

FROM COUNTRY RISK, TO FINANCIAL VOLATILITY AND DEBT CRISIS



CIFE SEMINAR ROMA-BERLIN-NICE 2025
MICHEL-HENRY BOUCHET

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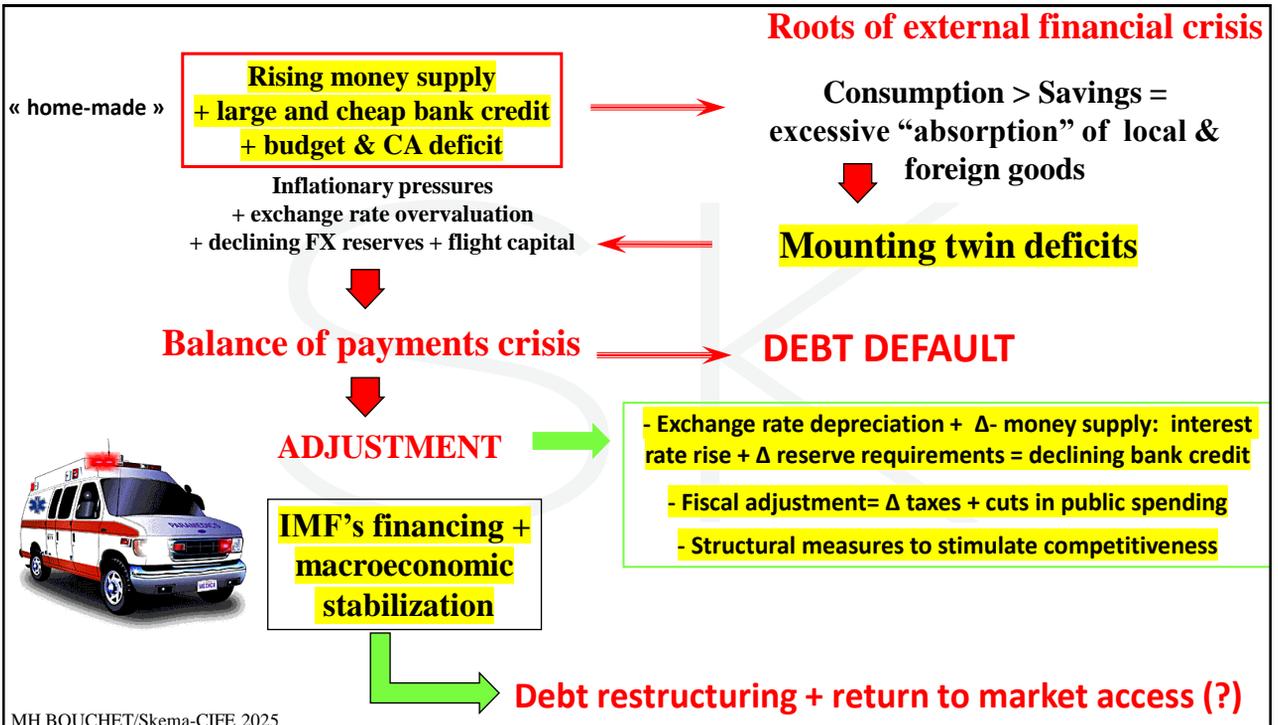
EXTERNAL DEBT CRISIS ANALYSIS!

Objectives:

1. Examining debt-driven **growth** and the sources of **vulnerability**
2. Tackling the **volume & structure** of external liabilities
3. Assessing debt servicing **sustainability**, i.e., **liquidity & solvency** prospects, and crisis thresholds
4. Identifying **warning indicators** of upcoming debt crisis?
5. Analyzing **debt restructuring** options

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WHAT ARE THE TRIGGERS OF A DEBT CRISIS? HOW MUCH IS TOO MUCH?



► Home-made crisis

- Inflation
- Drop in savings
- Exchange rate overvaluation
- Current account & budget deficits
 - Drop in GDP
- Loss in export competitiveness
 - Banking crisis
- Drop in reserve assets

► Exogenous shocks

- War!
- Global/regional recession
- Competitive devaluations
- Worsening terms of trade
- Rating agency downgrading
 - Higher interest rates
- Currency mismatch \$/€ evolution
- Drop in commodity prices

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THE MECHANICS AND RISKS OF DEBT CRISIS

▶ The determinants of a debt explosion are:

- ▶ First, the relationship between the rate of interest on debt (r) and the rate of growth of the economy (g)
- ▶ Second, the ratio of the primary fiscal deficit (the deficit before interest payments) to GDP.

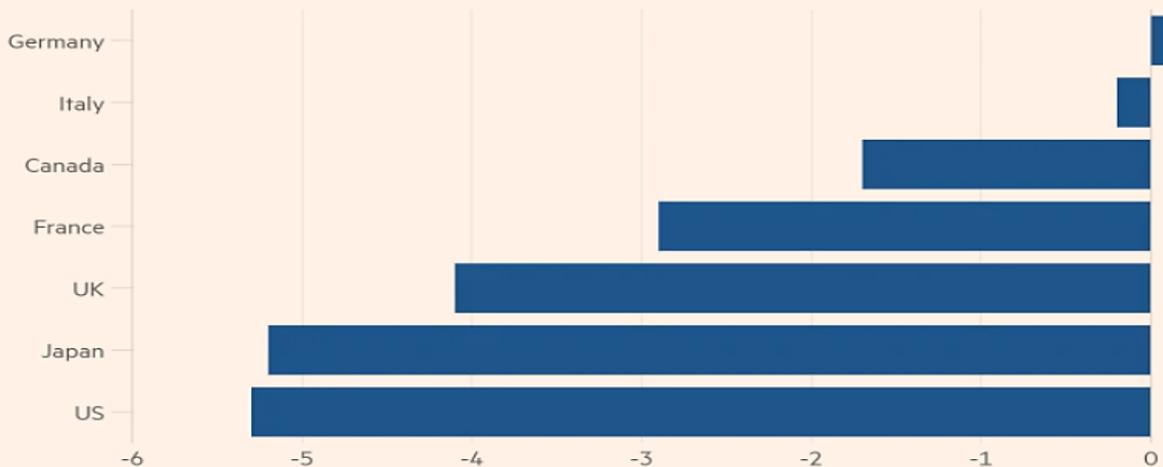
- ▶ The most important point is that debt must not grow explosively $r > g$.
- ▶ While a particular debt ratio cannot be defined as unsustainable, on empirical or theoretical grounds, the higher the initial ratio and the faster it is likely to grow, the less sustainable the debt is likely to be!
- ▶ Crucial to observe the composition and structure of the country's debt

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Some countries have run huge primary deficits for a long time

Primary fiscal balance (% of GDP), average 2008-23



Source: IMF
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2025-26: FINANCIAL HEADWINDS AHEAD!

Global borrowing costs have risen

Ten-year bond yield (%)

— US — UK — Germany



Source: LSEG

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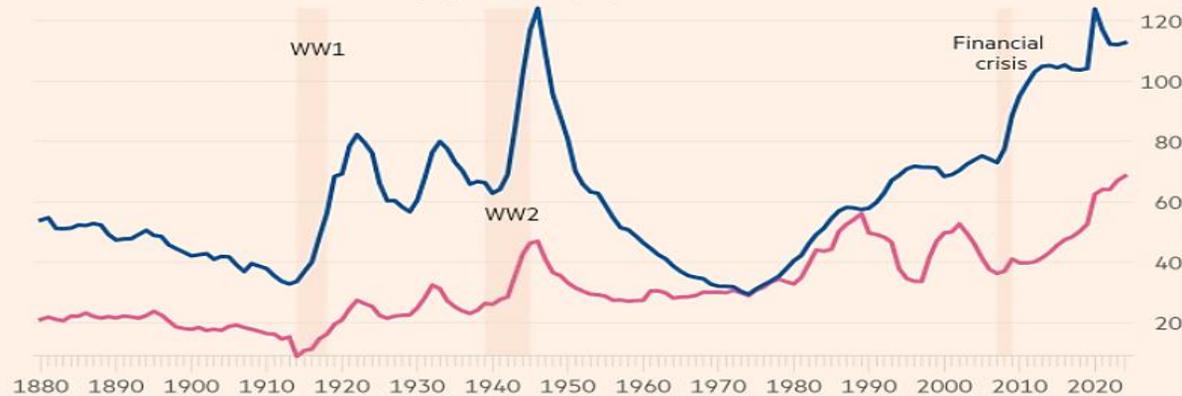
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2024-25: ON THE EVE OF A MAJOR AND PROTRACTED DEBT CRISIS?

Sovereign debt is close to historic highs

General government debt as a % of GDP

— Advanced economies — Emerging and developing economies



1880-2020 based on constant sample of 27 advanced and 27 emerging economies, weighted by GDP at purchasing power parity. 2021-2023 = all advanced and emerging economies

Source: IMF

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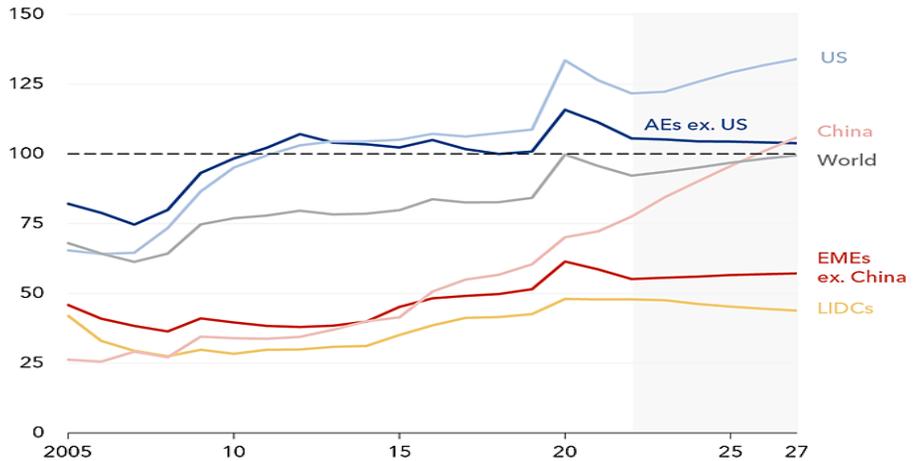
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Instead of deleveraging policies after the 2008 GFC, public debt ratios kept increasing unabated!

Rising debt

Public debt hit a high in 2020 and is still rising in some countries. (public debt; percent of GDP)



Source: IMF staff calculations.
 Note: Averages weighted by nominal GDP. Shaded area denotes forecast period.
 Sample comprises a balanced panel of 32 advanced economies, 45 emerging market economies, and 12 low-income countries. AEs = advanced economies; EMs = emerging market economies; LICs = low-income countries.

