

2. Exchange rates

2.1 Exchange rate and related concepts

- ✦ Exchange rate

- ✦ Terms of trade

- ✦ Purchasing power parity (PPP)

 - ◆ Absolute

 - ◆ Relative

- ✦ Law of one price

Exchange rates, continued . . .

2.2 PPP: SR/LR deviations from E*

✦ Short-run deviations

✦ PPP: the Big Mac index

- Overvaluation: Jan 2023
 - ◆ SWZ: $(7.26-5.36)/5.36$
 - ◆ +35%
- Undervaluation
 - ◆ Japan: $(3.15-5.36)/5.36$
 - ◆ -41%
 - ◆ In 2021, yen was 26% undervalued; Yen should have strengthened but lost more value

✦ Explanation for deviations

The Big Mac index

Local currency valuation against the dollar, %
Selected countries



*At market exchange rates (Jan 24th 2023)

†Weighted average of member countries ‡Maharaja Mac

Sources: McDonald's; *The Economist*

Exchange rates, continued . . .

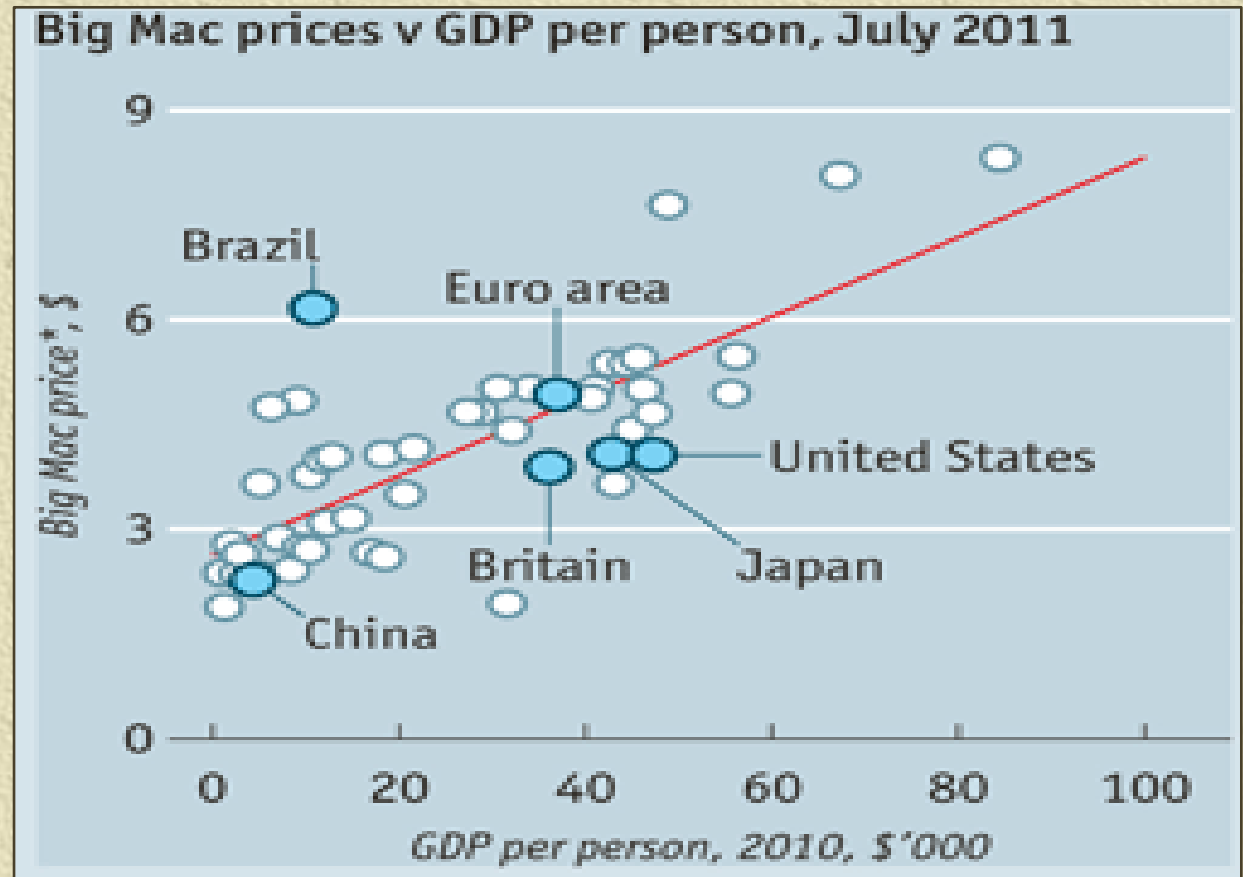
- ◆ Balassa-Samuelson effect: \$P of BigMac and GDP per cap
 - E below L-R PPP for country with lower income
 - Wages, prodvty are lower

The “raw” BigMac index shows yuan undervalued by 40% (in 2017-18).

If China’s avg income was 10% < the US’, then yuan should be undervalued.

Adjusting for GDP/cap, the yuan was only slightly undervalued relative to dollar (2011).

