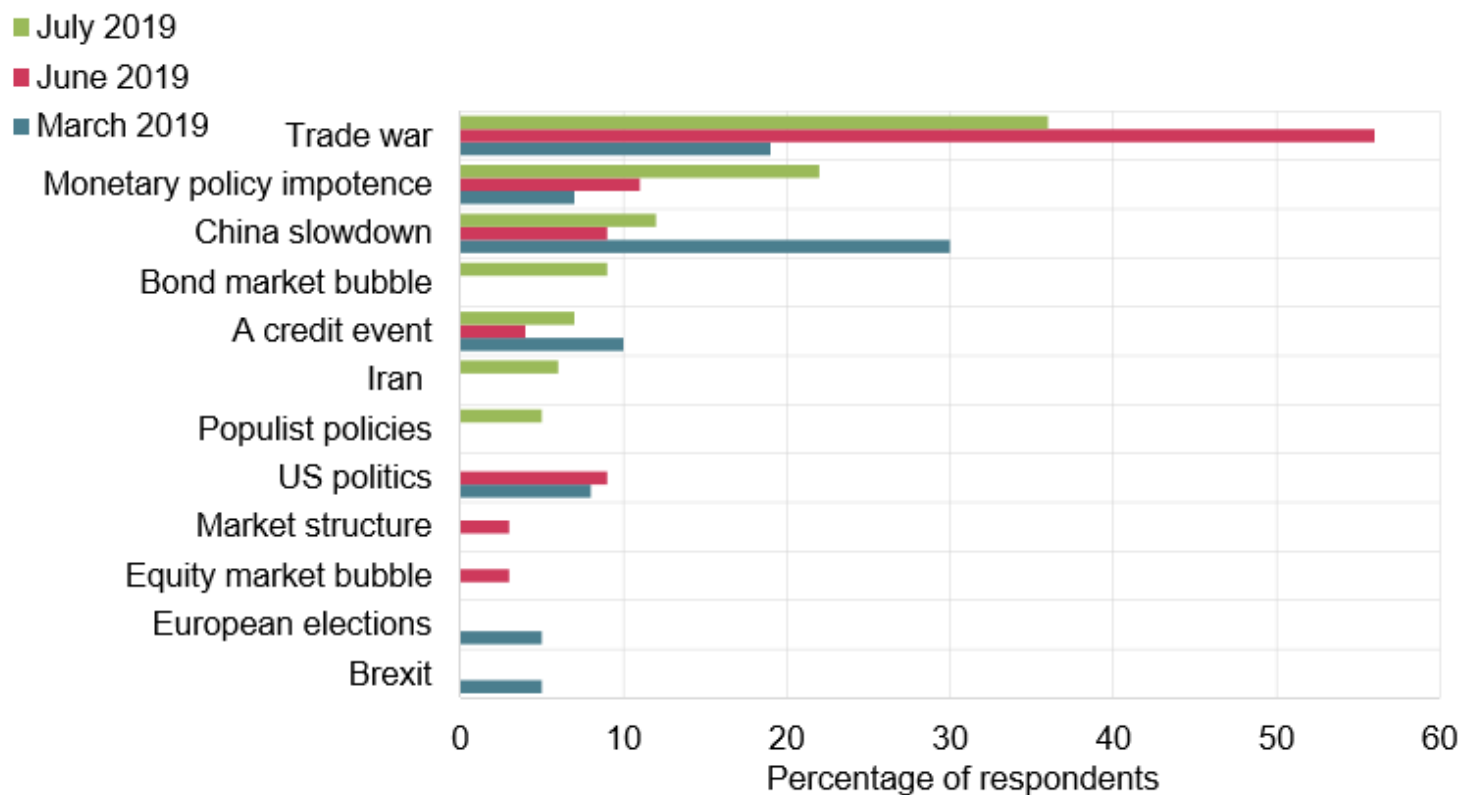
The US is on its way to becoming a highly protectionist country

Average trade-weighted import tariffs in G20 countries (%)



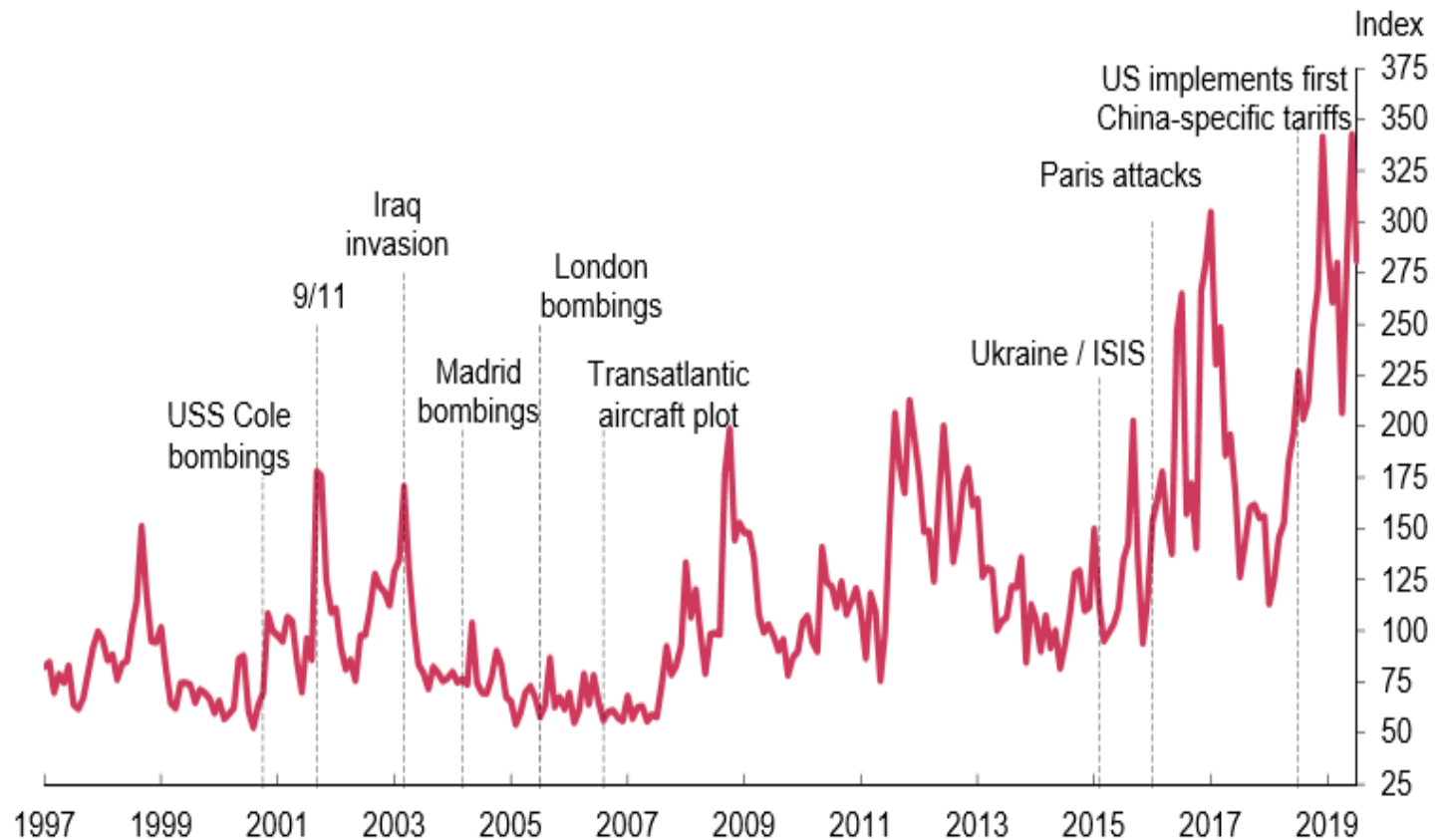
Source: World Bank
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Trade war is the top tail risk affecting global investors



