

# FROM COUNTRY RISK, TO VOLATILITY, TURMOIL AND CRISIS

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- ▶ Paris Club 2020
- ▶ IIF 2020
- ▶ IMF yearly report and WEO 2020
- ▶ US Treasury and US FFIEC 2020
- ▶ BIS reports 2019-20
- ▶ C-Bonds website
- ▶ Lee Buchheit: <https://www.iffr.com/Article/3866554/Q-A-with-sovereign-debt-legend-Lee-Buchheit.html>
- ▶ [file:///C:/Users/bouchetm/Downloads/chapter-8-the-debt-restructuring-process%20\(1\).pdf](file:///C:/Users/bouchetm/Downloads/chapter-8-the-debt-restructuring-process%20(1).pdf)
- ▶ <https://www.youtube.com/watch?v=U1HZik7swFI>

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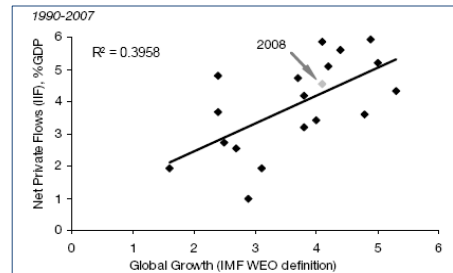
## EXTERNAL DEBT ANALYSIS

### 5 Objectives:

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

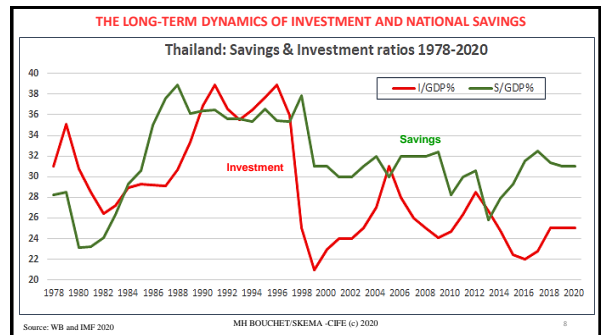
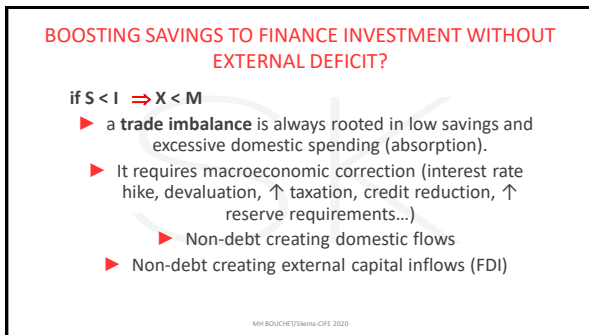
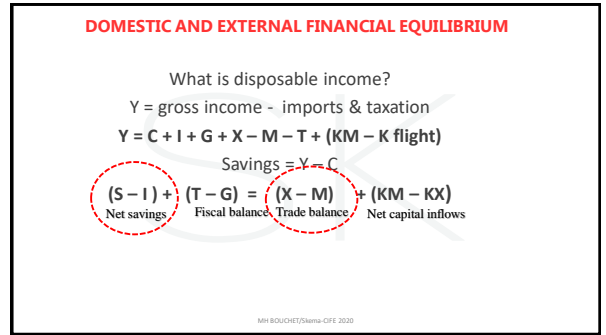
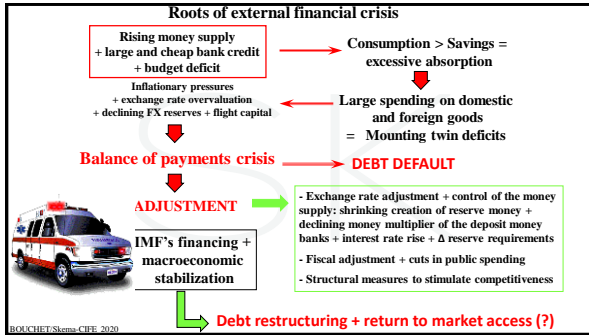
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## EXTERNAL FINANCING HELPS BOOSTING GDP GROWTH



IIF, Washington, D.C.