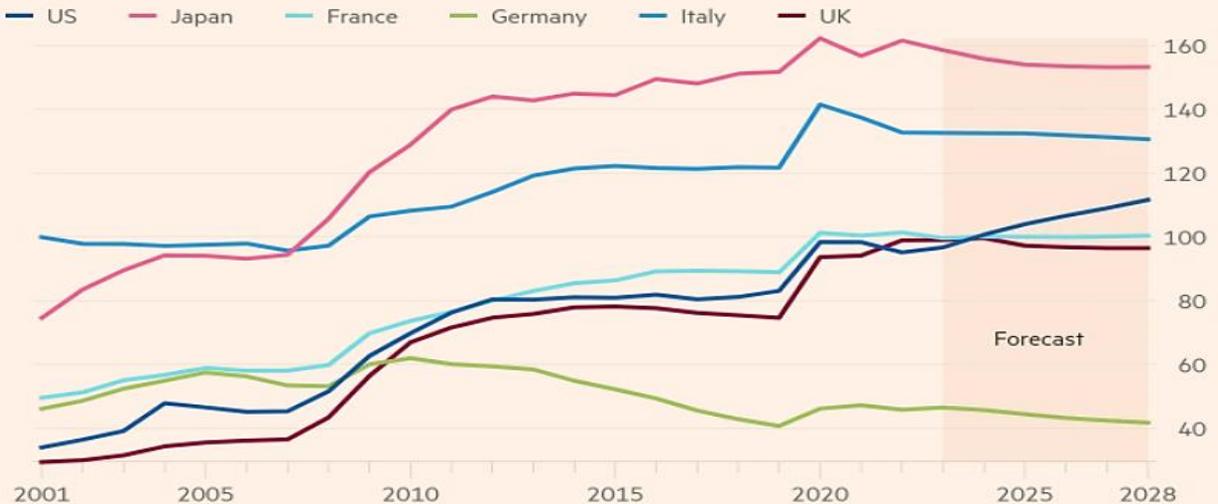


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Government indebtedness has mostly soared in the past two decades

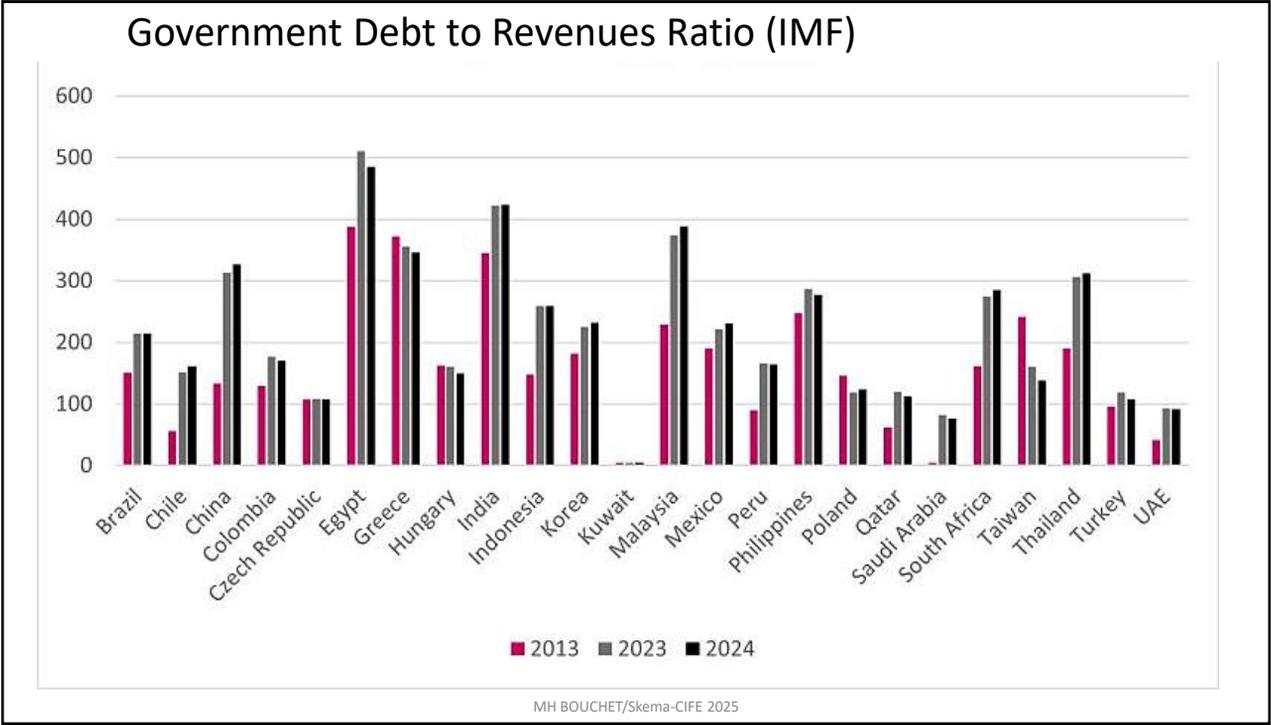
General government net debt as a % of GDP



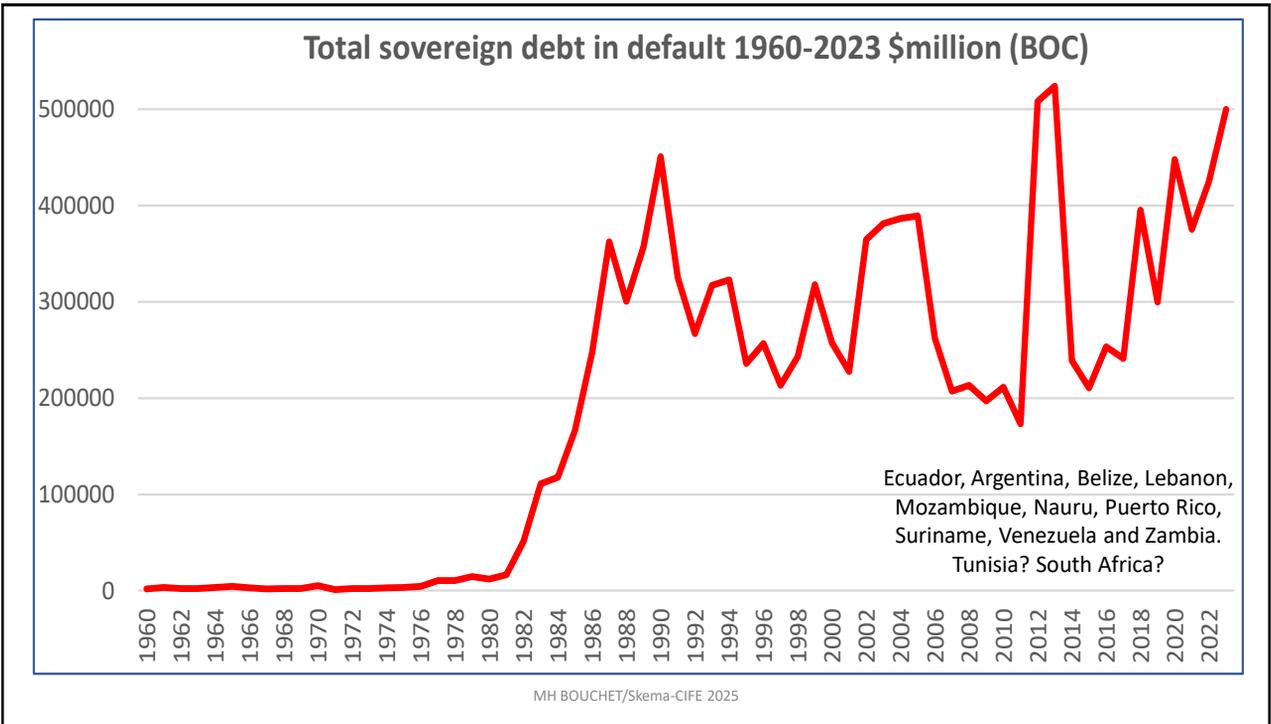
Source: IMF © FT

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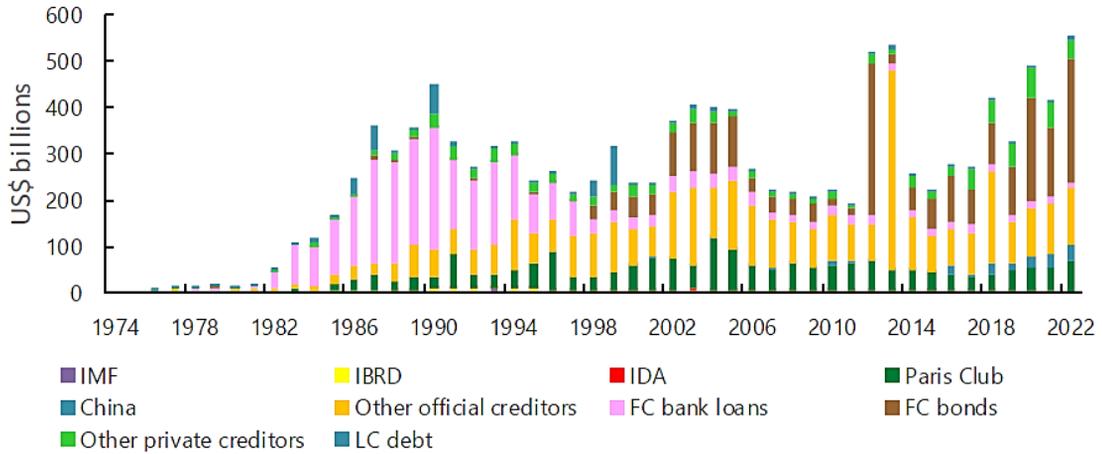


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Chart 3: Total sovereign debt in default by creditor (1974–2022)



Note: IMF is International Monetary Fund. IBRD is International Bank for Reconstruction and Development. IDA is International Development Association. LC is local currency, and FC is foreign currency.

Source: BoC–BoE Sovereign Default Database 2023

Last observation: 2022

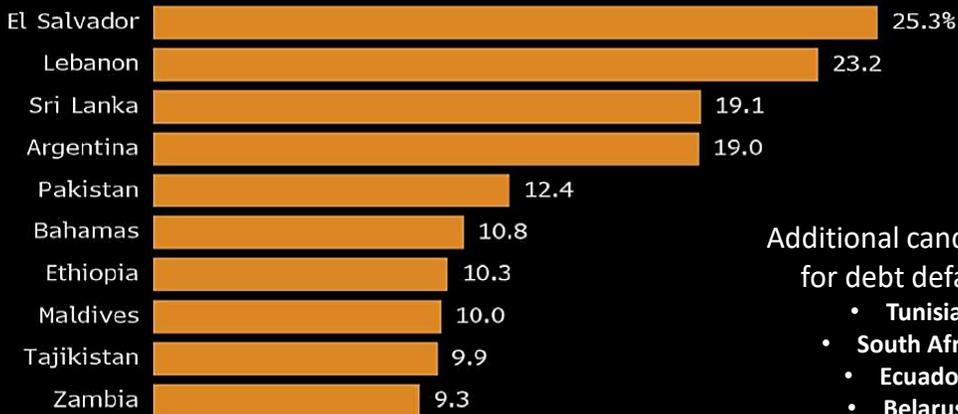
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What are the largest emerging market countries' risks in 2024?

Distressed and Defaulted EMs Lead Returns

Riskiest credits are handing investors the biggest gains in year-to-date



Additional candidates for debt default:

- Tunisia
- South Africa
- Ecuador
- Belarus

Source: Bloomberg
Total returns on sovereign dollar debt from emerging markets

Bloomberg

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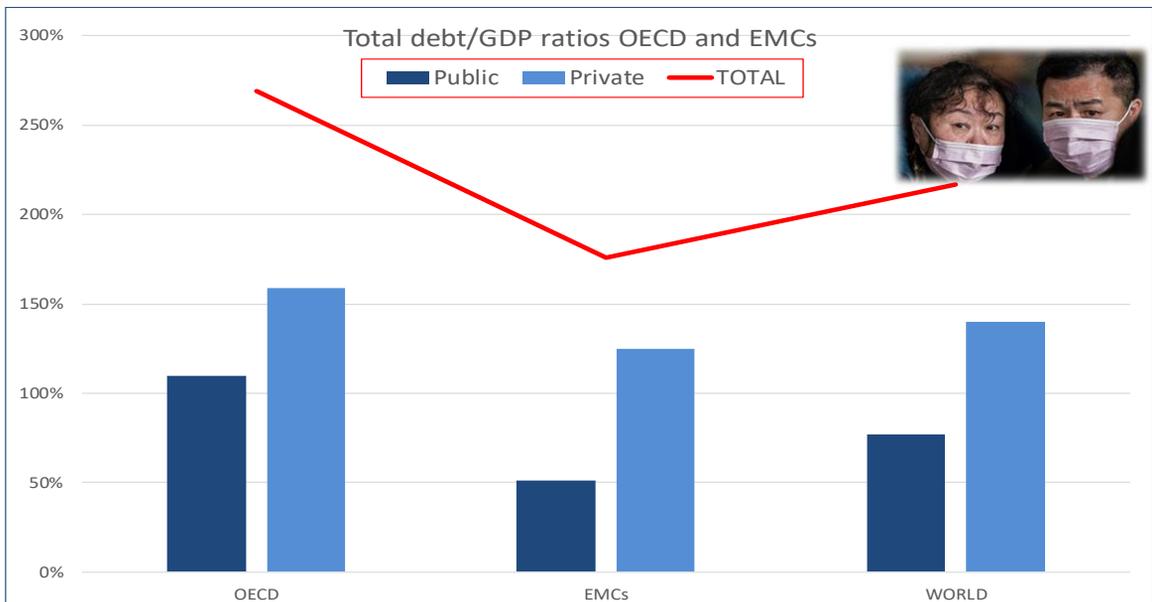
Volatility of EMCs average credit default premium 2022-23