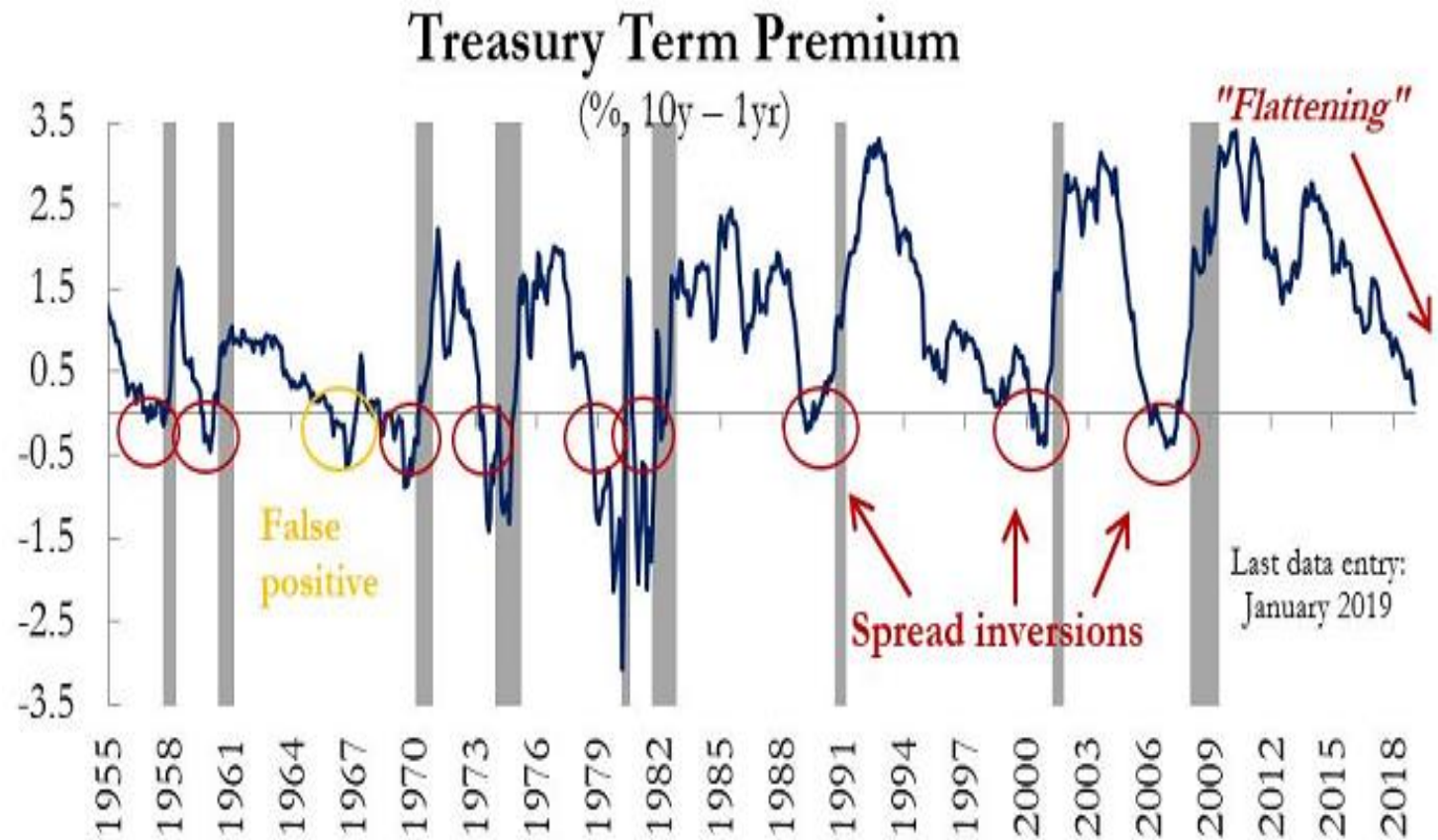
Sources: Bank of America Merrill Lynch Global Fund Manager Survey.

Global economic policy uncertainty has reached record highs



Source: Baker, S, Bloom, N and Davis, S (2015), 'Measuring economic policy uncertainty', NBER Working Paper No. 21633.

USA Treasury Term Premium

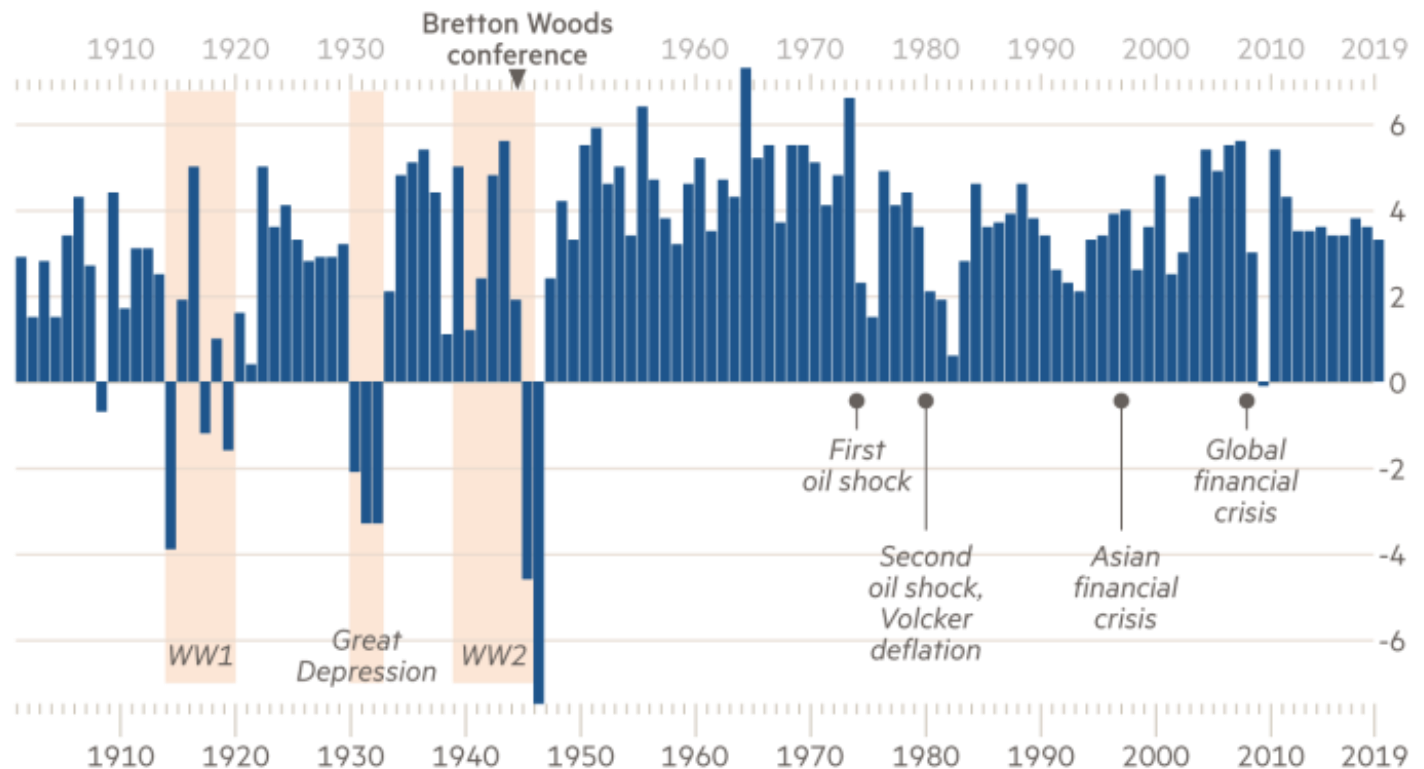


Source: San Francisco Fed. Gray areas show recessions.

Bretton Woods II-III?