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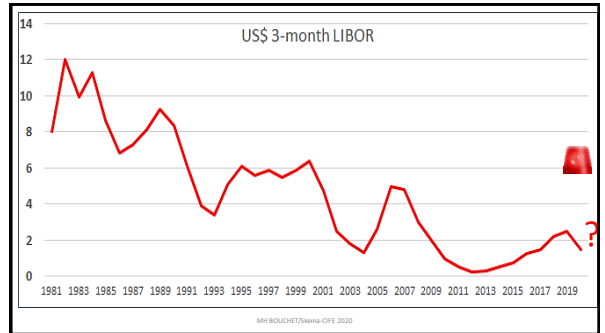
### THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

- + Export of goods f.o.b.
- Imports of goods f.o.b.
- = **Trade balance**
- + Exports of non-financial services
- Imports of non-financial services
- + Investment income (credit)
- **Interest payments**
- + Private unrequited transfers
- + Official unrequited transfers
- = **Current account balance**

From less liquid items toward more liquid items!





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### Capital account

- + (-) Direct investment (non debt creating flows)
- + (-) Portfolio investment (NDCF)
- + **LT capital inflows (private + official)**
- **LT debt repayments (bonds/loans)**
- + **ST capital inflows (private + official)**
- **ST debt repayments**
- + (-) Net errors and omissions
- + (-) Counterpart items
- + (-) Change in reserves
- = **Capital account balance**
- + Exceptional Financing (or arrears)

From less liquid items to more liquid items!

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### WHY/WHEN DOES A FINANCIAL CRISIS ERUPT? GROSS AND NET FLOWS

- ▶ **Gross Capital Inflows** =  $\Sigma$  Long-term + Short-term capital flows
- ▶ **Net Flows** =  $\Sigma$  Gross Inflows - Debt Repayments
- ▶ **Net Transfers** =  $\Sigma$  Net Flows - Interest Payments
- ▶ **Total debt service payments** =  $\Sigma$  Debt payments + Interest payments

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### RISK MANAGEMENT AND BOP ANALYSIS

- + Export of goods f.o.b.
- Imports of goods f.o.b.
- = **Trade balance**
- +/- Exports/Imports of non-financial services
- Interest payments
- + Investment income (dividends) credit/(debit)
- + (-) Private/Official unrequited transfers
- = **Current account balance**
- +/- **FDI**
- +/- **Portfolio capital Flows**
- + **LT Capital Inflows**
- **Debt Servicing Payments**
- +/- **ST Capital Flows**
- +/- **Reserve Variation**

Hello CIFE Master Students! HELP!

	2016	2017
Foreign Direct Investment	375	100
Imports of Goods	-4650	-5250
Long-term capital inflows	1225	1300
Portfolio Investment (net)	200	150
Reserve variation		
Short-term capital payments	-465	-1200
Private unrequited transfers	125	100
Net Errors and omissions	-275	-950
Official unrequited transfers	300	125
Long-term capital payments	-985	-1200
Short-term capital inflows	325	1000
Service Income (net)	625	500
Current account balance		
Trade balance	900	-1100
Interest Payments	-1750	-1855
Exports of Goods		
Note: Country GDP: 15000 (end-2017)		
Official Reserve Assets (end-2015): 8500		
External Debt Stock (end-2015): 17000		

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Good Job!  
Now calculate the DSR and the Reserve ratios!

	2016	2017
Exports of Goods	5550	4150
Imports of Goods	-4650	-5250
Trade balance	900	-1100
Service Income (net)	625	500
Interest Payments	-1750	-1855
Official unrequited transfers	300	125
Private unrequited transfers	125	100
Current account	200	-2230
Portfolio Investment (net)	200	150
Foreign Direct Investment	375	100
Long-term capital inflows	1225	1300
Long-term capital payments	-985	-1200
Short-term capital inflows	325	1000
Short-term capital payments	-465	-1200
Net Errors and omissions	-275	-950
Reserve variation	-600	3030

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Very good job!

	2017
DSR (P+I) / XGS	92%
Liquidity Int/Exports of GS	40%
SOLVENCY	113%
Reserves 2016	8190
Reserves 2017	3070
Gross inflows	1050
Net inflows	-1350
Net transfers	-3205
R/M in months	7.02
Trade Ratio end-2017	66%
DSR end-2017	92%
Current account/GDP end-2017	-15%
Reserve level end-2017	3070
Reserve ratio	-7
Average rate	-11%
External debt 2017	17000

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## EXTERNAL DEBT ANALYSIS

**FLOWS:** Balance of payments analysis and capital flight

- ▶ Liquidity
- ▶ Sustainability of debt strategy (refinancing, market access, rescheduling, restructuring) → **Liquidity**

**STOCKS:** Structure of debt by creditors, maturity (ST/LT), currency and interest rates (fixed/floating)

- ▶ Mismatch (interest rate, currency, maturity) → **Solvency**
- ▶ Solvency ratios
- ▶ London Club debt : secondary market discounts
- ▶ Spread/margin over US T Bills and CDS