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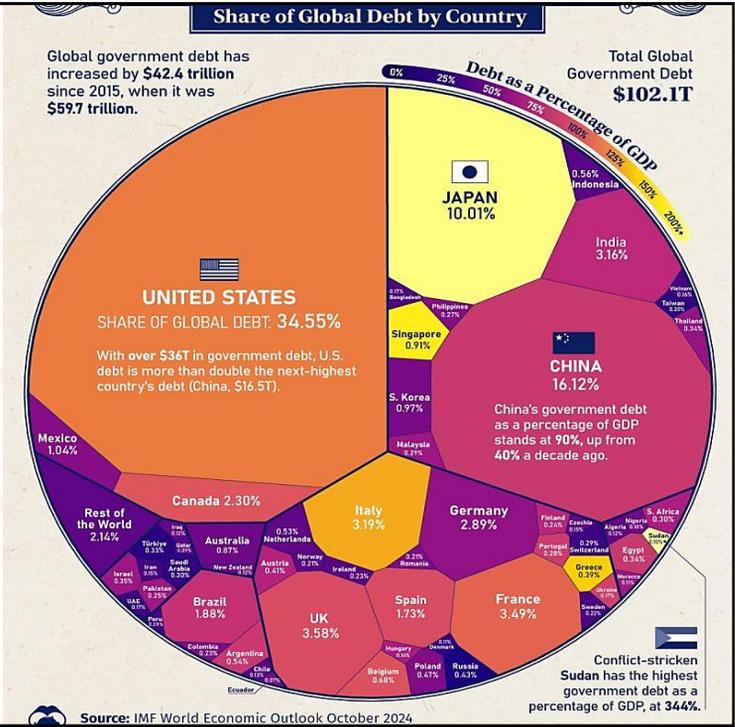
WORLD INDEBTEDNESS IN 2025



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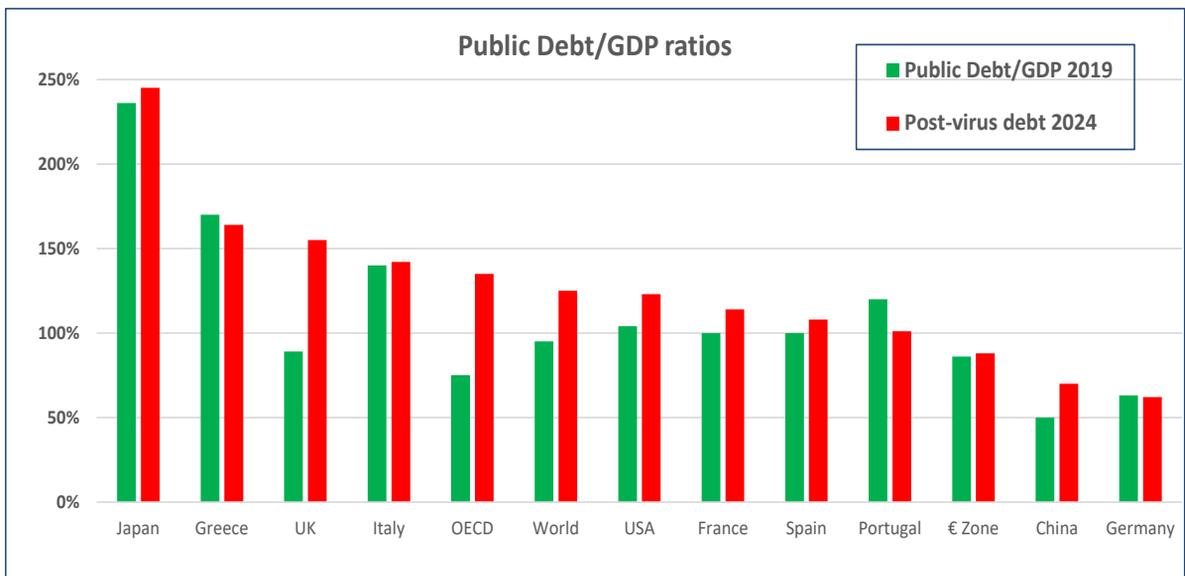
A WORLD OF MOUNTING DEBT



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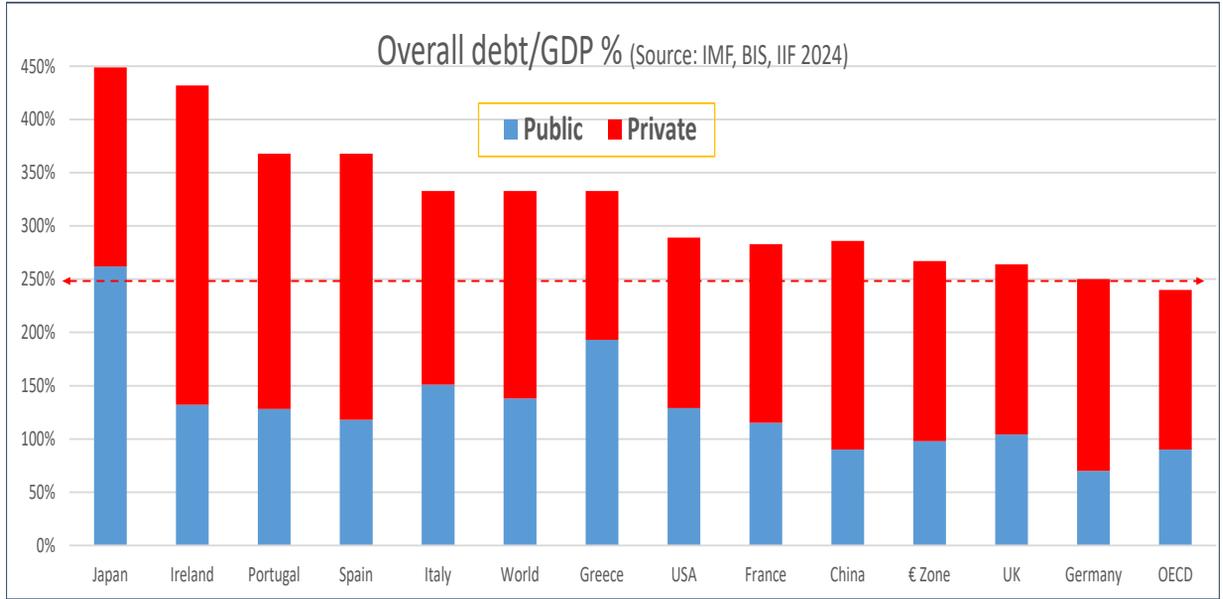
PUBLIC DEBT RATIOS ON THE RISE 2020-25



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**AFTER A DECADE OF ULTRA-LOW INTEREST RATES AND QE
TOTAL DEBT IN 2025 HOW MUCH IS TOO MUCH?**



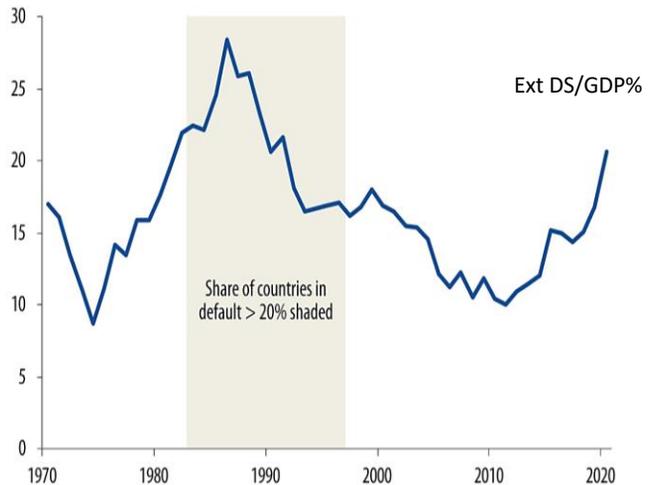
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DOMINO EFFECT OF DEBT CRISES

Common feature of debt crises= sudden jump in debt levels, often driven by large exchange rate depreciations in countries with foreign currency debt, and governments' assumption of contingent liabilities amassed by SOEs, subnational governments, banks, or corporations.

With lower growth, higher inflation, and setbacks in the fight against poverty, protracted defaults damage the economic and social fabric of the debtor country.

Despite the low global interest rates of the past decade, the external debt-servicing burden of EMDEs has been steadily climbing, with a sharp rise in 2020. (average total external debt service, EMDEs, as a percent of goods, services, and primary income)

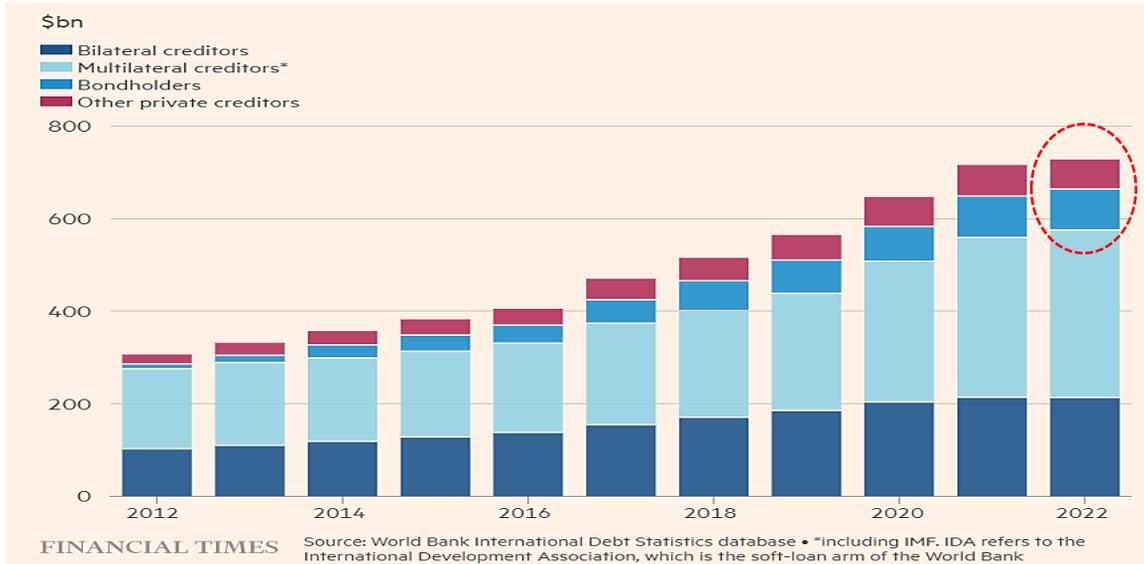


Sources: World Bank, International Debt Statistics; and Reinhart and Rogoff (2009).
Note: Default shares based on all countries (193 as of 2020). Debt servicing is an average for 123 EMDEs. EMDEs = Emerging market and developing economies.