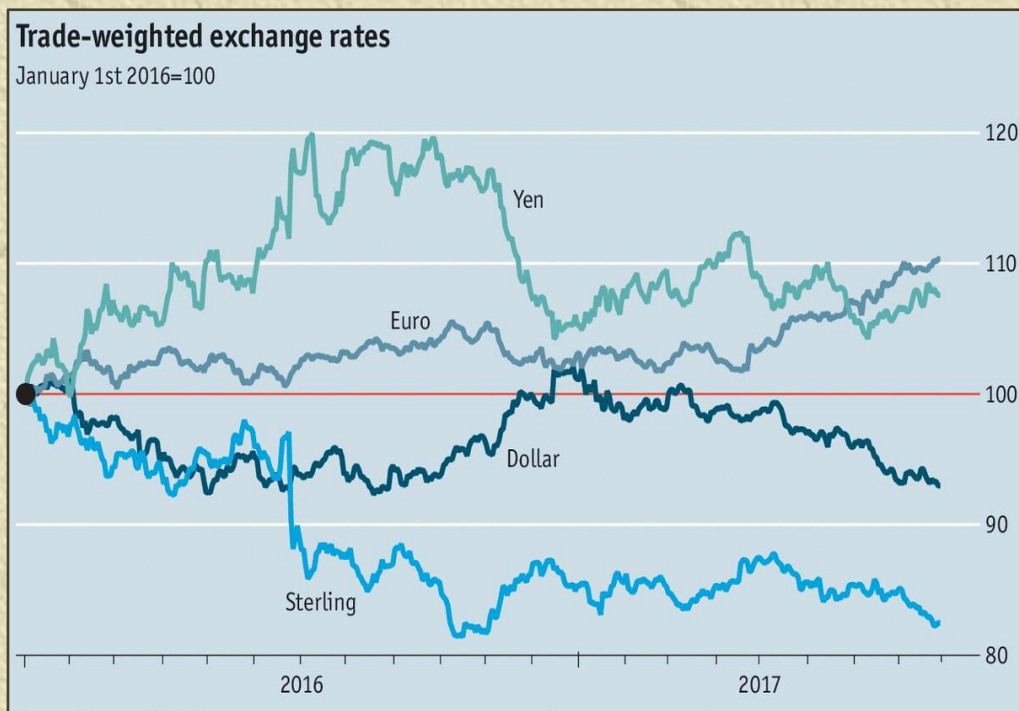
Brazil’s real was 100% overvalued despite adjusting for income.



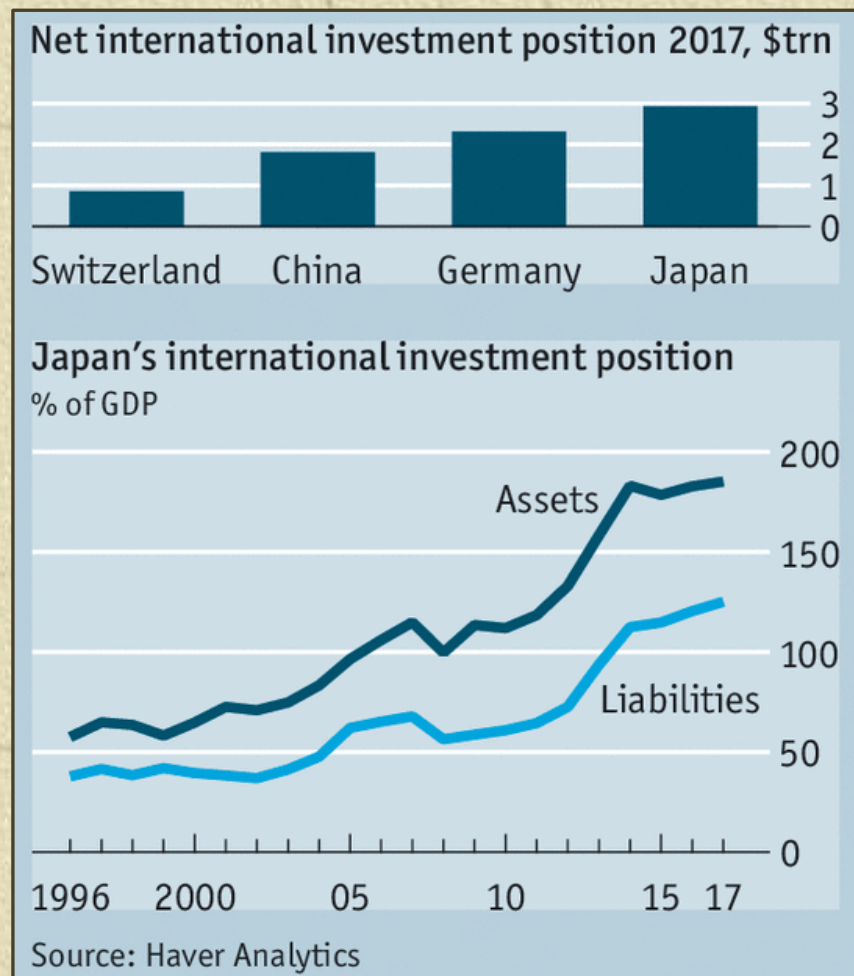
Exchange rates, continued . . .

✦ Limitations to fundamental equilibrium exchange rate (FEER)

- ◆ Japan: +BOT and A/L position no guarantee of strong ¥



No strong trend in value of ¥ even during 2016-17 with +BOT, net investment position, and A/L position... Why? Loose monetary policy, neg i-rates, gov't bond purchases



Economist, "Buttonwood: Made in Japan", 4 Aug 2018, p. 60.

Exchange rates, continued . . .