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## EXTERNAL DEBT ANALYSIS: THE DUAL FACE OF COUNTRY RISK

### Liquidity Risk

- ▶ Debt Service Ratio: (P+I/X)
- ▶ Interest Ratio (I/X)
- ▶ Current account/GDP
- ▶ Growth rate of exports/ Average external interest rate

### Solvency Risk

- ▶ Debt/Export ratio
- ▶ Debt/GDP ratio
- ▶ Debt/Reserves
- ▶ ST Debt/Total Debt
- ▶ ST Debt/Reserves
- ▶ Reserve/Import ratio

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## LIQUIDITY AND SOLVENCY THRESHOLDS

### Flow variable

- ▶ **Liquidity** = Debt Service ratio < 33% of X Interest/X ratio < 25%

### Stock variable

- ▶ **Solvency** = Debt/GDP < 66%\*
- Debt/Exports < 150%
- Reserves/months of Imports > 6 months

\* average debt crisis threshold 1970-2010 Reinhart/Rogoff (Maastricht)

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## SOURCES OF EXTERNAL FINANCING

### Official (bilateral + multilateral)

- Paris Club (government to government credits)
- Export insurance credit
- IFIs
- RDBs
- Debt cancellation

### Private

- FDI
- Portfolio Investment
- London Club (International bank loans)
- Working capital lines
- ST Trade credits
- Bonds & International debt securities
- Arrears and rescheduling

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**TWO COUNTRIES = TWO DEBT TRAJECTORIES**

**Solvenca**  
Public Debt/GDP= 100%

- ▶ Diversified export base
- ▶ Diversified markets
- ▶ Mainly official creditors
- ▶ Long-term maturities= 12 years
- ▶ Fixed rate for 80% of debt
- ▶ Similar currency structure X revenues/liabilities = no mismatch!

**Liquidia**  
Public Debt/GDP= 100%

- ▶ Main export: hydrocarbons
- ▶ One main export destination: EU
- ▶ X revenues in € /debt payments in \$
- ▶ Average debt maturity: 3 years
- ▶ 66% of debt on floating rates
- ▶ Large and growing private debt (corporate, bank and households)
- ▶ Large reliance on private capital markets

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**NORTH SEA GLOBAL EQUITY MANAGEMENT**

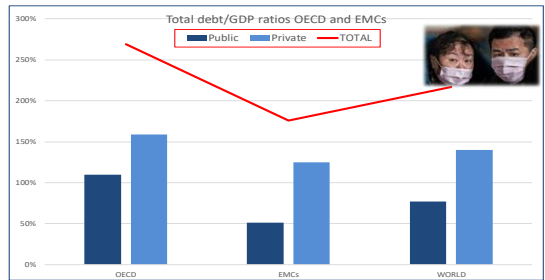
Risk Categories	I no.	Indicators	Risk Assessment	Data Frequency	Source
1. Real Economy	1	GDP growth rate - %	performance	quarterly	WB
	2	Budget Deficit/GDP - %	overheating	quarterly	WB/IMF
	3	REER 2005=100	competitiveness	quarterly	BIS
	4	Credit growth %	overheating	quarterly	WB/IMF
	5	CPI%	overheating	quarterly	IMF & CB
2. External Finance	6	current account/GDP - %	competitiveness	quarterly	IMF&IIF
	7	DSR - % XGS	liquidity	quarterly	IMF&IIF
	8	Ext. Debt/Exports %	liquidity	quarterly	IMF&IIF
	9	Ext. Debt/GDP - %	solvency	quarterly	IMF&IIF
	10	Reserves coverage - months	liquidity	quarterly	IMF&IIF
	11	Net Ext Liabilities/GDP%	sustainability	quarterly	BIS/IMF
	12	Reserves/ST DEBT - %	liquidity	quarterly	IMF
3. Spill-over	13	Trade openness ratio - %	performance	quarterly	WB
	14	Capital Flight / Reserves - %	capital flight	quarterly	BIS
4. Risk Ratings	15	5-year CDS	default	weekly	Bloomberg
	16	Corruption Index	governance	annual	TI
	17	Credit Rating	risk assessment	randomly	S&P
	18	Human Developpt Index	governance	annual	UNDP
	19	Dolma Business Index	performance	annual	WB