The post-Bretton Woods world economy has been much less unstable

Growth in global GDP (in purchasing power parity, %)



Sources: Angus Maddison; IMF; FT research

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Challenges for Monetary Policy in the current IMFS

Figure 1: The US dollar continues to be as important today as it was during the Bretton Woods era

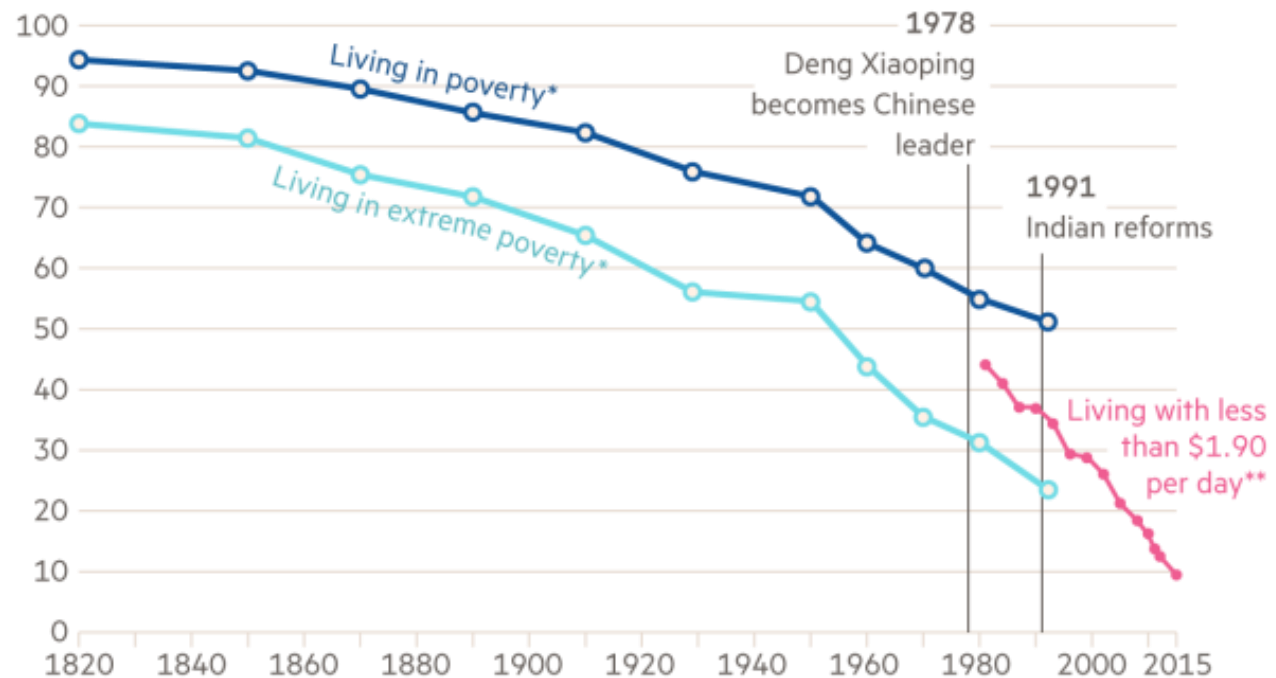


Source: Mark Carney: The Growing Challenges for Monetary Policy in the current International Monetary and Financial System, Jackson Hole Symposium 2019

Extreme Poverty Proportion

The proportion of people in extreme poverty has fallen dramatically

Share of world population (%)



* Living with less than \$2 per day (poverty) or \$1 per day (extreme poverty)

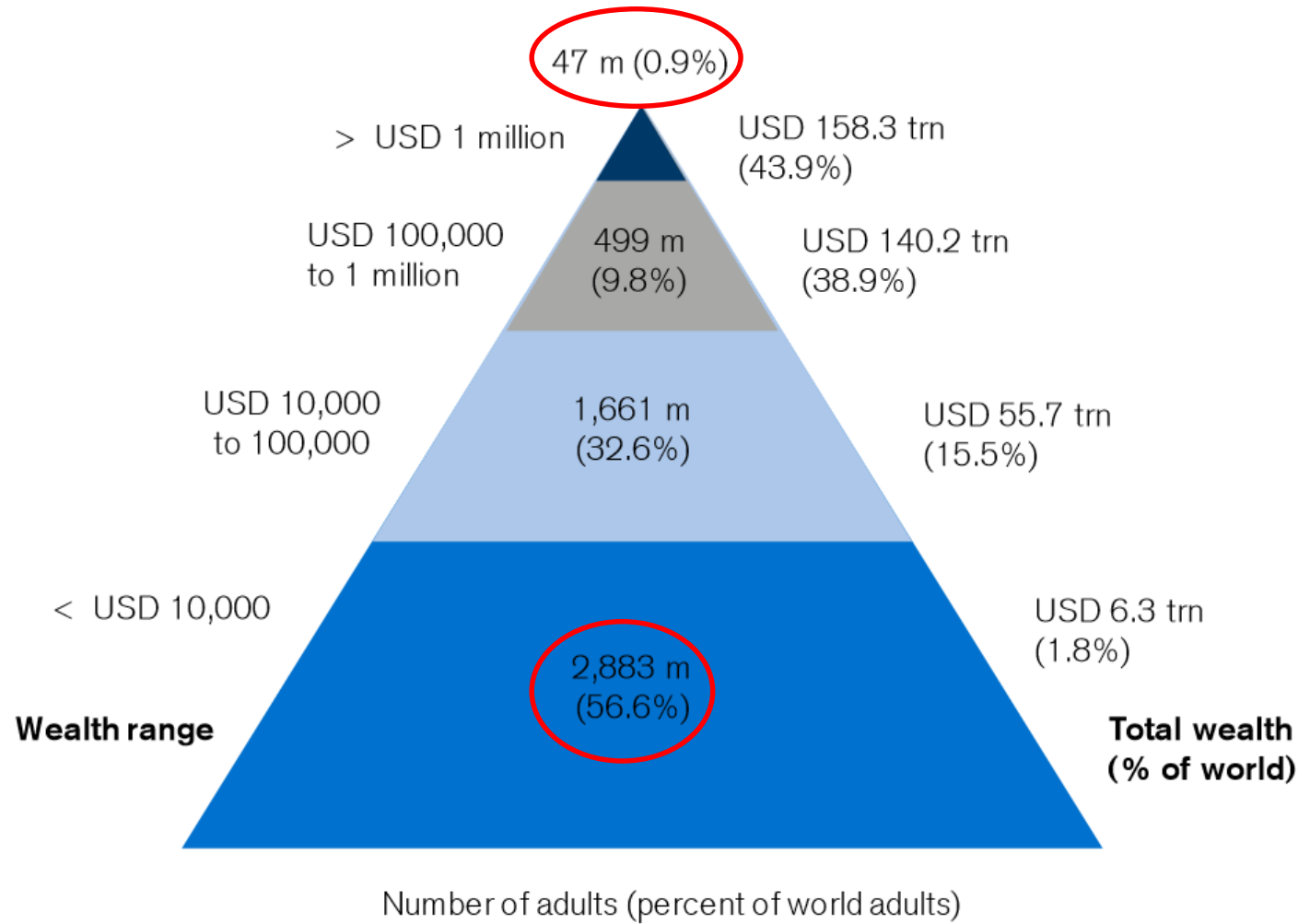
** World Bank measure of poverty introduced in 2015