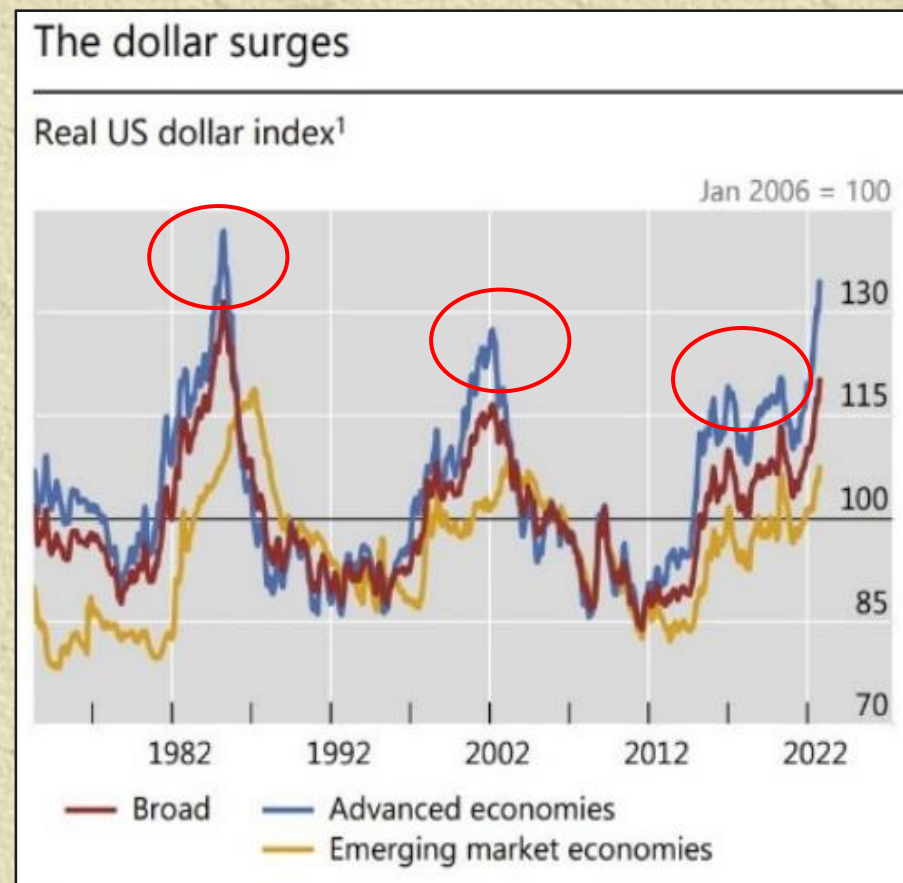
✦ Real trade-weighted exchange rate

- ◆ Weights based on bilateral trade with key partner countries
- ◆ Episodes of dollar surges

* 1980s: High US i-rates from tight monetary policy

* 2000s: Dot com bubble

* 2016: QE ends in US and faster growth



Exchange rates, continued . . .

✦ Exchange rates, BOP and debt

UN, Jul 2023 report

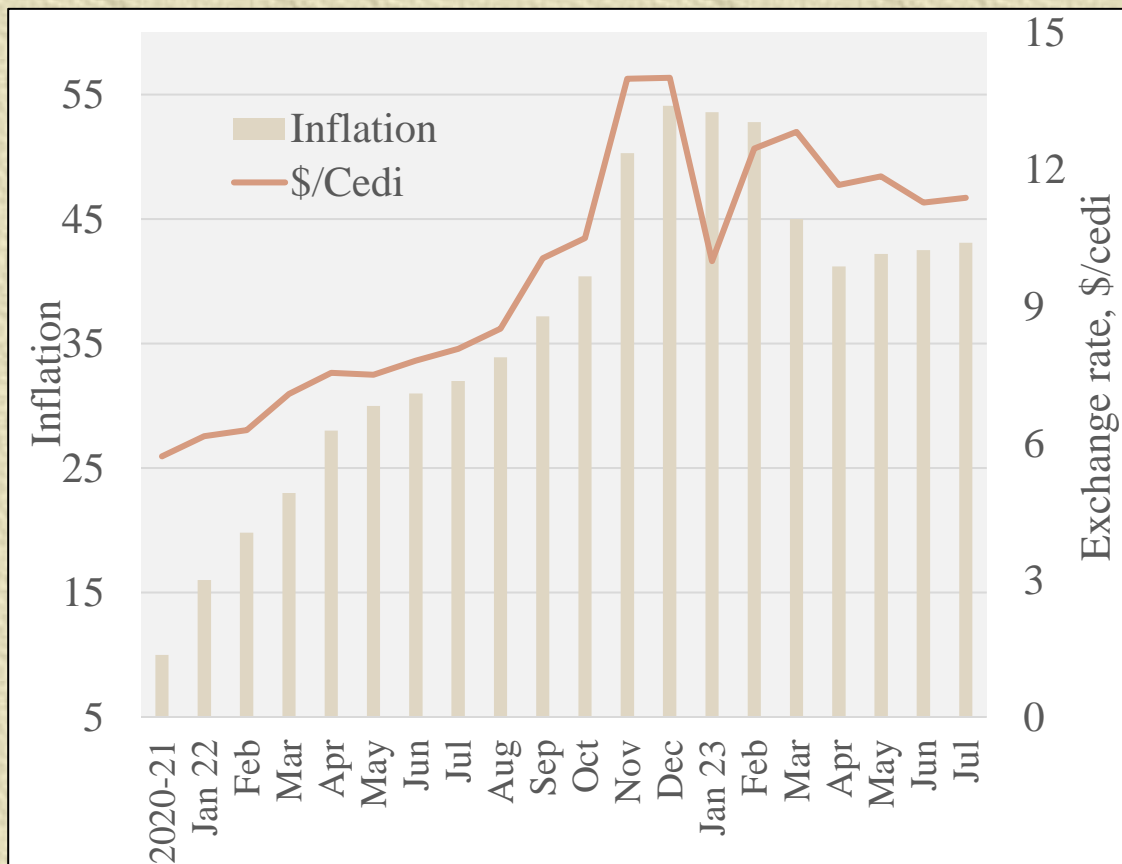
- ◆ Global public debt reached all-time high of \$92trn in 2022
- ◆ Five-fold increase in public debt since 2000
- ◆ On avg, African countries pay 4 times more to borrow than the US
- ◆ 52 countries are in serious debt trouble

Exchange rates, continued . . .