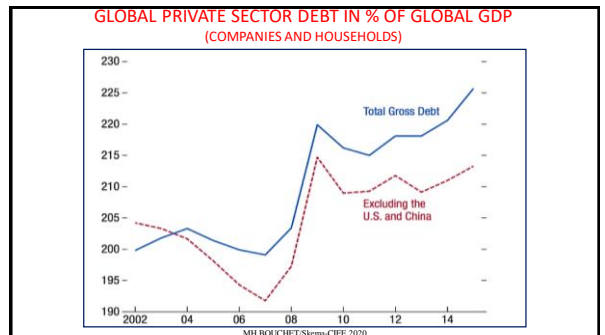
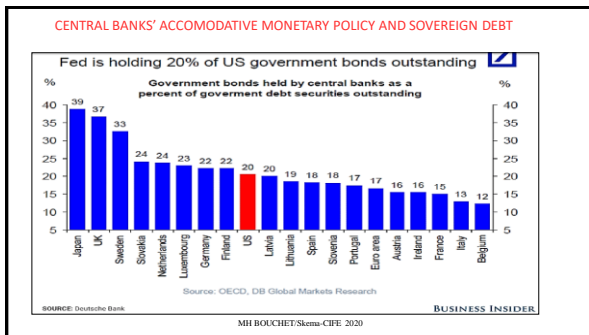
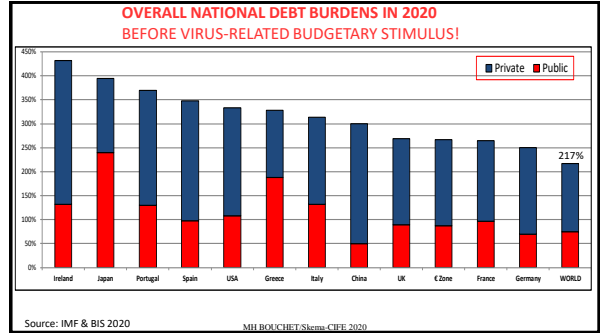
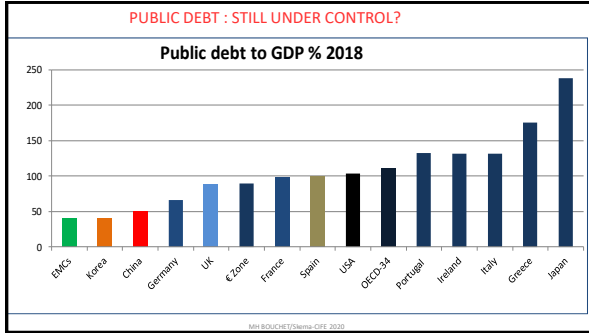
**FX RESERVES AS BUFFER OF LIQUIDITY CRISIS**

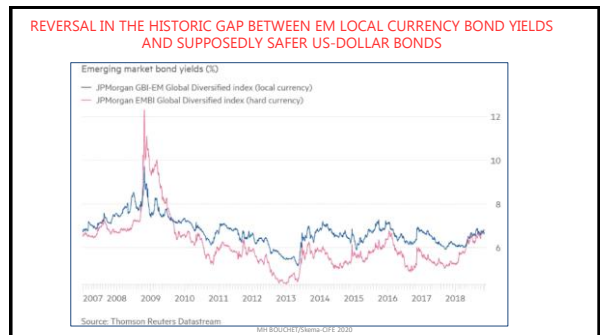
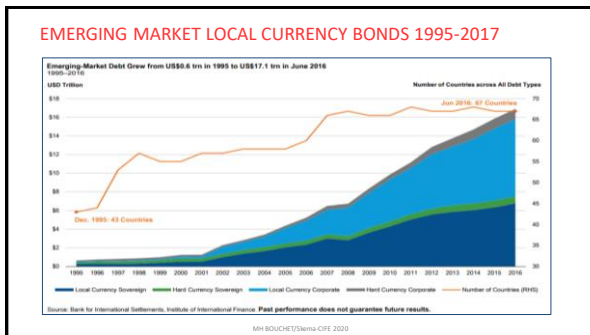
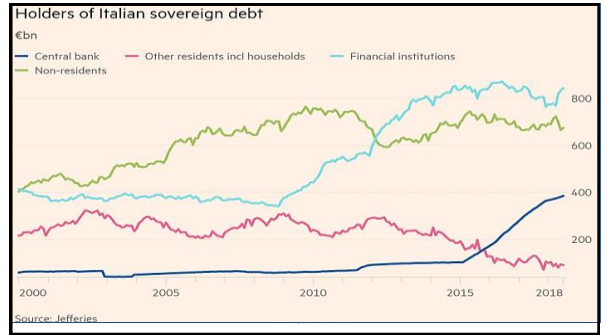
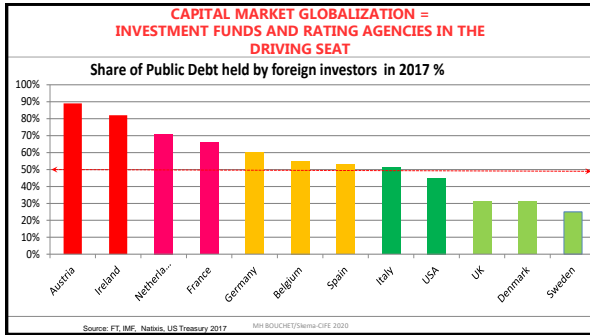
	FX Reserves as % of short term debt	FX reserves as % of GDP
India	427%	15%
China	399%	27%
Mexico	334%	16%
Korea	330%	26%
Taiwan	277%	82%
Switzerland	63%	96%
Japan	45%	23%
Canada	13%	5%
Italy	5%	2%
UK	2%	4%
Germany	2%	1%
France	2%	2%