Sources: Bourguignon and Morrisson; World Bank; ourworldindata.org

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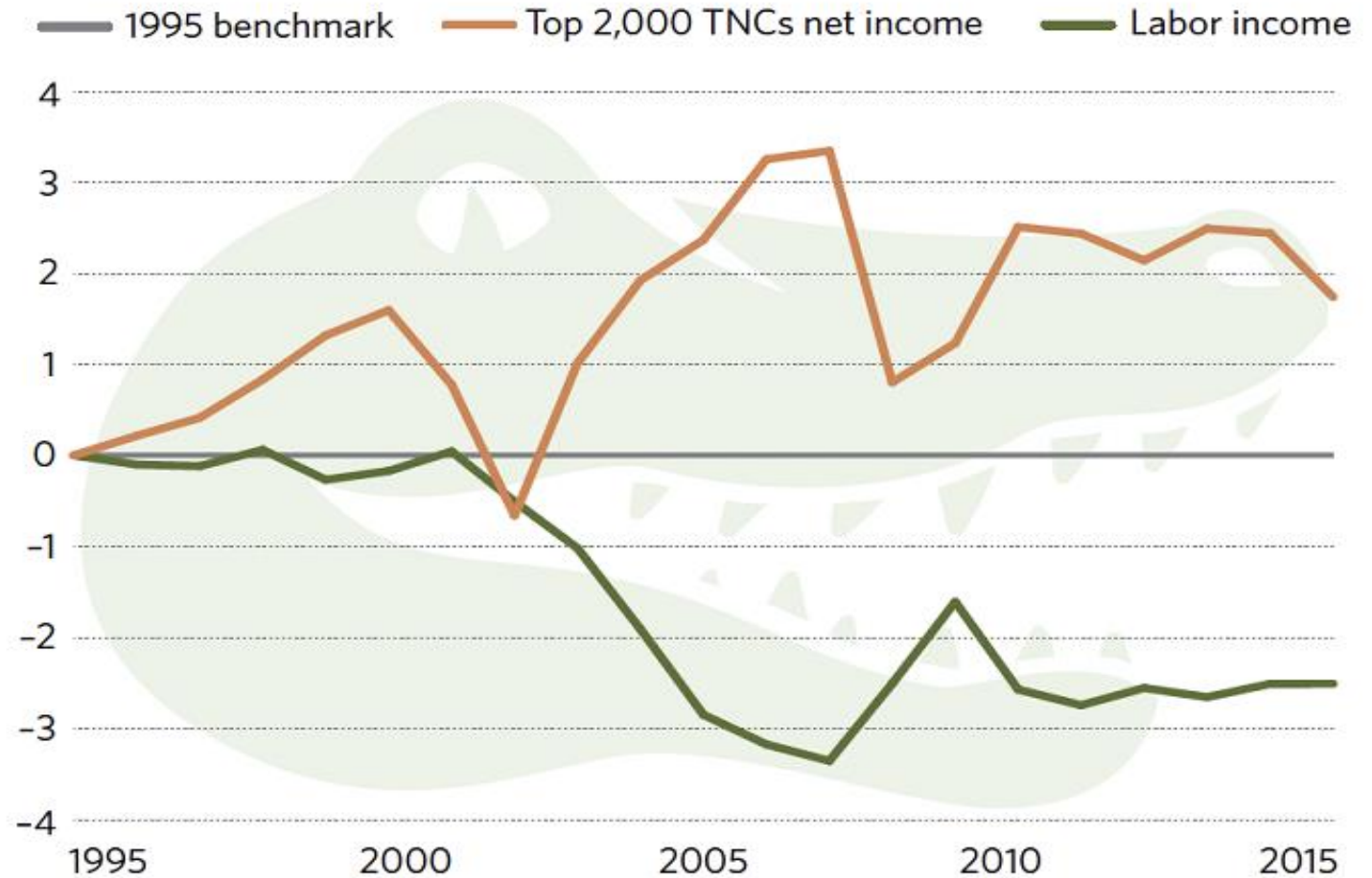
Global Wealth Pyramid 2019



Source: Credit Suisse, Global Wealth Report 2019

Corporate Profits

Top 2,000 transnational corporations' profit and the global labor income share, 1995-2015 (percentage point change in GDP)



AMZN-GOOG-FB-AAPL: \$3.4T.tn

Amazon.com 1,748.15 -13.59 (-0.77%)

START TRADING NOW

[AD]

AMZN Overview

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Prev. Close	1,761.74	Day's Range	1,746.61 - 1,757.21	Revenue	265.47B
Open	1,751.36	52 wk Range	1,307 - 2,035.8	EPS	22.29
Volume	471,938	Market Cap	871.86B	Dividend (Yield)	N/A (N/A)
Average Vol. (3m)	3,375,399	P/E Ratio	79.03	Beta	1.57
1-Year Change	7.21%	Shares Outstanding	495,000,000	Next Earnings Date	Feb 01, 2020

FB Overview

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Prev. Close	187.88	Day's Range	185.08 - 187.22	Revenue	62.6B
Open	187.22	52 wk Range	123.02 - 208.66	EPS	5.9
Volume	2,424,866	Market Cap	536.04B	Dividend (Yield)	N/A (N/A)
Average Vol. (3m)	13,245,024	P/E Ratio	31.84	Beta	1.06
1-Year Change	29.25%	Shares Outstanding	2,852,950,498	Next Earnings Date	Oct 30, 2019

GOOG Overview

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Prev. Close	1,264.97	Day's Range	1,273.09 - 1,280.51	Revenue	148.3B
Open	1,276.01	52 wk Range	970.11 - 1,289.27	EPS	49.53
Volume	226,543	Market Cap	877.24B	Dividend (Yield)	N/A (N/A)
Average Vol. (3m)	1,367,017	P/E Ratio	25.52	Beta	1.02
1-Year Change	18.07%	Shares Outstanding	693,398,350	Next Earnings Date	Oct 28, 2019

AAPL Overview

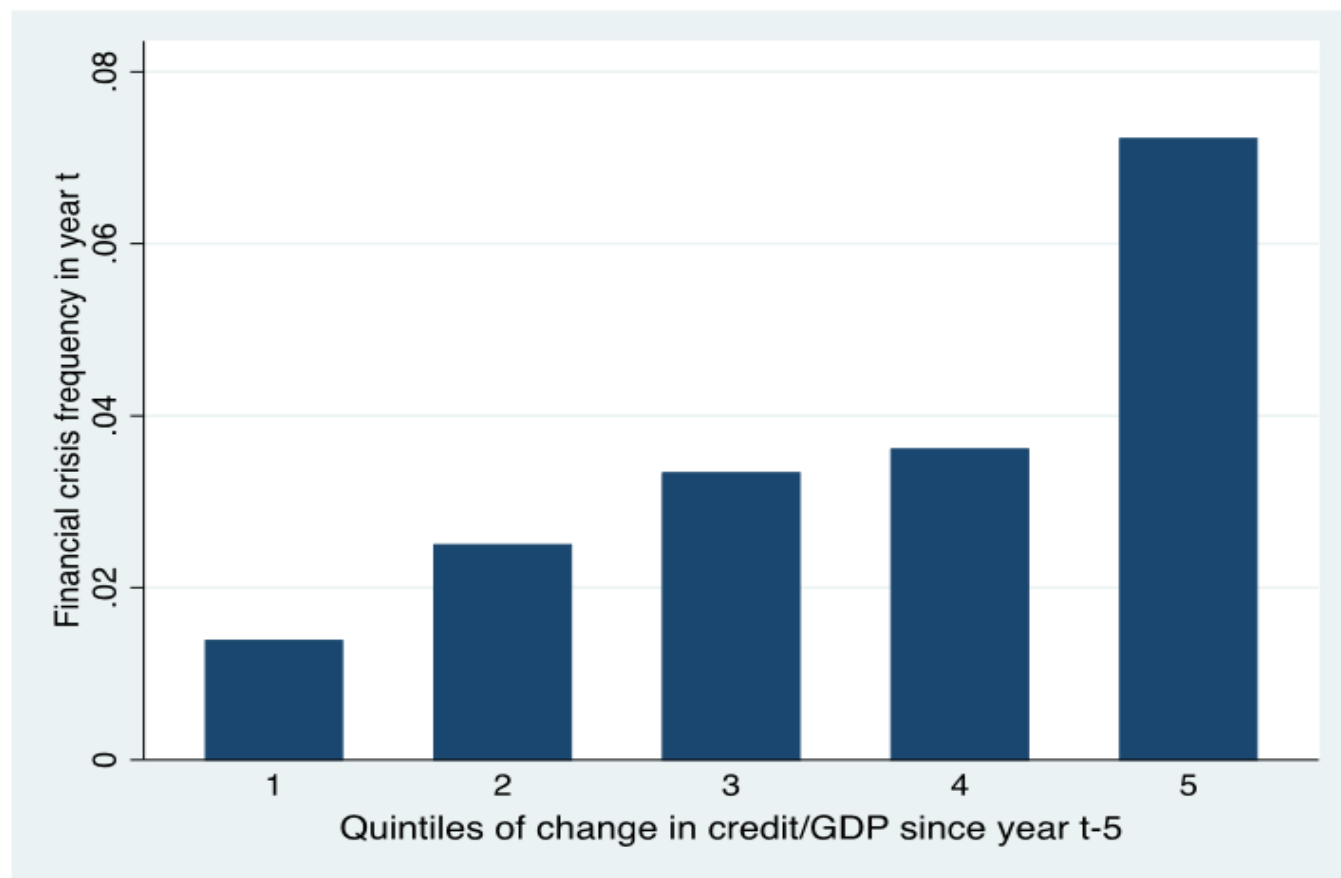
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Prev. Close	246.59	Day's Range	246.73 - 248.35	Revenue	259.03B
Open	247.42	52 wk Range	142 - 248.35	EPS	11.51
Volume	4,158,859	Market Cap	1.11T	Dividend (Yield)	3.08 (1.26%)
Average Vol. (3m)	28,732,239	P/E Ratio	21.42	Beta	1.24
1-Year Change	14%	Shares Outstanding	4,519,180,000	Next Earnings Date	Oct 30, 2019