✦ 2.3 Examples of E, P unstable relationships

◆ Ghana

- Public debt ↑: 56% of GDP in 2016; 63% in 2019; 88% in 2022
- May 2023: \$3bn IMF rescue package
- \$10bn debt relief; restructure \$20 bn of \$30bn debt; 40-50% haircut

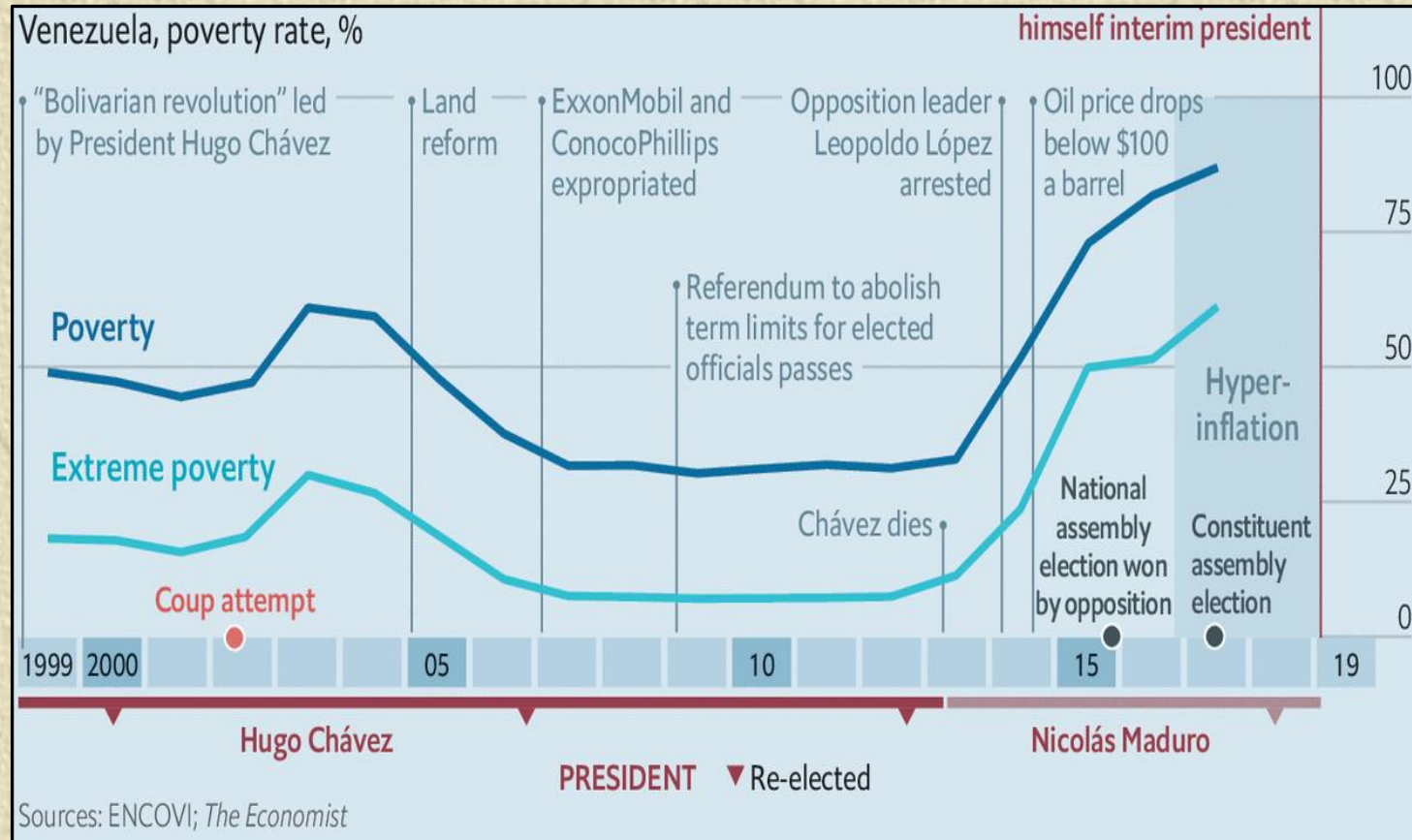


Economist, “Ghana and the IMF: success out of failure”, 13 Aug 2022, p. 30.

Exchange rates, continued . . .