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THE KEY ISSUE OF THE RISING SHARE OF PRIVATE CREDITORS IN THE POOR IDA-ELIGIBLE DEVELOPING COUNTRIES



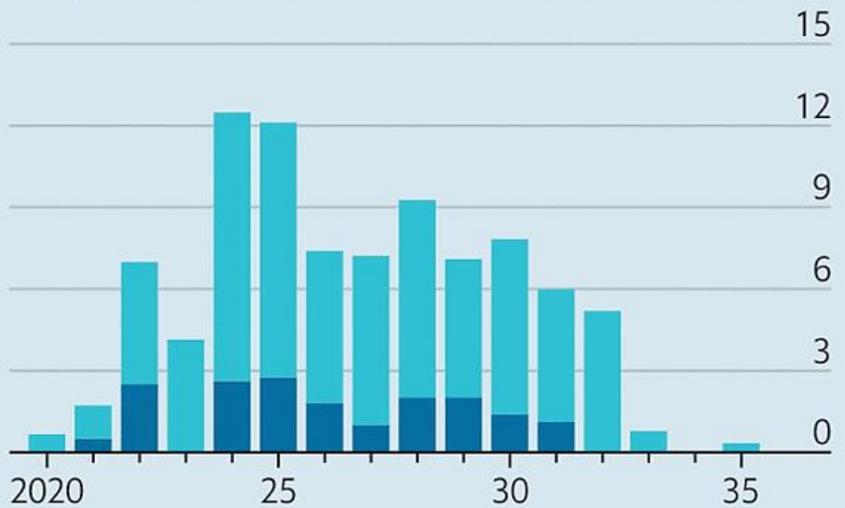
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AFRICA'S BOND DEBT WALL

Africa, Eurobond amortisation, \$bn By credit-rating group

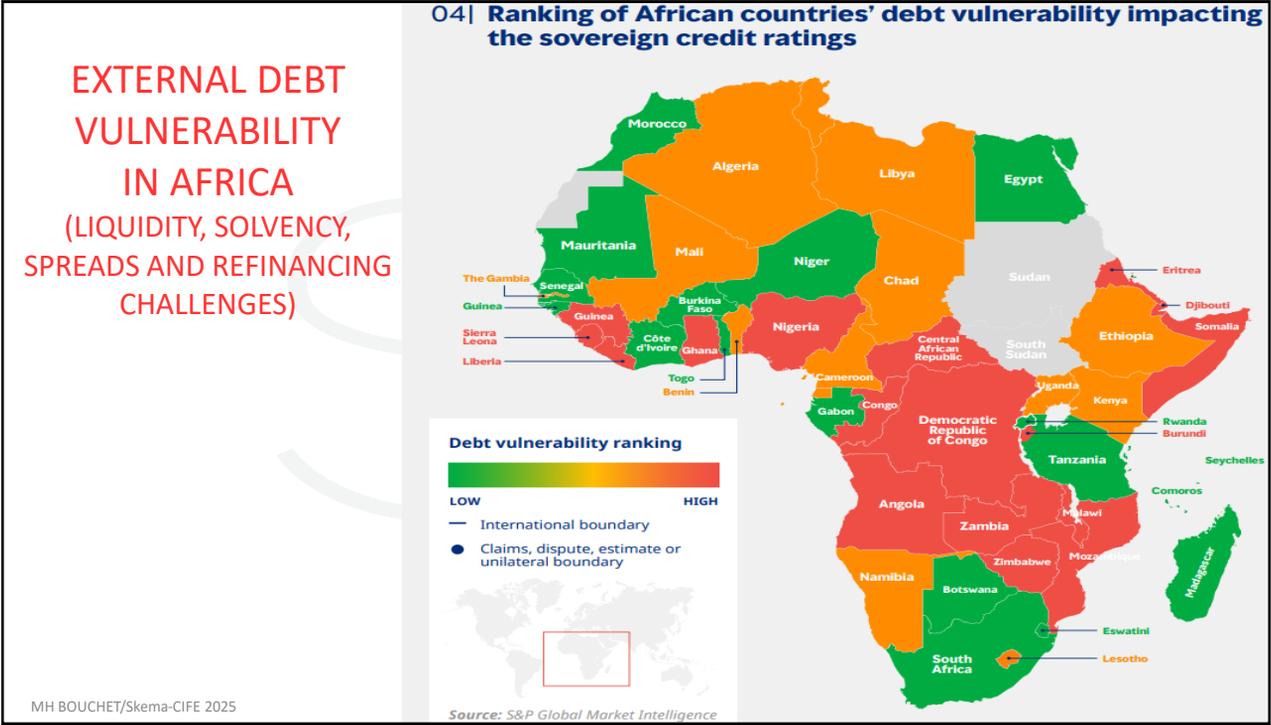
Higher (BB and above) Lower (B and below)



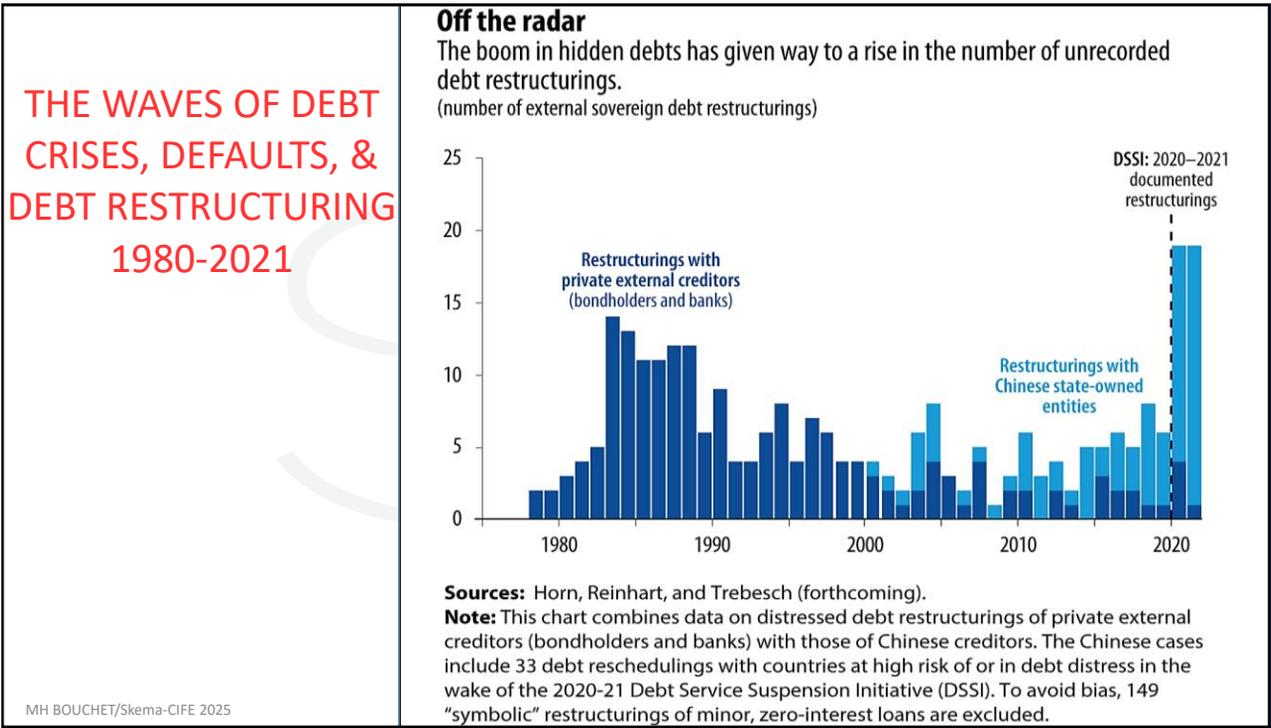
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Source: M&G Investments

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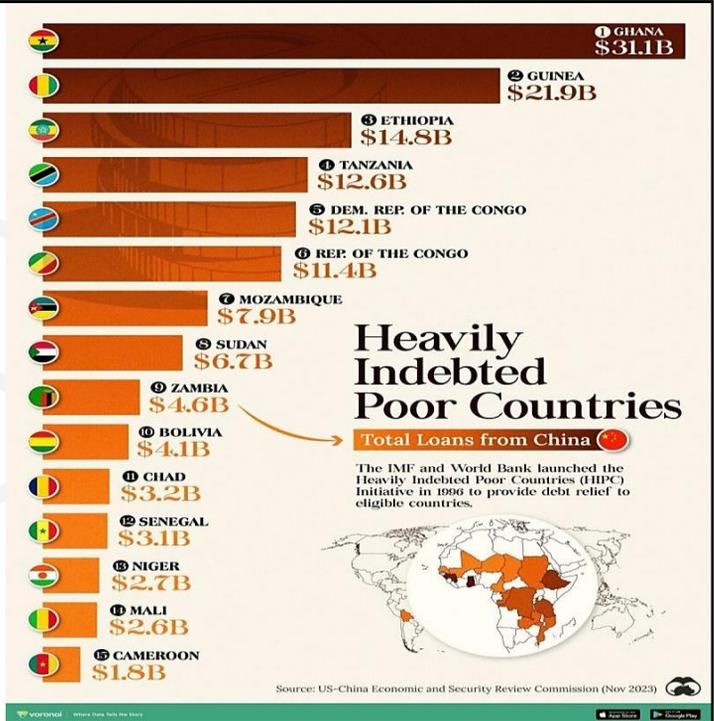


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TACKLING THE OPACITY OF CHINA'S LOANS TO EMCS



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	2020	2021
LT K	1225	1300
Imports	-4650	-5250
Debt repayments	-985	-1200
Services revenues	625	500
E&Os	-275	-950
Exports	5550	4150
Official Transfers	300	125
Current account		
FDI	375	100
Portfolio	200	150
Interest payments	-1450	-1855
Private unrequited transfers	125	100
ST K inflows	325	1000
ST K Outflows	-465	-800
Trade Balance		
Counterpart items	100	125
Change in reserves		
CA/GDP%		
GDP	12500	14550
R/M ratio (months)		
Reserve level 12/2019		
	3500	

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	2020	2021
Exports	5550	4150
Imports	-4650	-5250
Trade Balance	900	-1100
Services revenues	625	500
Interest payments	-1450	-1855
Official Transfers	300	125
Private unrequited transfers	125	100
Current account	500	-2230
FDI	375	100
Portfolio	200	150
LT K	1225	1300
Debt repayments	-985	-1200
ST K inflows	325	1000
ST K Outflows	-465	-800
E&Os	-275	-950
Counterpart items	100	125
Change in reserves	-1000	2505
CA/GDP%	4,00%	-17%
GDP	12500	12950
R/M ratio (months)	8,1	3,2
Reserve level 12/2019	4500	1995
	3500	

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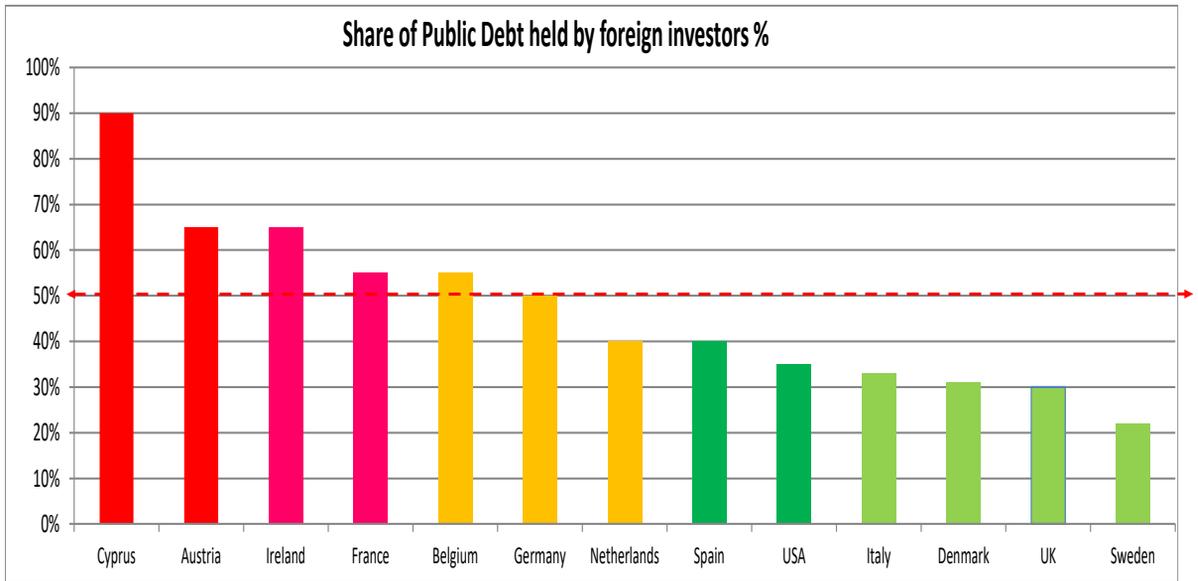


	2020	2021
Liquidity ratios		
DSR (P+I)/XGS	47%	83%
Interest/XGS	23%	40%
Solvency D/GDP	101%	100%
Reserves	4500	1995
Gross inflows	8725	7425
Net Inflows	2350	-775
Net transfers	900	-2630
R/M months	8,1	3,20
Trade openness	87%	76%
CA/GDP	4,0%	-17,2%
Average rate	12%	14%
Debt stock 2019	12600	12900
12500		

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**CAPITAL MARKET GLOBALIZATION & DEBT STRUCTURE=
INVESTMENT FUNDS AND RATING AGENCIES IN THE DRIVING SEAT**

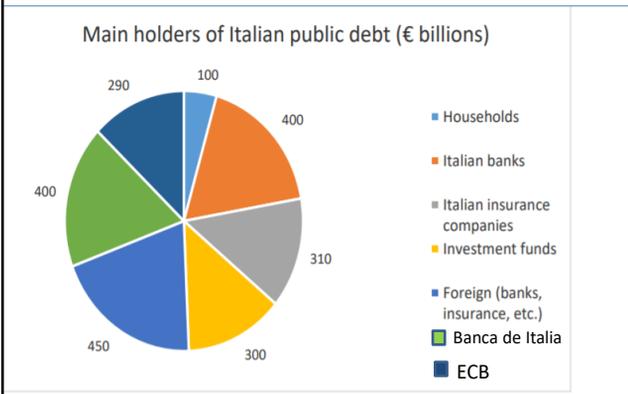


Source: FT, IMF, Natixis, US Treasury, EU 2023

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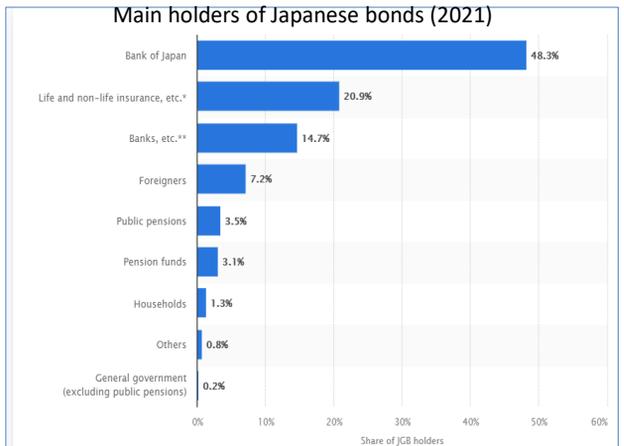
WHAT MATTERS? HOW LARGE IS THE DEBT, HOW HIGH IS THE DEBT/GDP RATIO, OR WHO HOLDS THE DEBT?