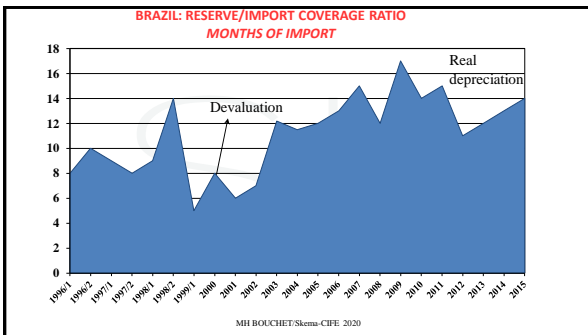
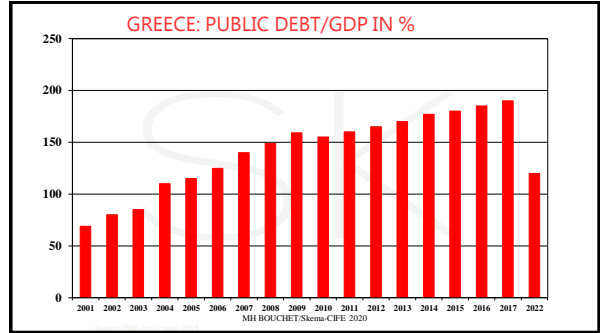
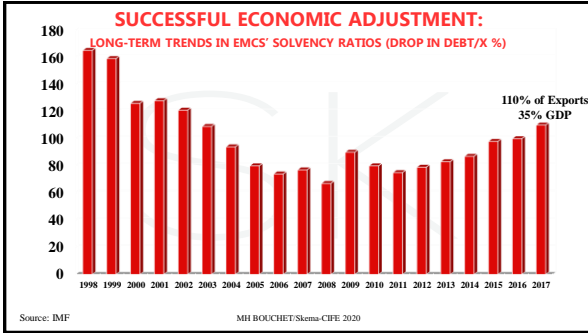
Reserves and GDP for 2016, short-term debt as of 2016Q3  
Sources: National Authorities; World Bank; International Monetary Fund; Haver Analytics

**WORLD INDEBTEDNESS IN 2020**









### EXTERNAL FINANCING PROFILES

RATIOS	VIETNAM	GABON	ECUADOR
1. CA/GDP	+2%	-4%	2%
2. Debt/GDP	50%	45%	35%
3. Coface	B	C	C
4. GDP pc \$	2200	7700	6500
5. R/M	2	5	2
6. FDI/GDP	8%	8%	<1%
7. Doing Bus	82	164	114

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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

$$\text{DEBT}_t = \text{DEBT}_{t-1} + \text{DEF}_{t-1} \quad \text{DEF} = d * Y_t \quad \Delta Y_t = Y_{t-1} (1+g)$$

$$\frac{\text{DEBT}_t}{Y_t} = \frac{\text{DEBT}_{t-1} + d * Y_{t-1}}{Y_t}$$

$$\frac{\text{DEBT}_t}{Y_t} = \frac{\text{DEBT}_{t-1}}{Y_{t-1}} * \frac{Y_{t-1}}{Y_t} + \frac{d}{1+g}$$

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

So, if  $\text{DEBT}/Y < 120\%$ ,  $\text{DEF}$  should be < 3% for a 2.5% GDP growth rate

MH BOUCHET/Skema (c) 2017

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