◆ Venezuela

- Background: poverty, reliance on oil, uneven growth

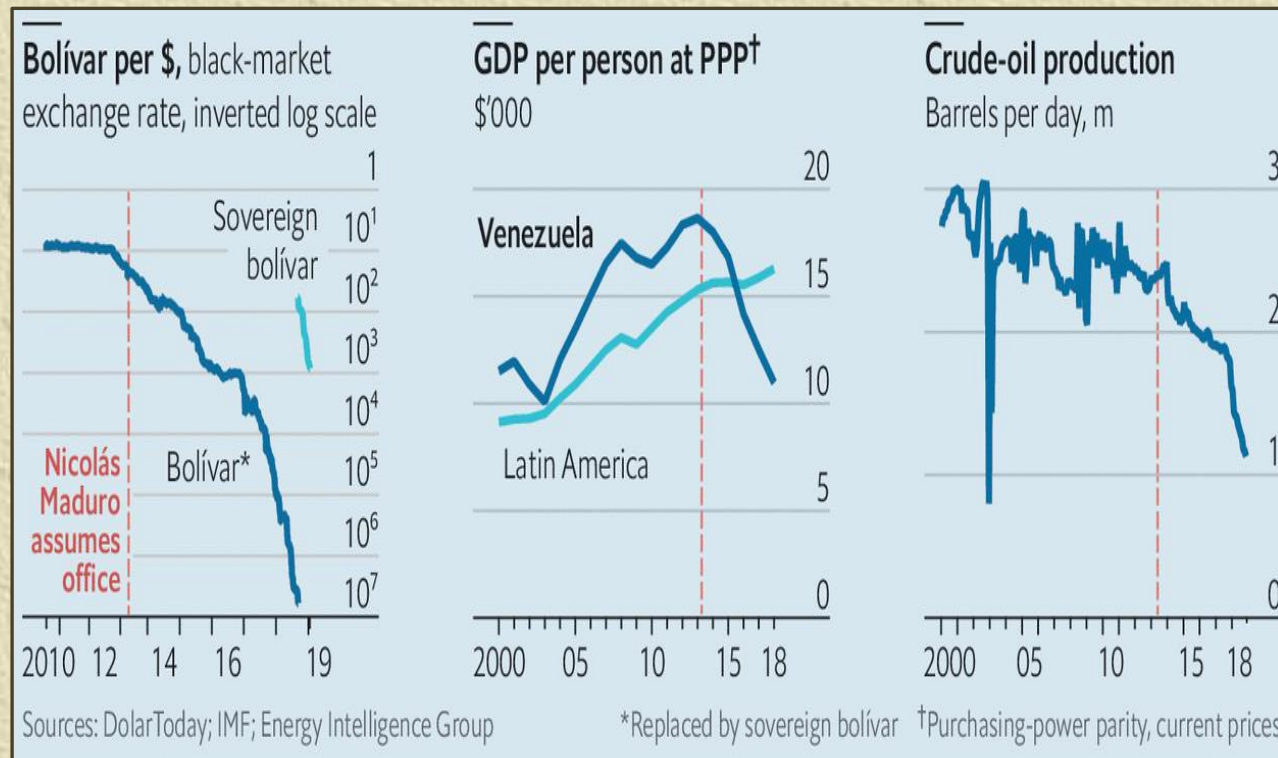


Exchange rates, continued . . .

- Situation
 - ◆ Chavez, 1999-2013
 - G: High P oil and borrowing to finance poverty alleviation; $G > T$
 - Seizure/expropriation of firms
 - Price controls
 - Fired manager of state oil firm
 - ◆ Maduro, 2013-2019
 - $G > T$ continues despite ↓ P oil
 - Print money to finance G
 - Control currency exchange
 - Price controls and ↑ min wage by 3000%
 - ◆ 2020-23 inflation rates
 - ◆ 2020 – 2355%; 2021 – 1588%
 - ◆ 2022 – 200%; 400%

Exchange rates, continued . . .

- P, E relationship (bolivars to \$)
 - ◆ 2018-19: Hyperinflation, 1.7mln%
 - 10 000 bolivars 1 Jan worth 59 cents on 31 Dec
 - 2018: new currency dropped 5 zeros and devalued 95%
 - ◆ ↓ GDP growth; oil production



Avoid IMF; assistance from Russia and China

Claims on Venezuela exceeded \$135bn in 2018

- China, \$13bn+
- Russia \$3bn

(paid on oil exports)

Bondholders of

- Sovereign bond, \$24bn
- Oil firm bonds, \$28bn

Other claimants include expropriated firms and unpaid suppliers.

Exchange rates, continued . . .

- ◆ Turkey: inflation and currency depreciation
 - Current situation



Economist, “The price is wrong: Turkey grapples with inflation”, 14 Jul 2022.