Source: Own calculations based on Banca d'Italia statistics.

Note: Total public debt (debt of all levels of the Italian government together) amounts to about €2,250 billion

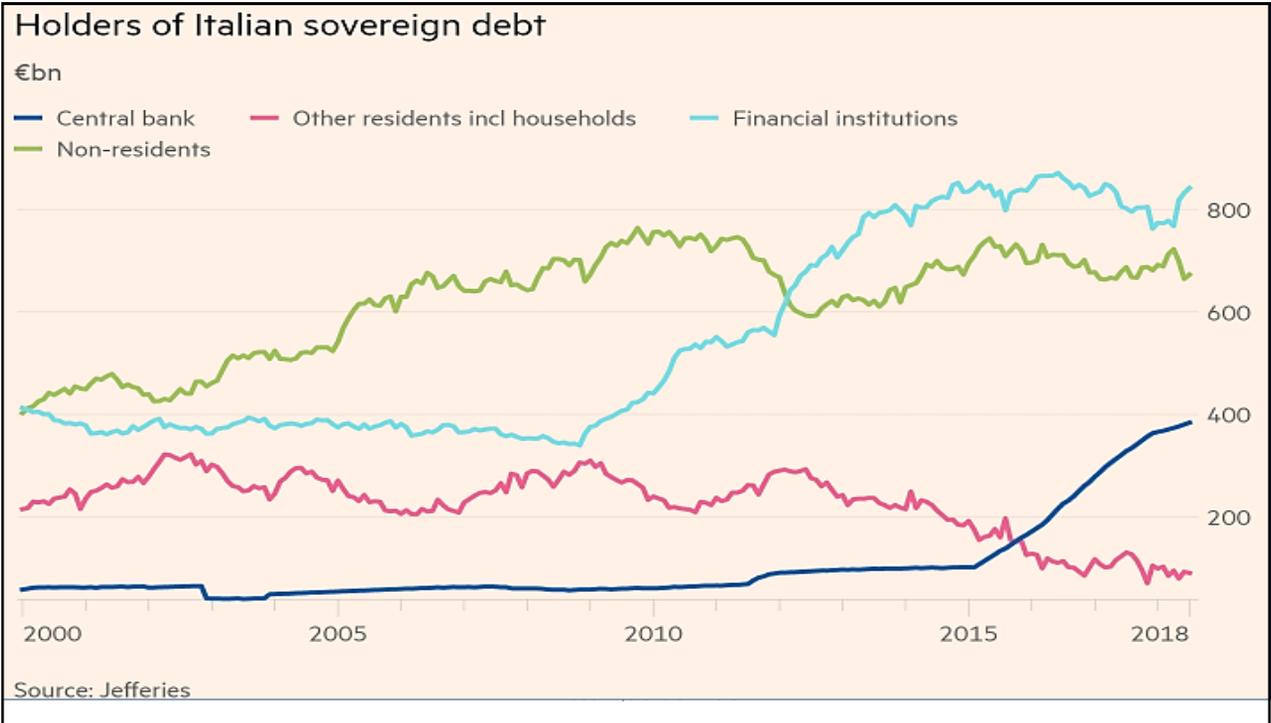
Italy's public debt to GDP= 155% GDP



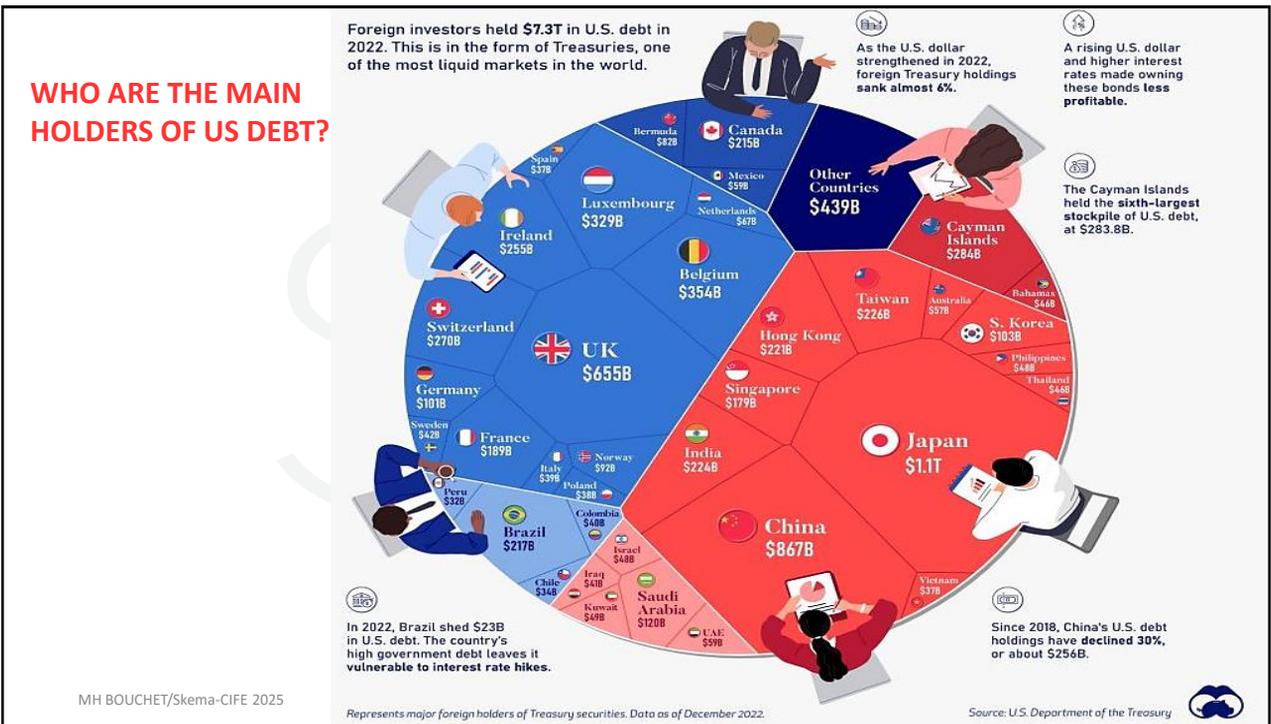
Yen denominated bonds= 252% of GDP

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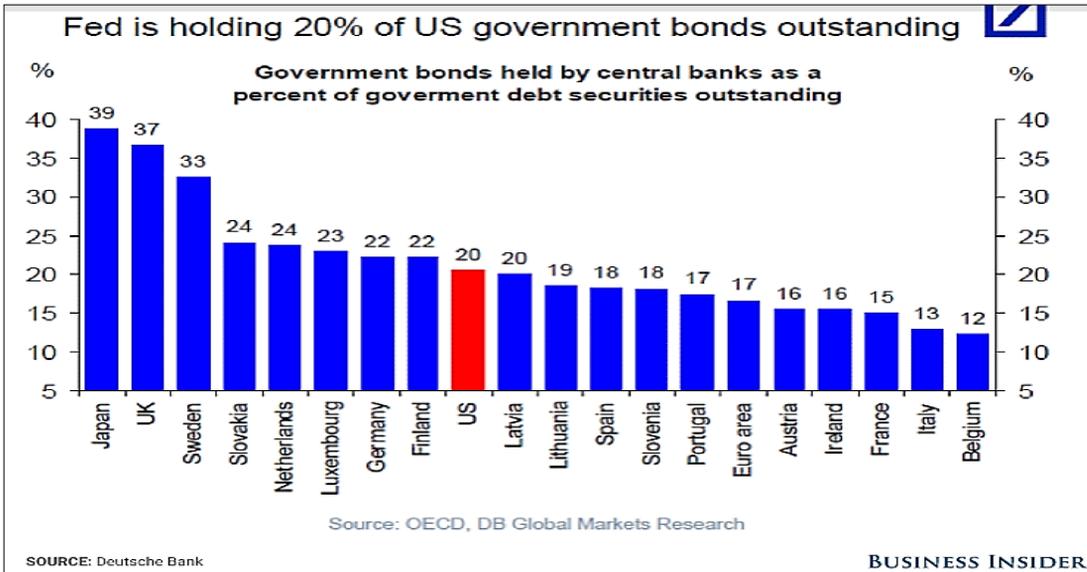


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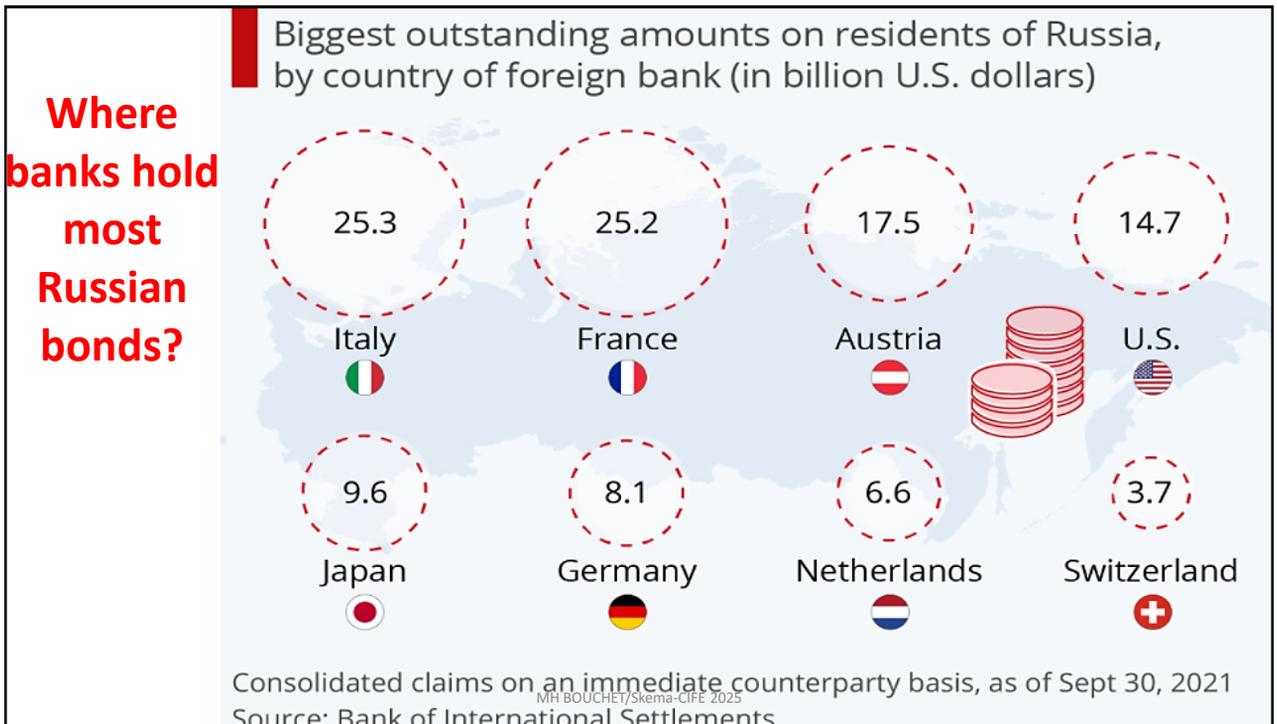
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CENTRAL BANKS' ACCOMODATIVE MONETARY POLICY AND SOVEREIGN DEBT