Credit Cycle Facts

- **Rapid credit growth is associated with higher risk of a financial crisis**

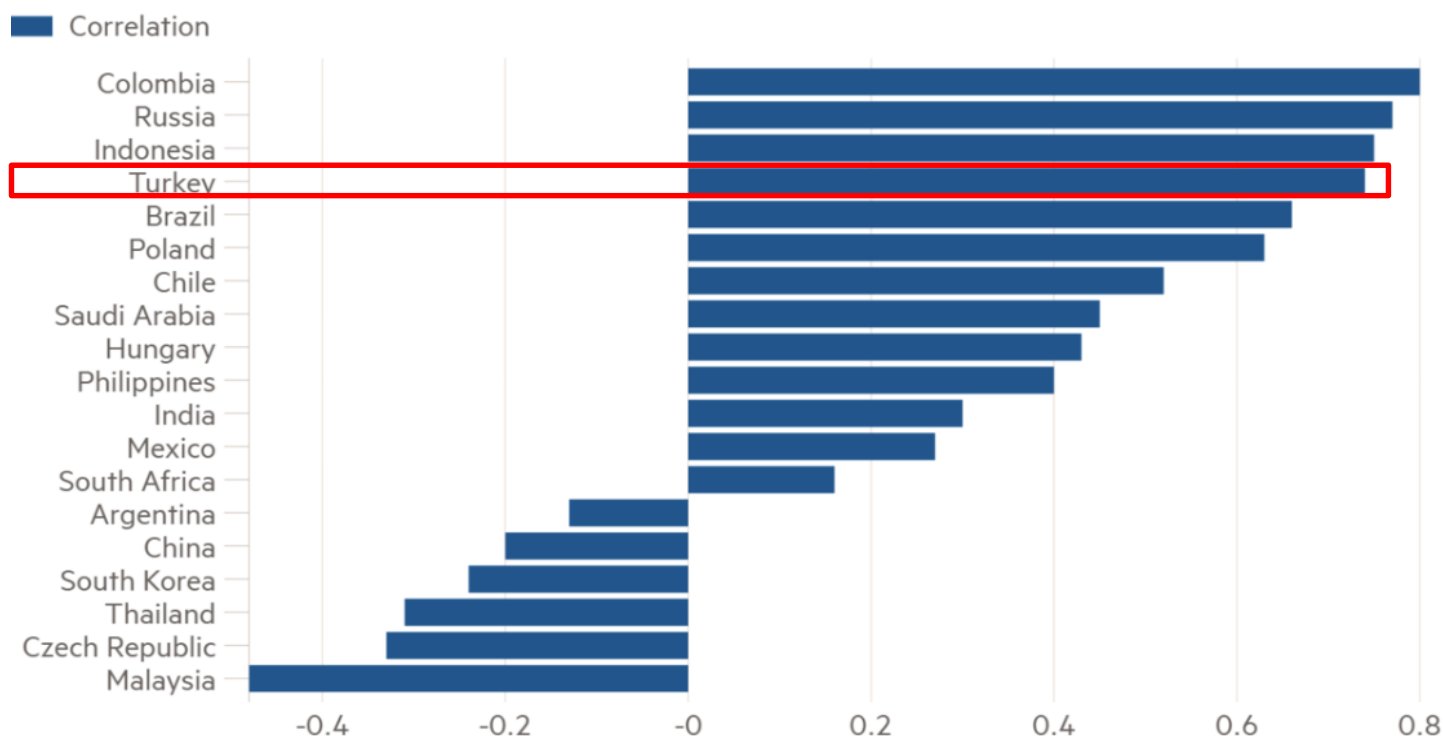


Source: Schularick and Taylor (2012).

EM's Credit Growth Cycle

Turkey is not alone in relying on credit as a driver of growth

Correlation of credit impulse with subsequent GDP growth, 2010-2018



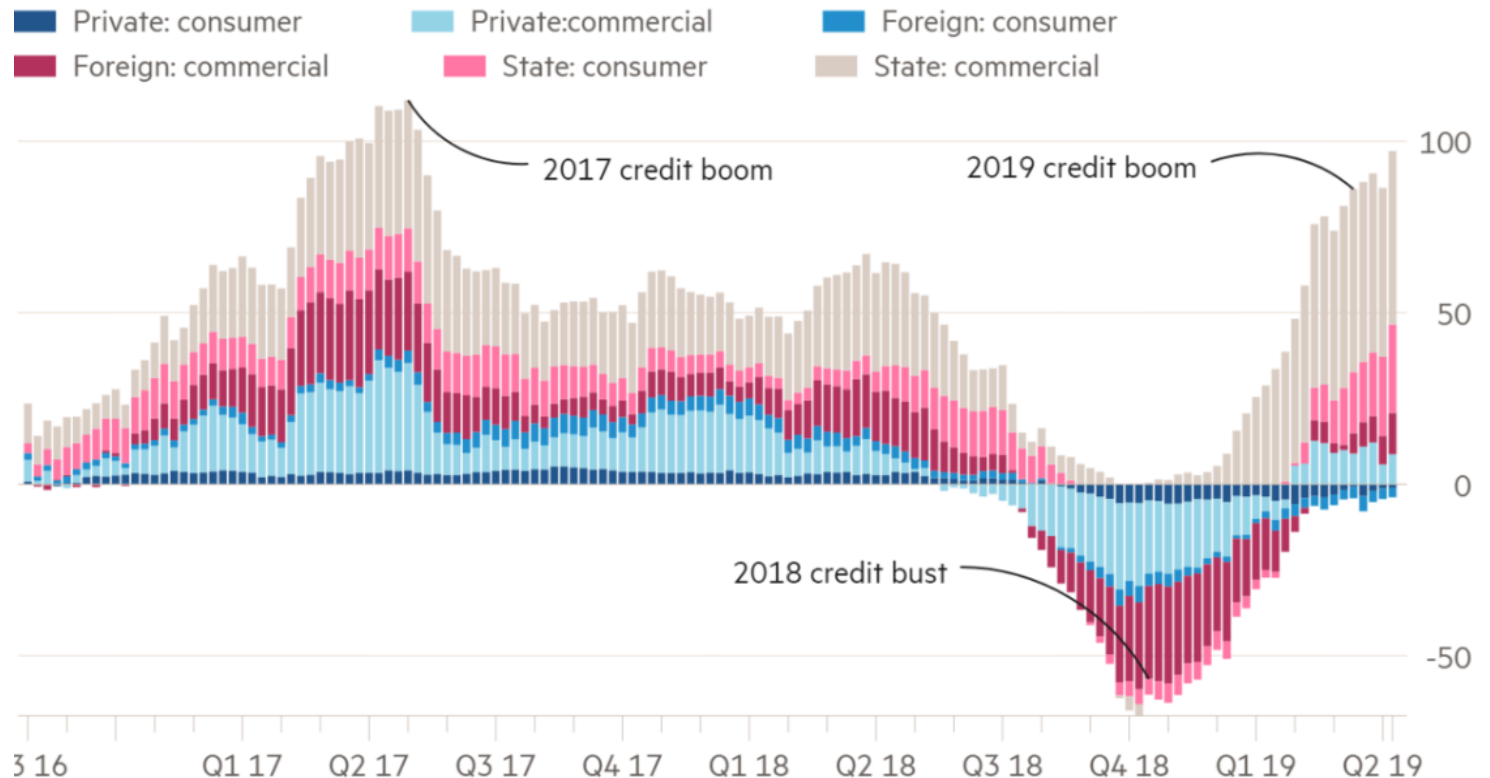
Source: Institute of International Finance