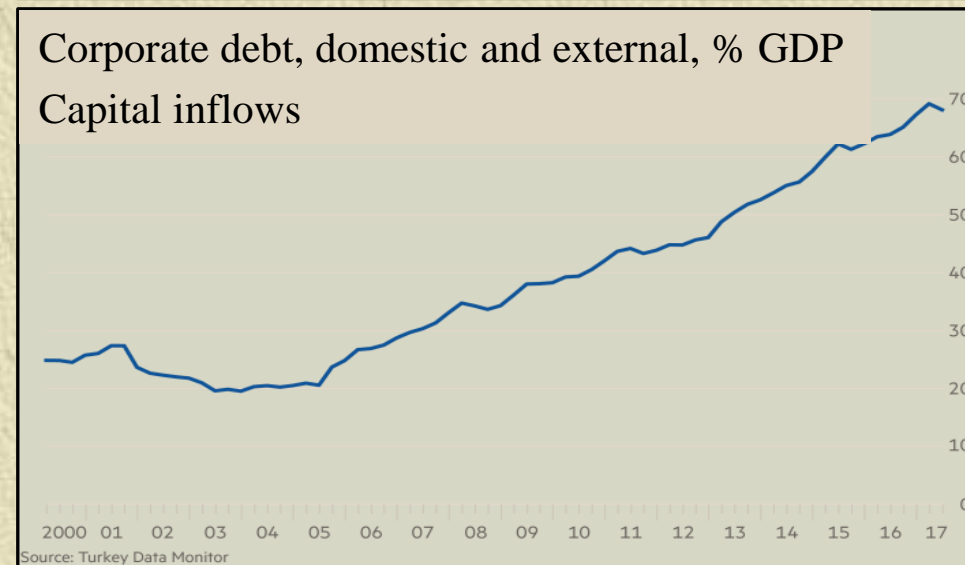
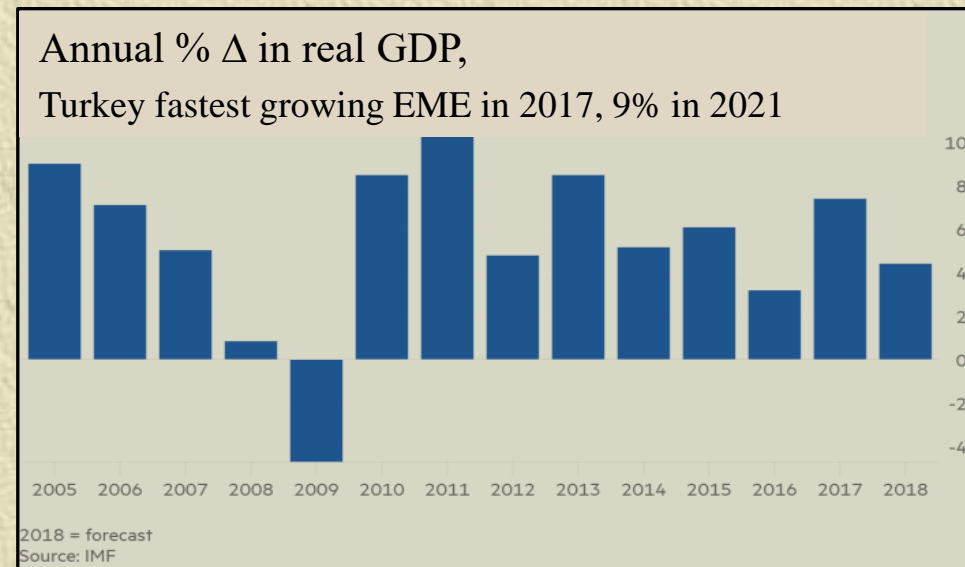
Economist, “Autumn of the patriarch”, 30 Oct 2021, p. 29-30.

Exchange rates, continued . . .

- ◆ Problem: fast, unbalanced growth, -BOT, fc debt, history of inflation, real wage falling



Economist, “Buttonwood: Istanbul and bears”,
19 May 2018, p. 57.



Financial Times, “Turkey counts the cost of cheap credit”, 25 Apr 2018, p. 3. 12

Exchange rates, continued . . .

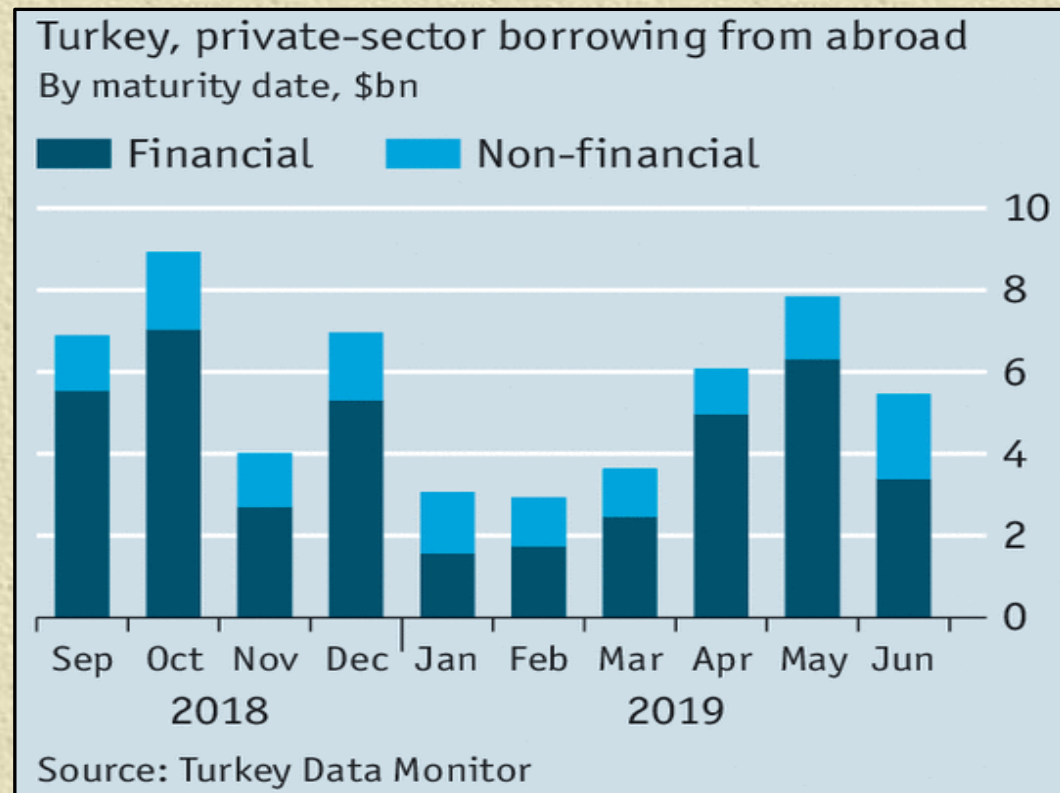
◆ K-inflows: reliance on hot money – politics limit FDI inflow

- $G > T$ is managed
- HH debt is low
- Excessive corporate debt
- large external debt burden

Turkish banks borrowed in \$, € to lend to firms eager for cheap fc. Some of that was swapped into lira to meet demand for lira loans, which far exceeded lira deposits. About \$100bn of the banks' foreign debt would fall due within 2018-19.