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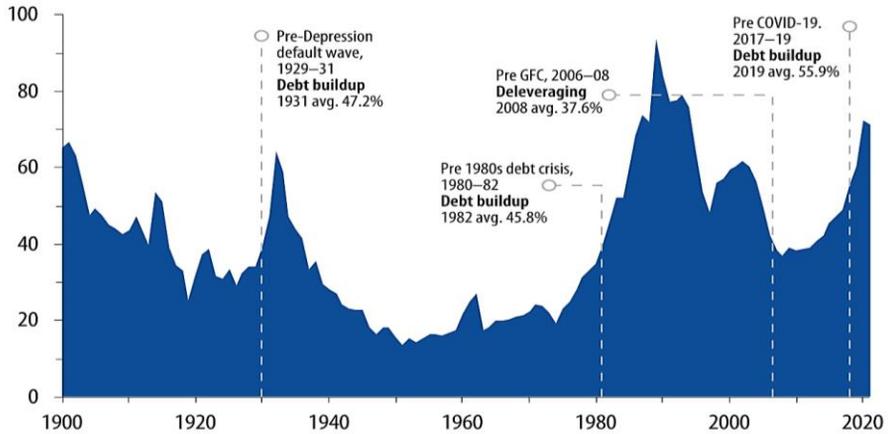


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DEBT CRISIS IS A MATTER OF THRESHOLD AND TRIGGER POINT!

Breaking point

Many emerging market and developing economies have encountered crises at lower debt levels than those prevailing in 2021. (public debt as a percentage of GDP, 1900–2021, unweighted average, 46 EMDEs)



Sources: IMF, *World Economic Outlook*; and Reinhart and Rogoff (2009).

Note: Dotted lines cover four crisis episodes: 1929–31 and 1980–82, the onset of major debt crises in EMDEs; 2006–08, the onset of the GFC, primarily affecting advanced economies; and 2017–19, the pre-COVID-19 debt buildup in EMDEs. EMDEs = emerging market and developing economy; GFC = global financial crisis.

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EXTERNAL FINANCING PROFILES IN 2025

RATIOS	VIETNAM	GABON	ECUADOR
1. CA/GDP	+2,5%	+2%	2,2%
2. Public Debt/GDP	33%	55%	60%
3. Coface	B/B	C/D	C/B
4. GDP pc \$	3720	9500	6000
5. R/M	4	2	2,4
6. FDI/GDP	9%	4%	-1,1%
7. Doing Bus/190	70	169	129

Source: IMF 2025

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FX RESERVES AS BUFFER OF LIQUIDITY CRISIS

	FX Reserves as % of short term debt	FX reserves as % of GDP
India	427%	15%
China	399%	27%
Mexico	334%	16%
Korea	330%	26%
Taiwan	277%	82%
Switzerland	63%	96%
Japan	45%	23%
Canada	13%	5%
Italy	5%	2%
UK	2%	4%
Germany	2%	1%
France	2%	2%

Reserves and GDP for 2016, short-term debt as of 2016Q3

Sources: National Authorities; World Bank; International Monetary Fund; Haver Analytics

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	Government Bond Yield ¹ , Latest (Ppt)	Interest Expense ² , 2023 (% GDP)	Government Debt ³ , 2023 (% GDP)	Sovereign Debt Vulnerability Ranking ⁴ (Lower Rank, Higher Risk)		Government Bond Yield, Latest (%)	Interest Expense, 2023 (% GDP)	Gross Government Debt, 2023 (% GDP)	Sovereign Debt Vulnerability Ranking (Lower Score, Higher Risk)
Ukraine	53.1	4.8	98.3	1	Turkey	3.4	2.1	35.0	31
Egypt	11.9	9.2	92.9	2	Honduras	3.8	0.6	50.0	32
Pakistan	20.7	6.3	73.6	3	Mexico	1.5	4.3	55.6	33
Tunisia	31.1	3.2	80.0	4	Iraq	5.1	0.6	47.9	34
Mozambique	10.6	3.2	89.7	5	Serbia	2.2	1.7	50.2	35
Argentina	23.4	2.4	76.3	6	Panama	1.8	2.1	54.3	36
El Salvador	9.4	3.7	76.1	7	Romania	2.0	2.0	48.3	37
Bolivia	12.6	2.2	82.3	8	Trinidad & Tobago	1.2	2.8	53.9	38
Kenya	6.9	4.7	70.6	9	Georgia	2.1	1.5	40.5	39
Angola	7.3	4.2	63.3	10	Oman	1.7	2.2	42.8	40
Bahrain	2.3	5.1	124.7	11	Israel	1.1	2.2	57.6	41
South Africa	3.2	5.1	72.3	12	Paraguay	2.1	1.5	40.4	42
Jordan	2.7	4.4	87.9	13	Malaysia	0.4	2.4	67.0	43
Gabon	6.5	2.9	60.3	14	Uzbekistan	2.9	-0.2	33.9	44
Senegal	5.2	2.2	73.1	15	Guatemala	2.1	1.5	28.6	45
Namibia	2.7	5.0	68.5	16	Philippines	0.9	2.0	56.7	46
Rwanda	5.2	2.2	67.1	17	China	0.1	1.1	82.4	47
Ecuador	18.5	1.5	57.3	18	Poland	1.0	1.8	50.7	48
Colombia	3.3	4.3	62.0	19	Uruguay	0.8	1.3	62.3	49
Cote D'Ivoire	3.8	2.6	63.3	20	Indonesia	0.9	2.1	39.1	50
Costa Rica	2.3	5.1	63.5	21	Vietnam	1.3	1.0	36.3	51
Jamaica	1.9	5.1	77.9	22	Peru	1.3	1.5	33.0	52
Brazil	1.7	6.8	88.4	23	Azerbaijan	1.9	0.6	22.1	53
Dominican Rep.	3.0	3.2	58.3	24	Qatar	0.8	1.4	45.5	54
Nigeria	6.5	2.3	38.8	25	Chile	1.0	0.3	36.6	55
Ethiopia	38.8	0.6	37.6	26	South Korea	0.3	-0.1	55.3	56
Hungary	1.9	3.1	73.2	27	UAE	0.8	0.6	30.5	57
Morocco	2.1	2.3	68.3	28	Saudi Arabia	1.0	0.5	23.6	58
Armenia	2.6	2.9	49.3	29	Kazakhstan	0.1	1.0	25.9	59
Tajikistan	11.3	0.7	32.3	30	Kuwait	0.4	-12.8	3.0	60

Methodology: ¹Weighted average of the options-adjusted spread of the country's dollar bonds relative to comparable US treasuries, drawn from members of the Bloomberg Emerging Markets Sovereign TR Index. See BSSUTRUU Index and explore on PORT<GO>. ²Difference between the primary and overall budget balances, as projected by the International Monetary Fund. ³Gross general government debt, as projected by the IMF. Interest and debt figures for Ecuador and Honduras reflect 2022 estimates. ⁴Composite rank is drawn from the average ranking across the three indicators, with yields receiving double weight.

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THE DEBT TRAP IN A NUTSHELL DURING AND AFTER THE GLOBAL FINANCIAL CRISIS

« **Austerity + deficits** »

- ▶ Deficit shrinking with spending cuts + wage reduction + tight fiscal and monetary policy = **GDP fall** =
- ▶ solvency ratios worsening = **Rating downgrading** = Higher borrowing costs



« **Deficit-driven stop & go** »

- ▶ Large primary fiscal deficit = higher consumption = larger external deficit = larger unfunded financing requirements =
- ▶ GDP rises = « stop & go » =
- ▶ **Rating downgrading!** = Higher borrowing requirements



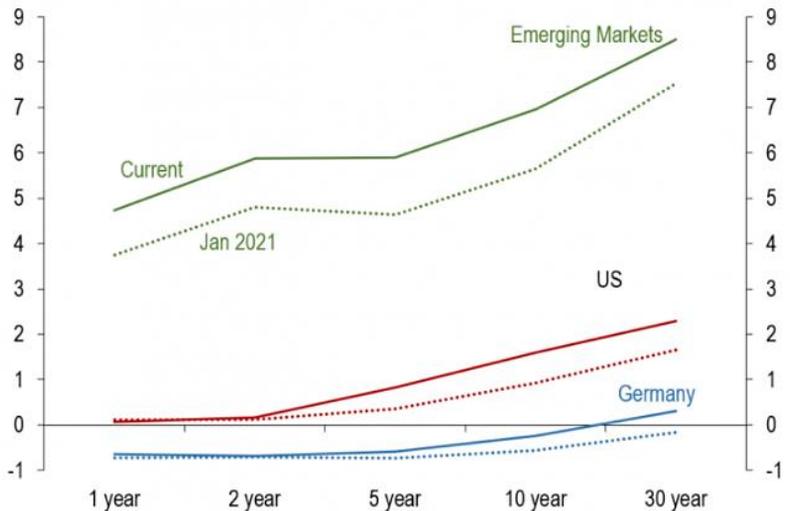
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FISCAL DEFICITS + LOOSE MONETARY POLICY = INFLATIONARY EXPECTATIONS + RISING INTEREST RATES 2022 AND BEYOND

Yields moving up

10-year US Treasury yield has increased 70 basis points in 2021. (global sovereign bond yield curves, in percent)



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Sources: Bloomberg and IMF staff calculations.

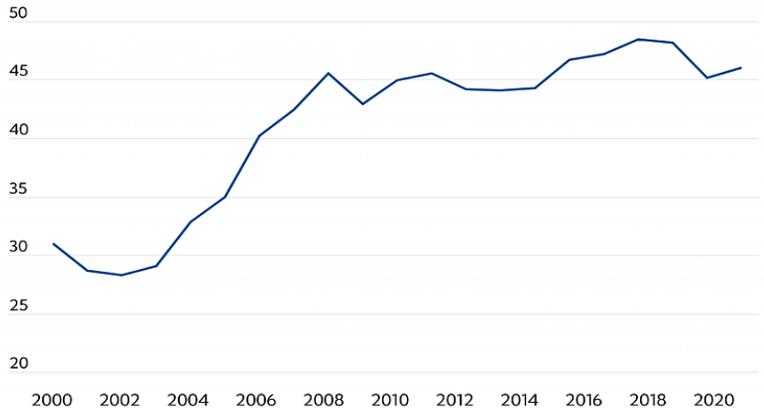
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DEBT CRISES DO NOT ALWAYS STEM FROM EXTERNAL INDEBTEDNESS!