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Turkey's Credit Habit

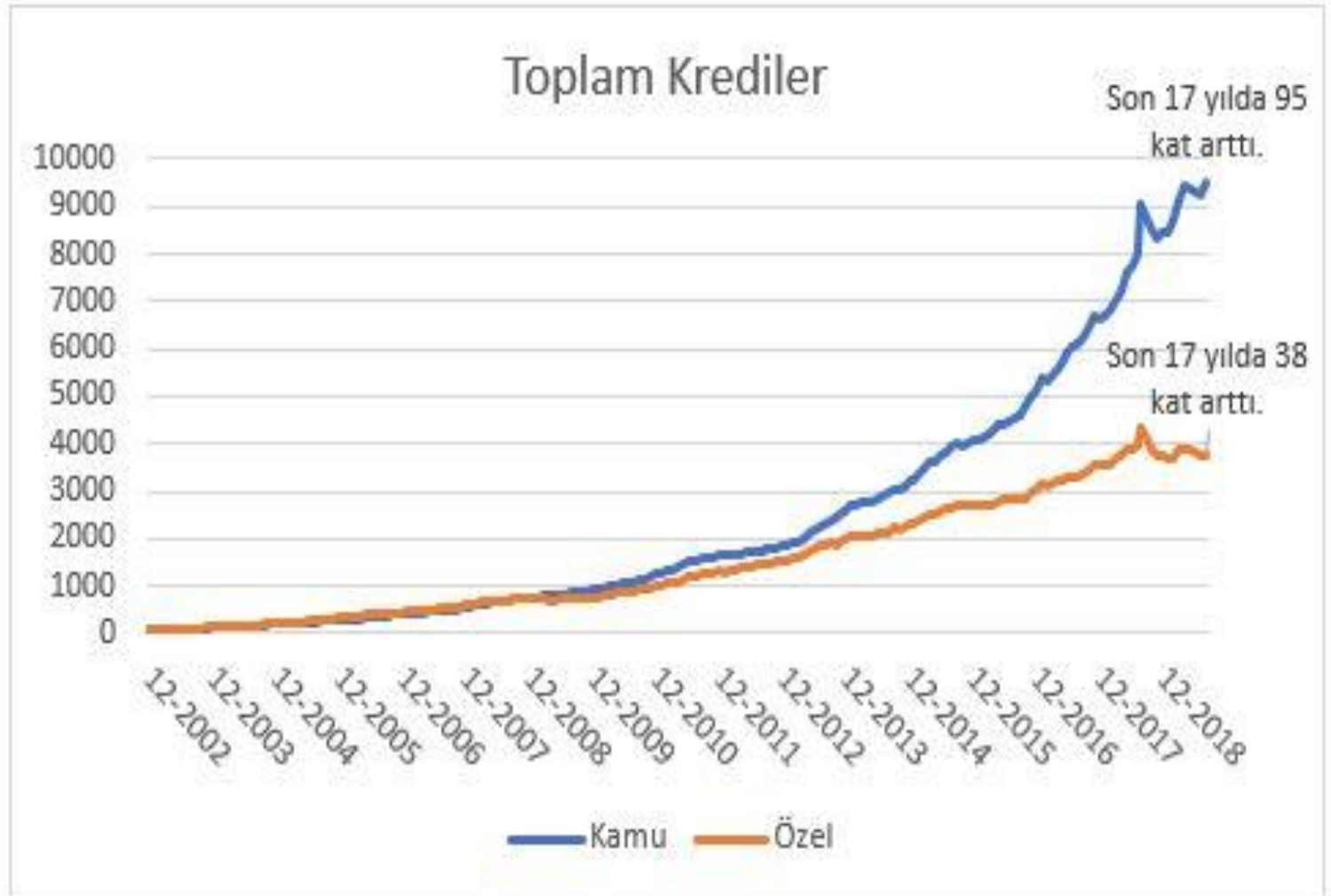
Turkey's credit habit has been fed by private and public banks

Local currency-denominated credit flow, TRY bn (3 month moving average)



Source: Institute of International Finance
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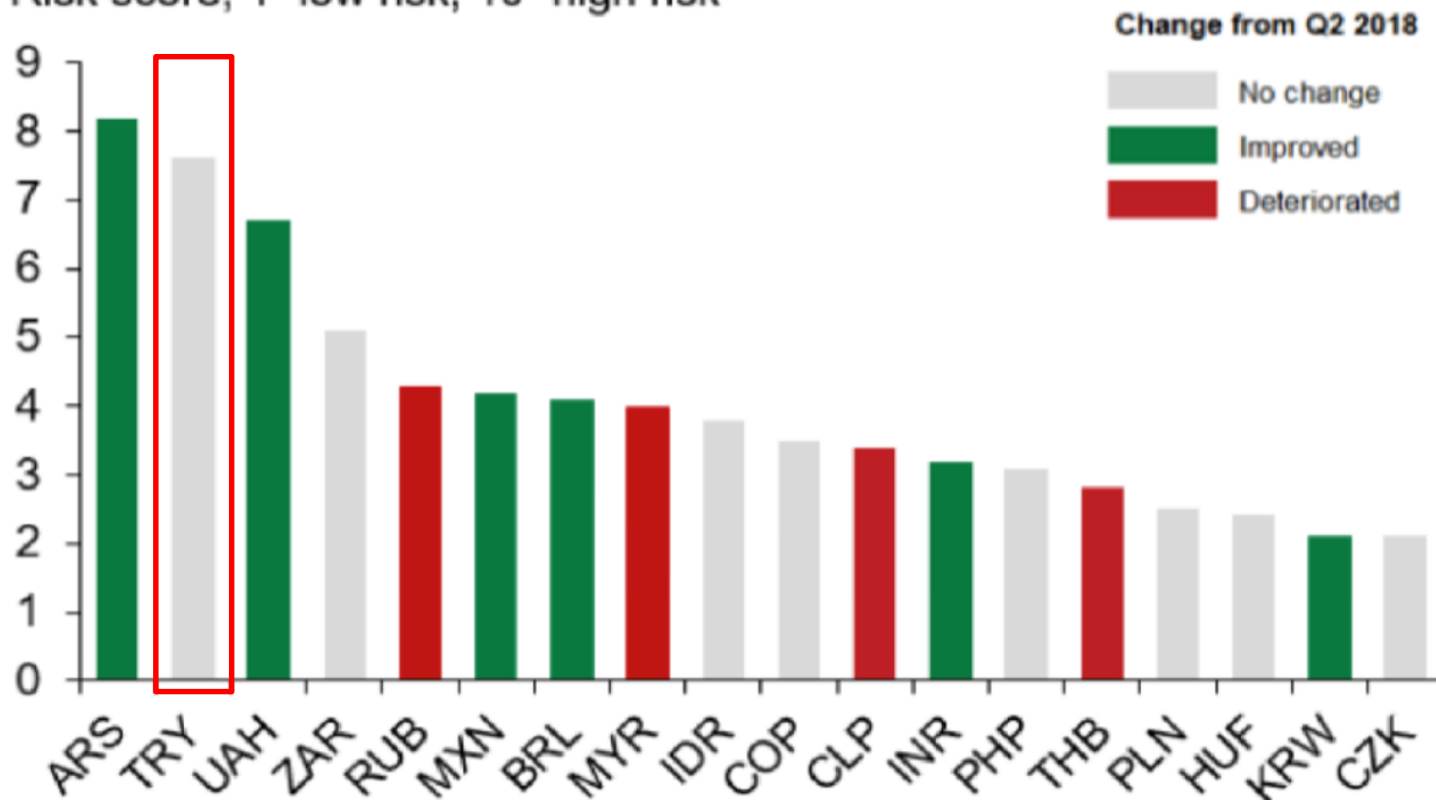
Turkey Total Credit Cycle