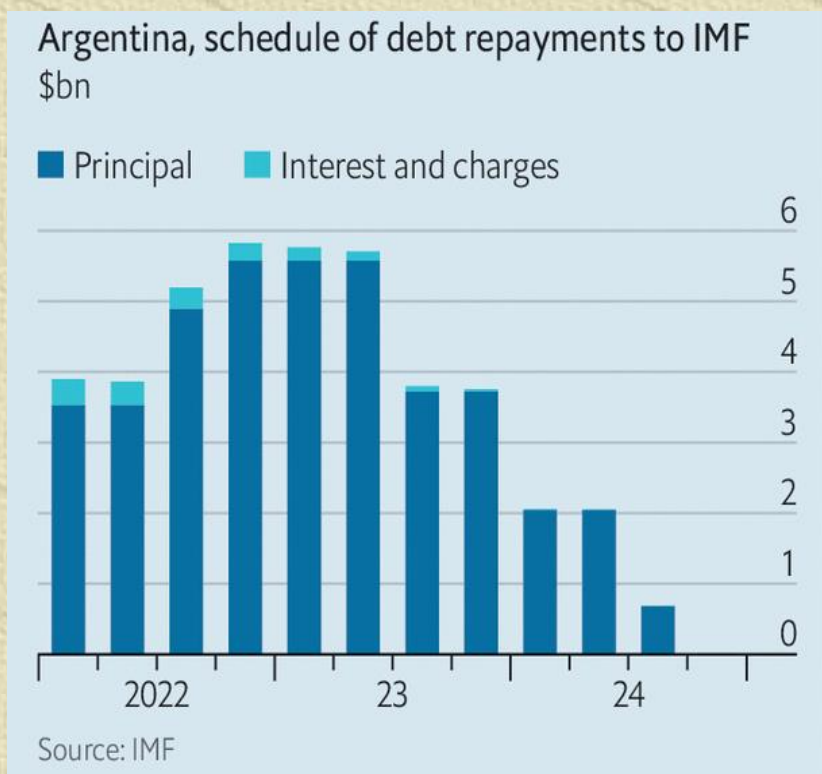
◆ Monetary and trade policy

- Erdogan and central bank interference
- Avoid IMF and seek assistance from Qatar



Exchange rates, continued . . .

- ◆ Argentina's gov't default of 2020 / 2023
 - Defaulted on a 2018 loan of \$57bn by IMF
 - About \$40bn payments due in 2022-24
 - 2023: new IMF loan of \$7,5bn (elections in progress)



Economist, “Argentina: Mad existence”, 29 Jan 2022, p. 41-2.

Exchange rates, continued . . .

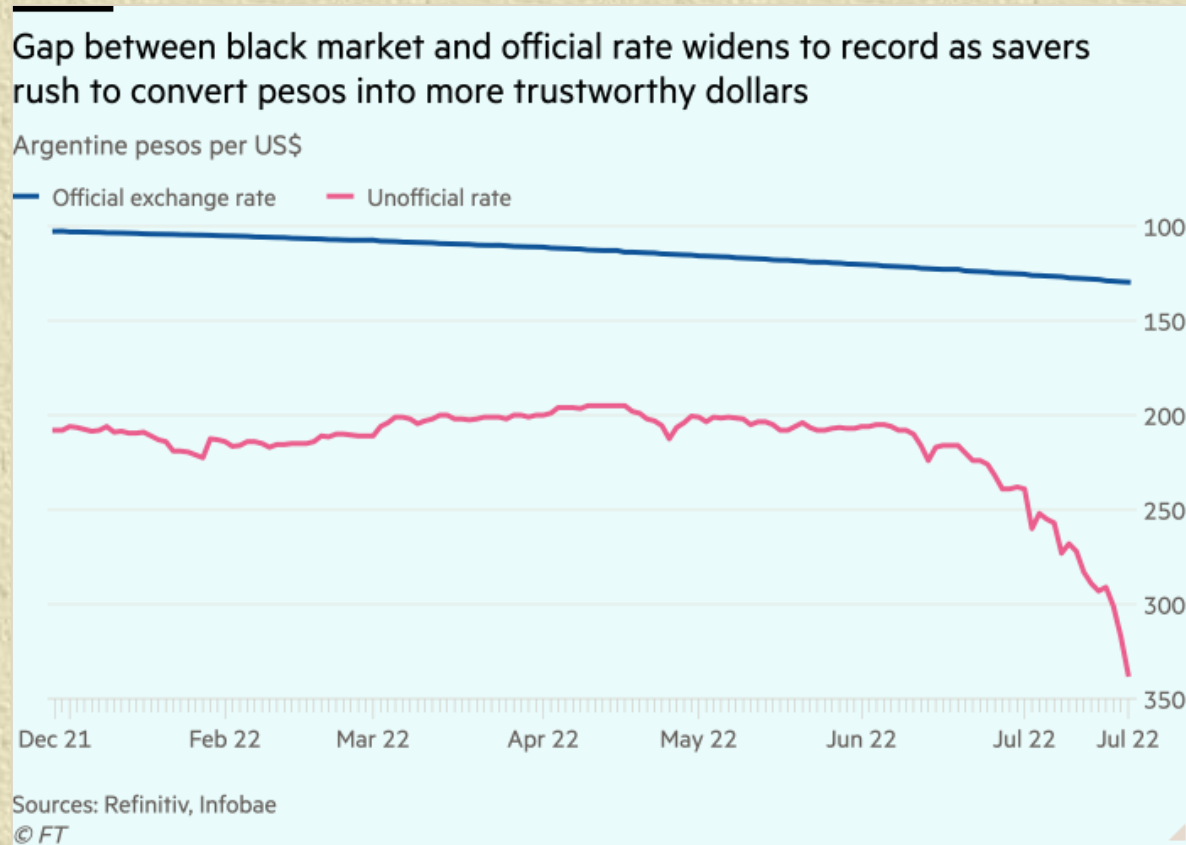
- Debt and inflation of 90% expected, end of 2022