THE RISE IN EMERGING COUNTRIES' DOMESTIC DEBT 2000-2021

Domestic debt

Over the past two decades the share of domestic debt in emerging market and developing economies (EMDEs) has risen from 31 to 46 percent of their total sovereign debt. (domestic debt as a percent of total debt)



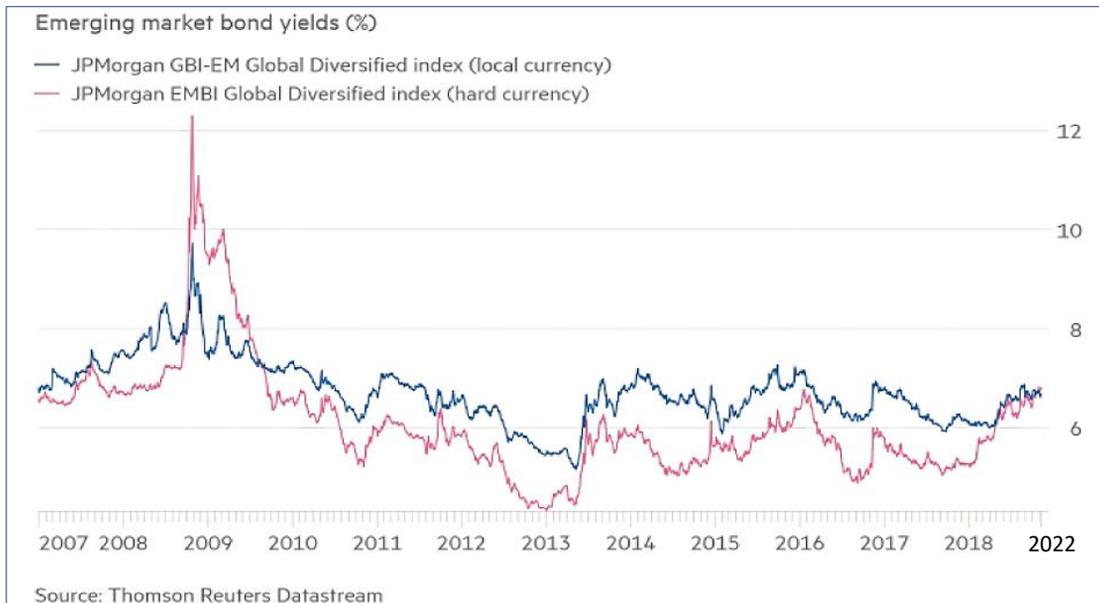
Source: IMF staff calculations.
Note: Values displayed are the median of domestic debt.



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REVERSAL IN THE HISTORIC GAP BETWEEN EM LOCAL CURRENCY BOND YIELDS AND SUPPOSEDLY SAFER US-DOLLAR BONDS



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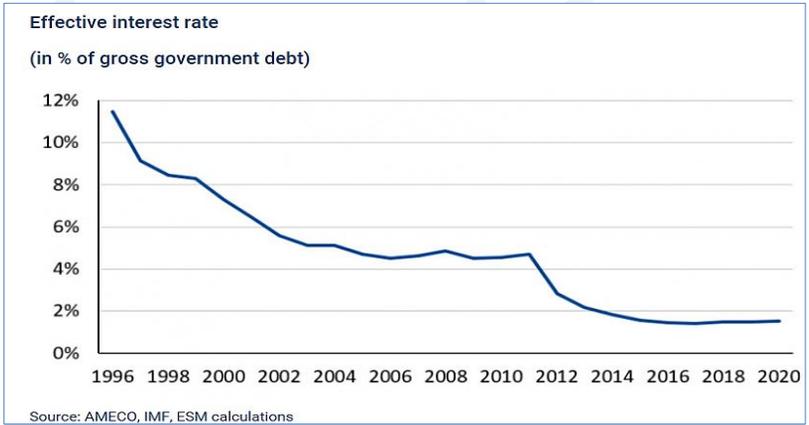
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GREECE'S NEW DEBT SUSTAINABILITY ENVIRONMENT

The much improved structure of Greek debt is due in large part to the ESM's and its predecessor, the EFSF's, very favourable lending terms and the liability management exercises.

The ESM holds **around 55% of Greece's public debt** and the weighted remaining maturity of the ESM/EFSF loans is **31 years** – much longer than that of the remaining debt stock.

Due to the low interest rate on these loans – thanks to the ESM's own low, AAA rated cost of funding – Greece's annual costs for servicing these loans is lower than expected for its total debt level. Thanks to the general decline in interest rates, the focus is less on the stock of debt (debt-to-GDP%) – but rather on budgetary flows and roll-over risks.

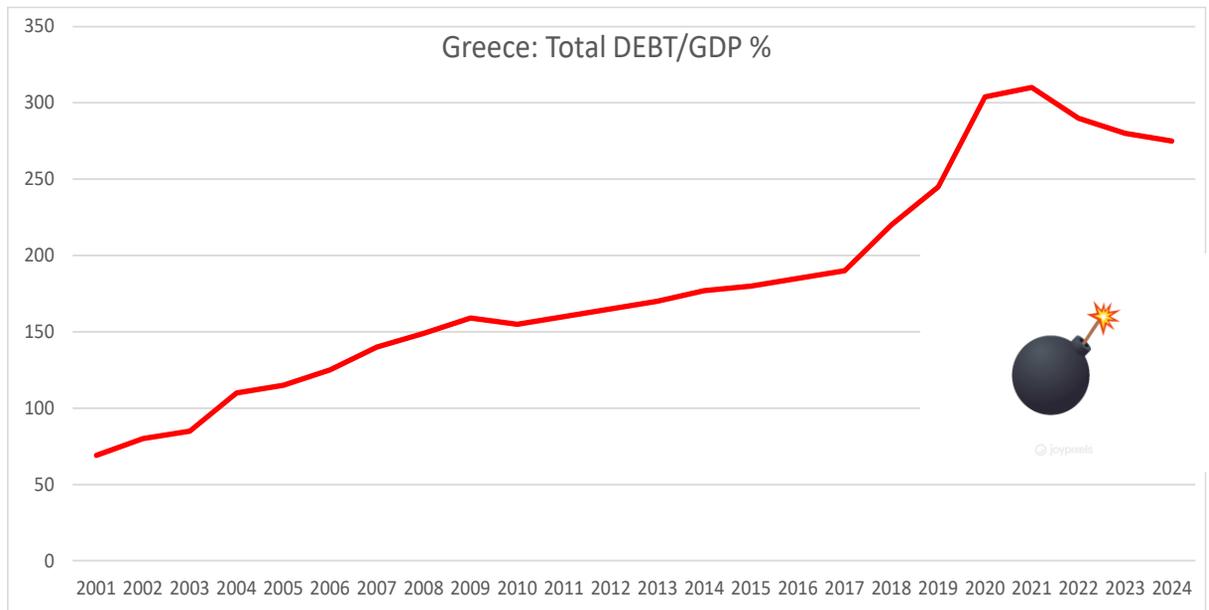


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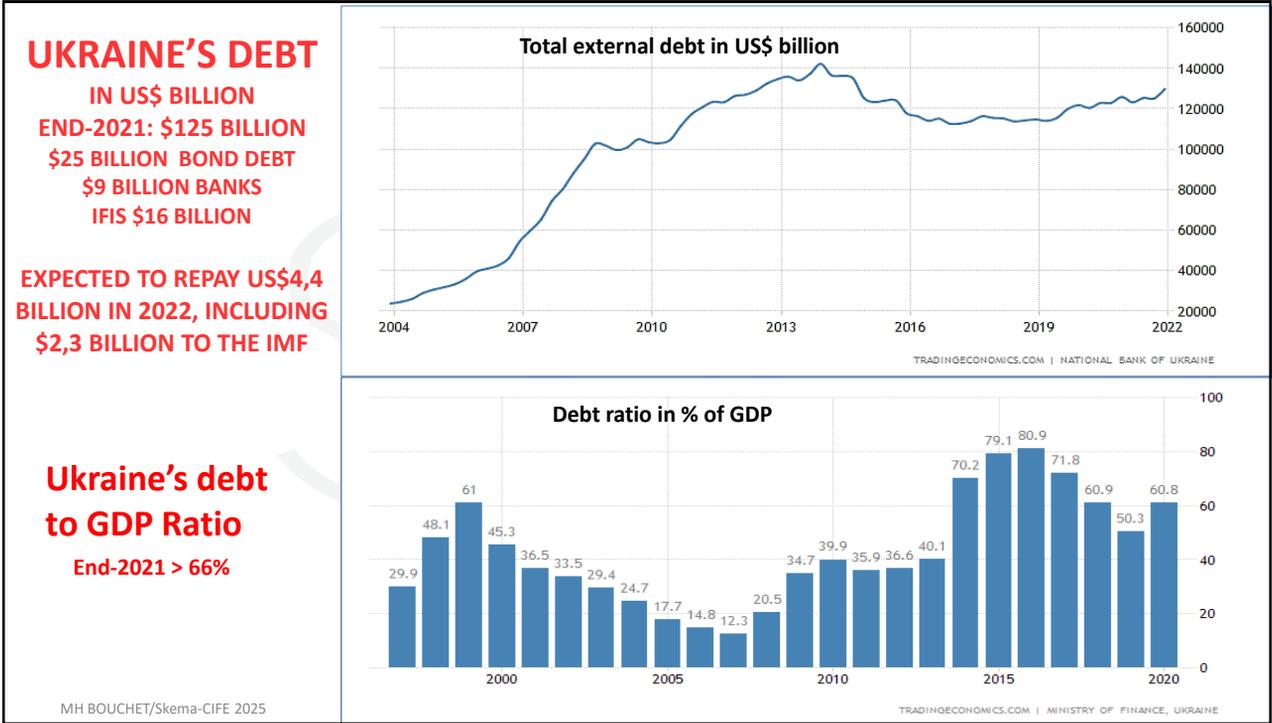
Source: IMF 2023

GREECE: PUBLIC DEBT/GDP 2000-2024



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UKRAINE'S DEBT AFTER DONBAS

Since the outbreak of the war in Donbas in 2014, IFIs engaged deeply in Ukraine.

Since 2014, the World Bank has lent US\$8.4bn,
 the IMF has loaned US\$17bn,
 and the European Commission has advanced at least €13bn.

Paris Club claims on Ukraine= \$5 billion
 Bonds US\$ 25 billion

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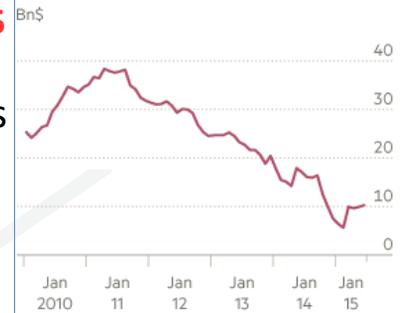
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UKRAINE'S ECONOMIC AND FINANCIAL CRISIS IN 2015

1. Widening budget and current account deficits
2. No more FDI
3. Economic recession
4. Massive depreciation of the hryvnia
5. Drop in official reserves (R/M = 3 months in 2015)
6. IMF emergency loan
7. External liquidity crisis! (Ext Debt/GDP= 131% in 2015)

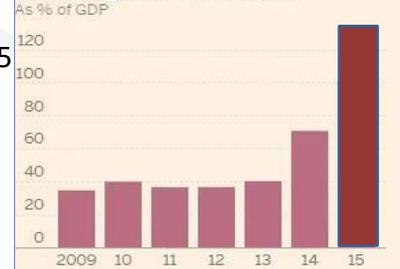
DANGER!

Ukraine foreign exchange reserves



Source: Thomson Reuters Datastream

Ukraine government debt



2015 - IMF forecast

Source: IMF

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UKRAINE'S DEBT RESTRUCTURING 09/2015

- ▶ 20% write off on \$18 billion of bonds, condition for the IMF to press ahead with 4-year \$40 billion package
- ▶ Main creditors: PTG Pactual, T Rowe Price, TCW, Franklin Templeton...
- ▶ Inclusion of GDP-linked instrument
- ▶ Between 2021-40 investors will receive up to 40% of the value of economic growth > 4%

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Ukraine 2015-16 A tough and expensive negotiation...



Recovery case: National Bank of Ukraine

1. Summons to pay to National Bank of Ukraine. No full payment followed
2. Concerted attachments were effectuated in France, Germany, Luxembourg and The Netherlands.
3. Assets attached > amount owed
4. Main legal proceedings initiated.
5. National Bank of Ukraine forced to the negotiating table to reach an amicable settlement.
6. A settlement agreement was signed between the creditor and the National Bank of Ukraine for the amount of USD 13 million (i.e. full principal amount *plus* overdue interest).

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UKRAINE'S EXTERNAL FINANCING FLOWS IN 2022-24

07/2020: IMF package of \$5 billion emergency short-term loan

07/2021: Sale of internationally marketed \$ & € bonds: \$517 million

02/2022: The U.S. government offered \$1 billion of loan guarantees

03/2022: €300 million from the EU + \$350 million loan from the World Bank

IMF = Ukraine's request for \$1.4 billion in emergency financing.