FX Risk Ranking

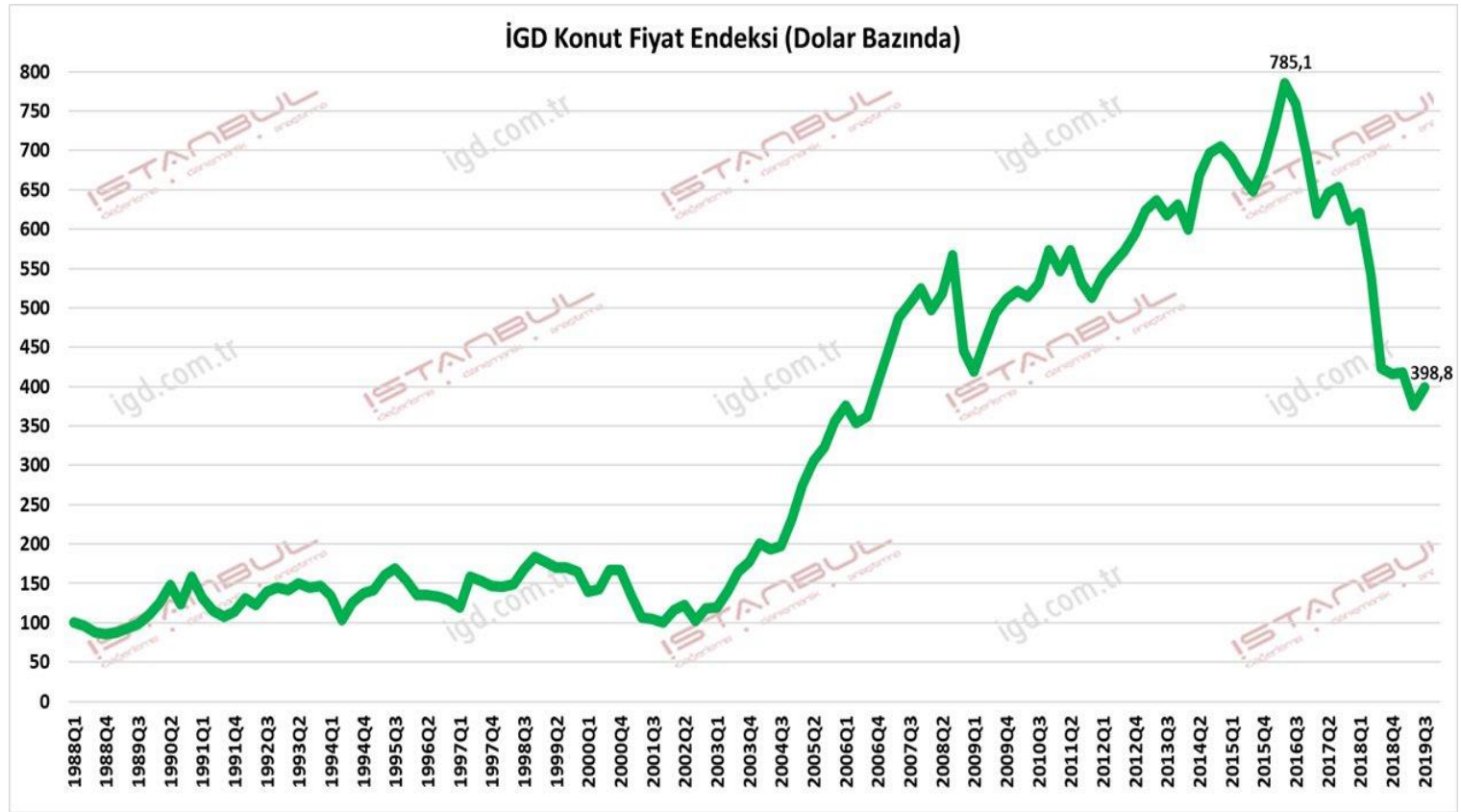
FX risk of floating EM currencies, Q1 2019

Risk score, 1=low risk, 10=high risk



İstanbul Konut Fiyat Endeksi

- İstanbul için 2019 3.Çeyreği itibariyle USD bazında konut fiyat endeksi 2016 2.Çeyrekteki zirvesinde %49,2 gerisindedir.



Kaynak: www.igd.com.tr

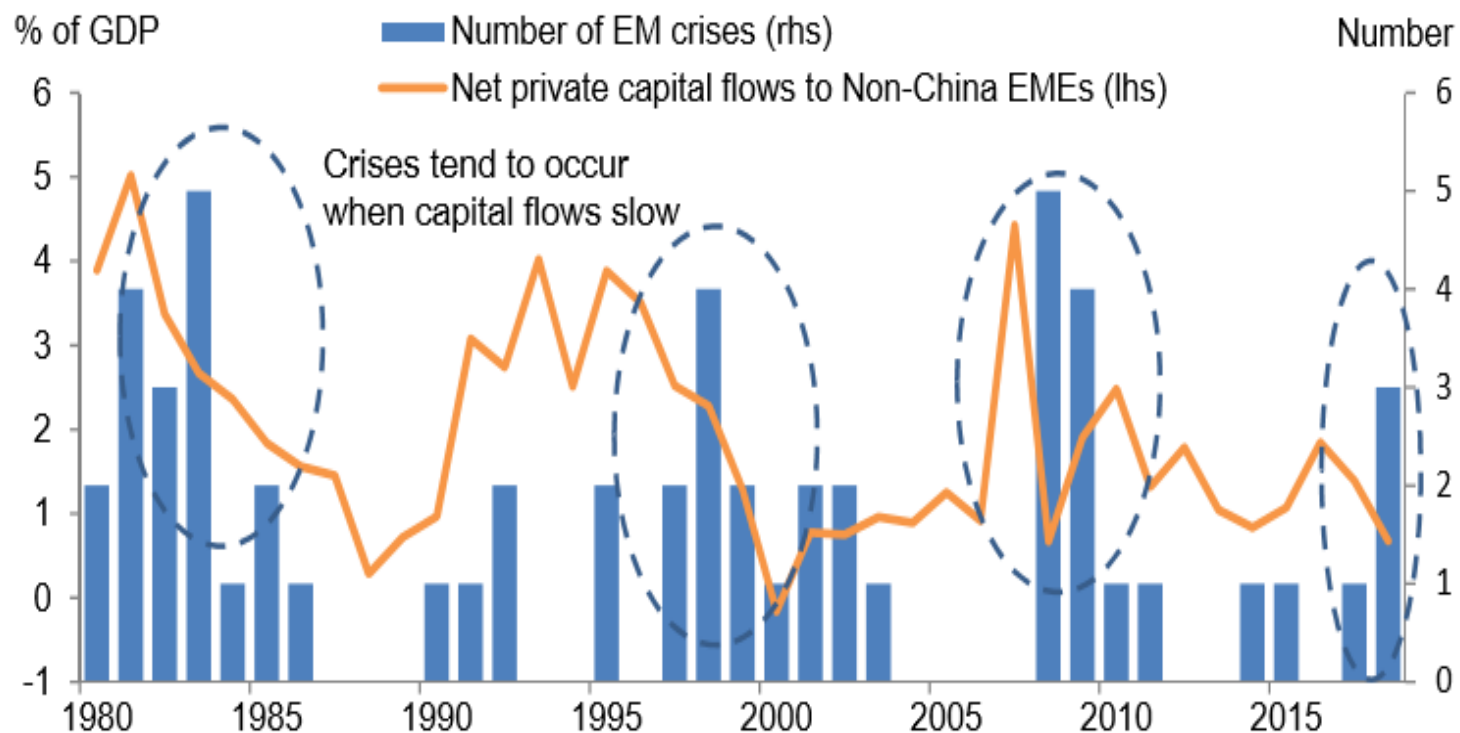


Summary of the Financial Crisis

- Extrapolative expectations central to the housing bubble.
- Continued neglect of downside risks central to understanding 2007-2008.
- Central Bank's policies are fantastic after Lehman, behind the curve before Lehman.
- Hard to tell the story of the crisis without beliefs.