Government finding itself in situation of full-blown economic crisis.

Gap between the market and “official” exchange rate widened to 150% in July.

Country cut off from global debt mkts since default in 2020. Funding itself via money printing to finance the hefty budget deficits.

Inflation at higher i-rates.

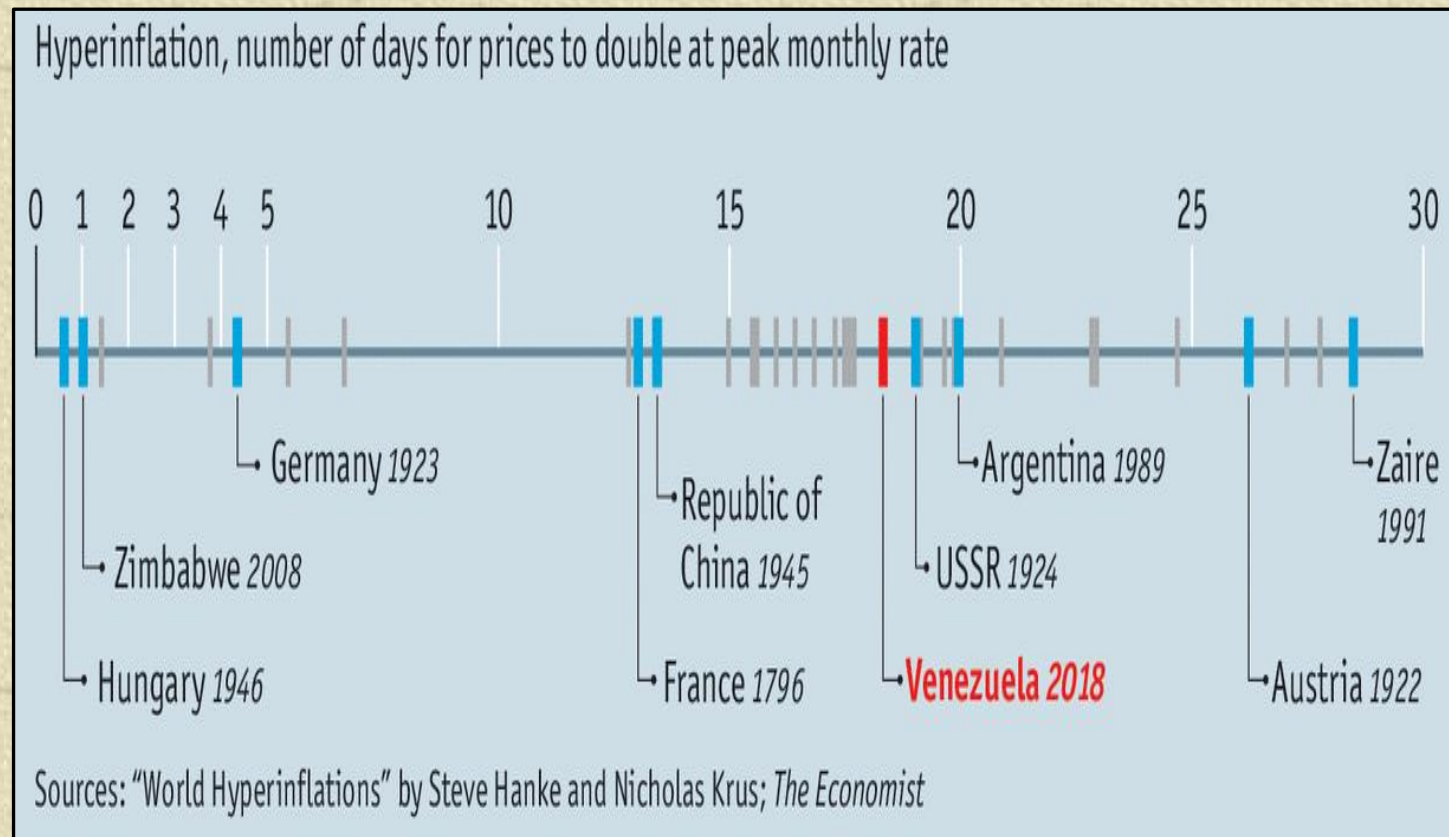


Financial Times, “Argentines rush to black market for dollars amid growing crisis”, 26 Jul 2022, p. 3.

Exchange rates, continued . . .

✦ Episodes of hyperinflation

Sargent (1981) argued that expectations of high inflation reflect candid assessments of gov't policy: people anticipate high inflation when politicians are unserious about reform. A credible policy shift, can change expectations quickly or at little or no cost.



Economist, "Free exchange: Money down", 2 Feb 2019, p. 65; chart: "The half-life of a currency", 13 Sep 2018.