Ukraine also has \$2.2 billion available through 06/2022 under an existing IMF stand-by arrangement (mid-2020)

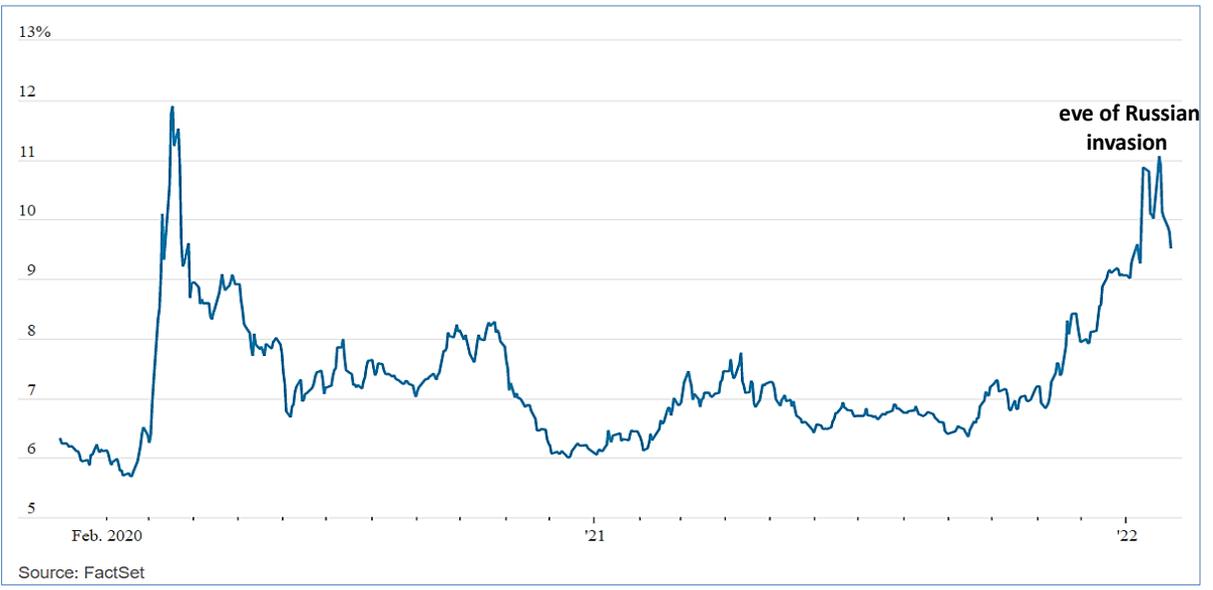
04/2022: \$1 billion bond due in 09/22 quoted around 50 cents on the dollar, while a \$2.6 billion bond due in 2032 was quoted at 31 cents, hence a **69%** discount!
(Fitch = CCC junk bond)

03 & 04/2022: 1-year LC **War Bonds** with 11% rate (guarantees?)

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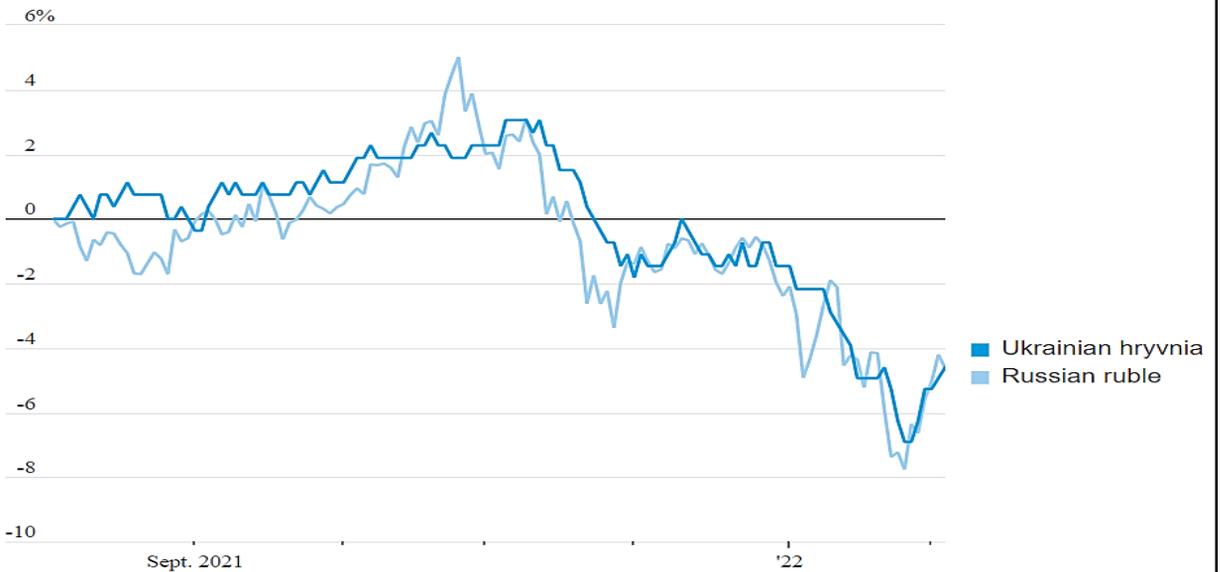
RISE AND FALL OF UKRAINE' LOCAL CURRENCY BOND YIELD



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DEPRECIATION OF THE RUBLE AND HRYVNIA AHEAD OF THE RUSSIAN INVASION

Ukrainian hryvnia and Russian ruble vs the U.S. dollar, percentage change

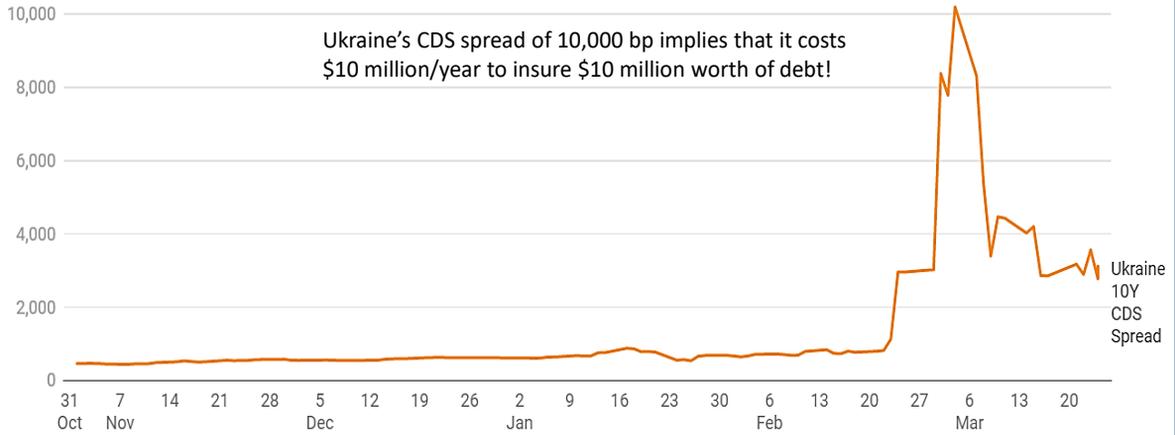


Source: Tullett Prebon

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UKRAINE'S DEBT : RISE IN CDS PRICES

Ukraine's CDS Spread Blow Out on Russian Invasion Fears (in bp)



Source: Bloomberg, BondEvalue • Created with Datawrapper

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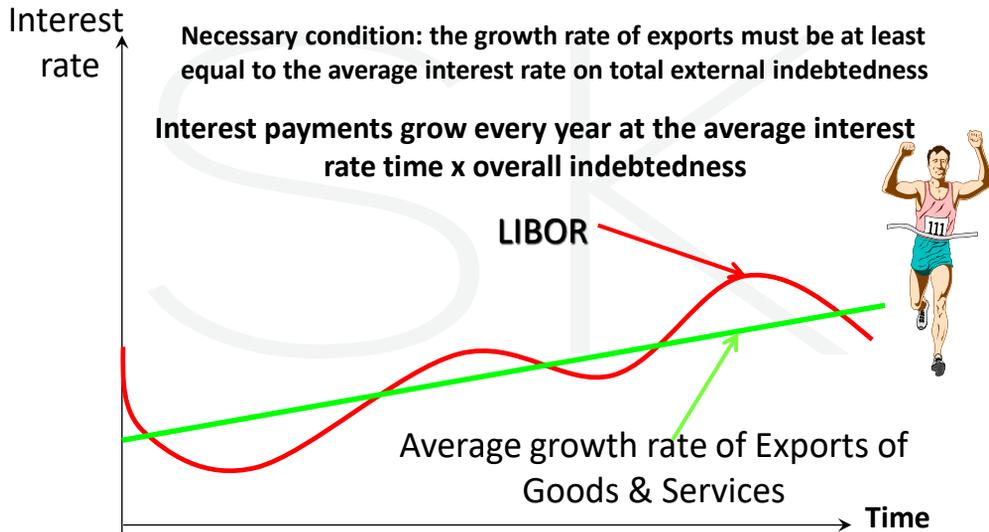
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EXTERNAL DEBT ANALYSIS I

How to stabilize the Interest/Export ratio?



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EXTERNAL DEBT ANALYSIS II

r = average rate of interest and g = average GDP growth rate

▶ $DEBT_t = DEBT_{t-1} * (1+r) - \text{Primary Budget Balance}$

▶ $GDP_t = GDP_{t-1} * (1 + g)$

▶ $\frac{DEBT_t}{GDP_t} = \frac{DEBT_{t-1} * (1+r) - \text{Primary Budget Balance}}{GDP_{t-1} * (1+g)}$

$\frac{DEBT}{GDP_t} = \frac{DEBT}{GDP_{t-1}} * \frac{1+r}{1+g} - \frac{\text{Primary Budget Balance}}{GDP}$

Reducing DEBT= Reducing r, increasing g, or boosting primary surplus

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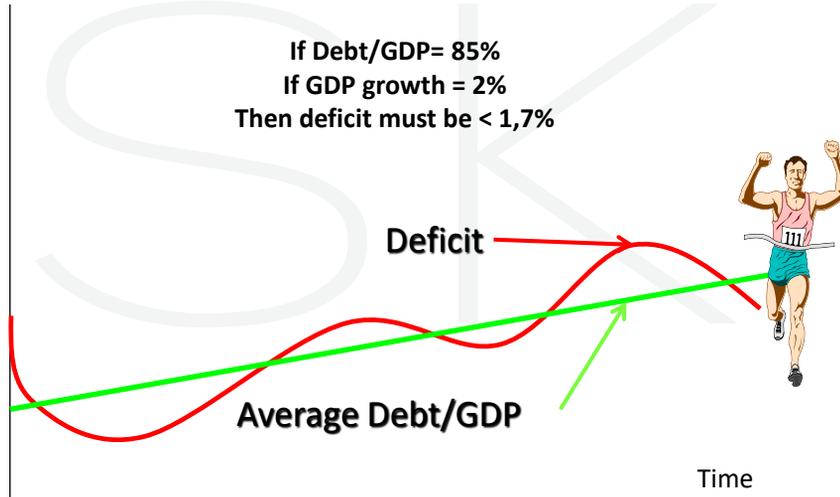
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EXTERNAL DEBT ANALYSIS III

How to stabilize the Debt/GDP ratio?

Necessary condition: Deficit must be < (Debt/GDP * GDP growth rate)

If Debt/GDP= 85%
If GDP growth = 2%
Then deficit must be < 1,7%



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External Debt Analysis IV

How to stabilize the Debt/GDP ratio?

Necessary condition: Deficit must be < (Debt/GDP * GDP growth rate)

g = growth rate of GDP and d = deficit/GDP ratio

$$DEBT_t = DEBT_{t-1} + DEF_{t-1} \quad DEF = d * Y_t \quad \Delta Y_t = Y_{t-1} (1+g)$$

$$\frac{DEBT_t}{Y_t} = \frac{DEBT_{t-1}}{Y_t} + \frac{d * Y_{t-1}}{Y_t}$$

$$\frac{DEBT_t}{Y_t} = \frac{DEBT_{t-1}}{Y_{t-1}} * \frac{Y_{t-1}}{Y_t} + \frac{d}{1+g}$$

$$= \left(\frac{1}{1+g} \right) * \frac{DEBT_{t-1}}{Y_{t-1}} + \frac{d}{1+g} = \frac{d/1+g}{1 - (1/1+g)} = \frac{d}{g}$$

So, if DEBT/Y < 120%, DEF should be < 3% for a 2,5% GDP growth rate

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