Volatile capital flows amplify domestic imbalances in EMEs

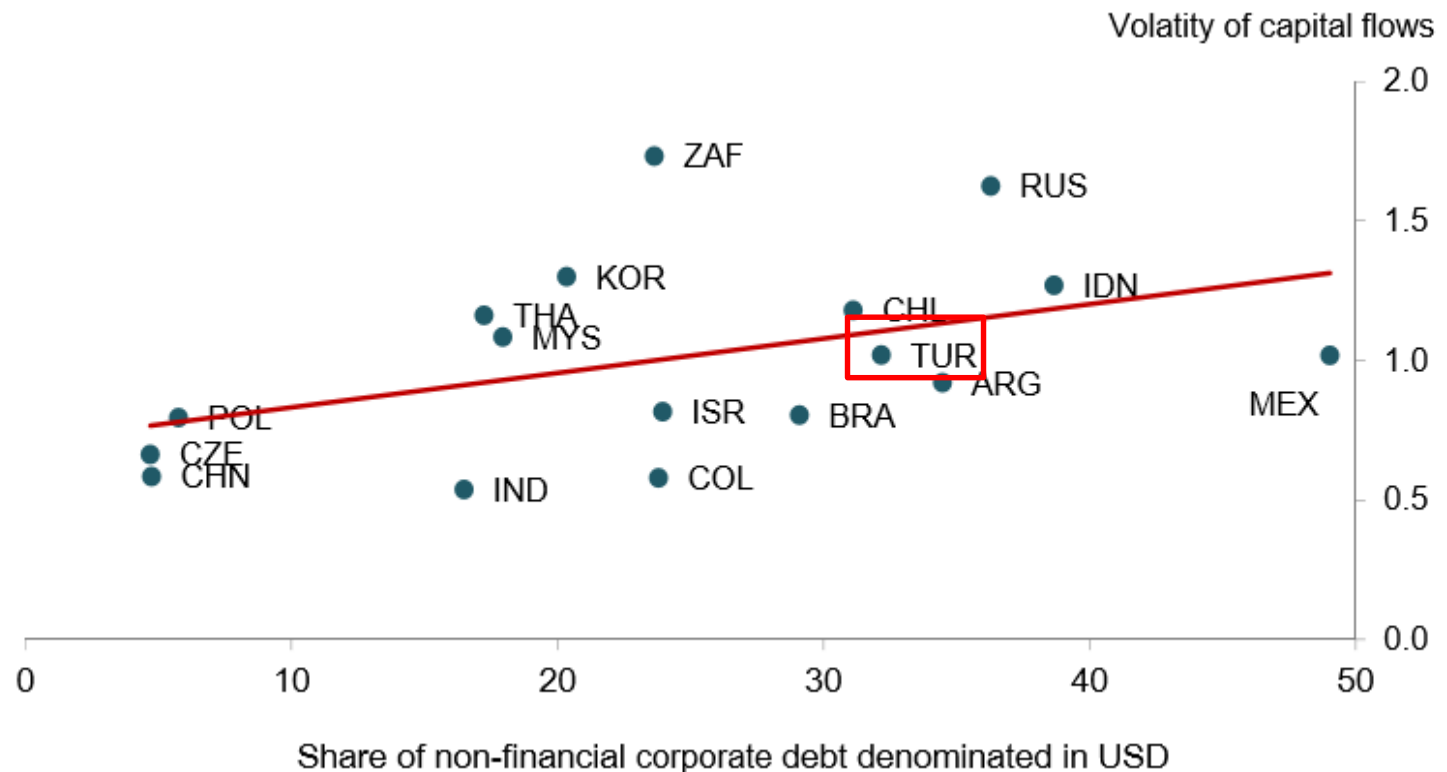
Net private capital flows to emerging market economies and incidences of crises



Source: IMF. Notes: Excludes China

Greater reliance on foreign investors increases capital flow volatility

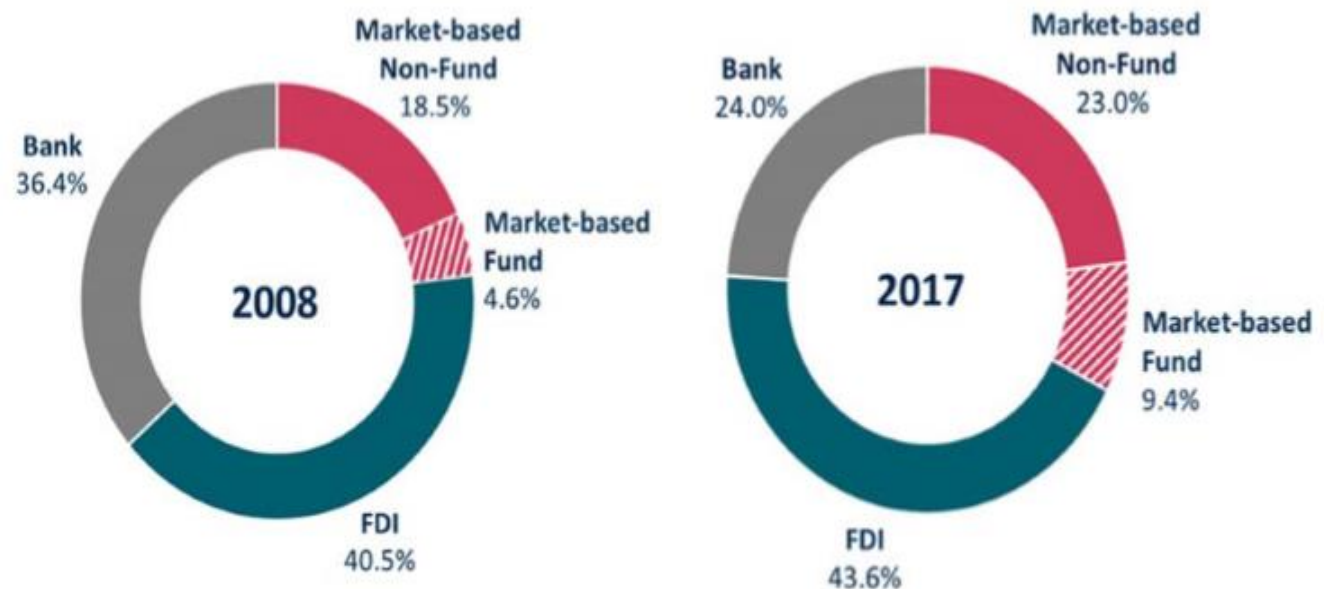
- Correlation of capital flow volatility and the share of FX-denominated corporate debt



Sources: IMF and IIF. Notes: Measured as coefficient of variation of gross inflows scaled by external liabilities

For EMEs, market-based finance accounted for all the increase in foreign lending since the crisis

- Structure of external liabilities for emerging market economies



Sources: IMF, EPFR and Bank of England calculations

Financial Crises Responses

How other countries have responded to crises

Policy Menu: Did the country in crisis implement any of the policies below?

	Start date	End date	Fiscal Tightening	Monetary Tightening	Change of Policymakers	IMF Program	Capital Controls	Default/ Restructuring of External Debt
Malaysia	1997	1998	Yes	Yes	Yes	No	Yes	Yes
South Korea	1997	1998	Yes	Yes	Yes	Yes	No	Yes
Turkey	2000	2001	Yes	Yes	Yes	Yes	No	No
Argentina	2001	2002	Yes	Yes	Yes	Yes	Yes	Yes
Iceland	2008	2011	Yes	Yes	Yes	Yes	Yes	Yes

Turkey	2018	--	Likely	Likely	Unlikely	Unlikely	Unlikely	Unlikely
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Reforming EM Financial Systems

- EME's can increase sustainable capital flows by addressing “pull” factors including:
 - reinforcing monetary policy credibility including safeguarding the **operational independence** of central banks;
 - building the **resilience of their banks**;
 - **deepening their domestic capital markets** to reduce the reliance on foreign currency debt; and
 - expanding the scope and application of their **macroprudential toolkits** to guard against excessive credit growth during booms.

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Teşekkür Ederim...

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