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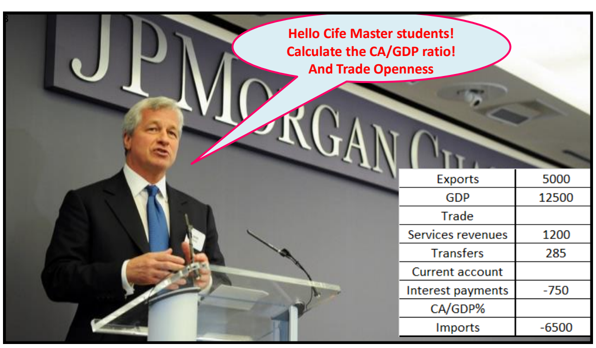
THE BALANCE OF PAYMENTS II
CURRENT ACCOUNT DEFICIT ADJUSTMENT

CIFE SEMINAR NICE MAY 6-8, 2020

MICHEL-HENRY BOUCHET



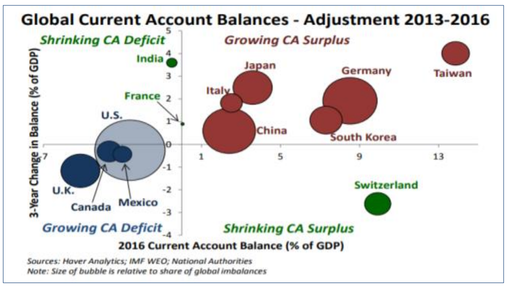
Exports	5000
GDP	12500
Trade	
Services revenues	1200
Transfers	285
Current account	
Interest payments	-750
CA/GDP%	
Imports	-6500

THE CURRENT ACCOUNT OF THE BALANCE OF PAYMENTS

From less liquid items toward more liquid items!

\+ 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**

ADJUSTING CURRENT ACCOUNT IMBALANCES?



Source: US Treasury Report 2017

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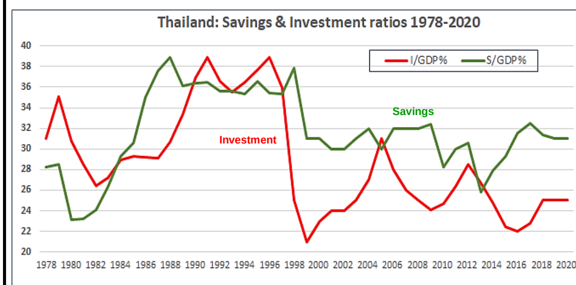
THE LONG-TERM DYNAMICS OF INVESTMENT AND NATIONAL SAVINGS



Source: WB and IMF 2020

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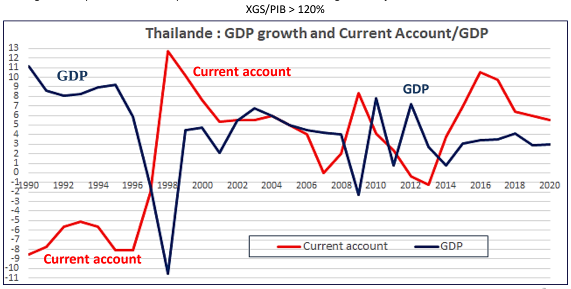
Thailand in the Global Economy

Large trade openness leads to spectacular current account and growth adjustment after 1998 crisis Σ

XGS/PIB > 120%



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POLICY TOOLS TO FIGHT A BOP DEFICIT?

- Reducing absorption and boosting income with:

1. Tight monetary policy (increase in interest rates and higher bank reserve requirements)
2. Exchange rate adjustment
3. Tight fiscal policy (taxes and spending cuts)
4. Cooling down the overheated economy by reducing private consumption and shrinking public expenditures… at the risk of killing growth?
5. Boosting competitiveness and improving productivity?

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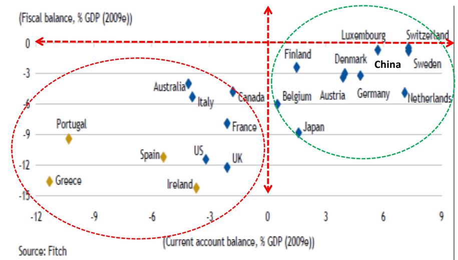
FACTORS AFFECTING A CURRENT ACCOUNT DEFICIT

- **1. National income variation: economic overheating**
  - growth/contraction relative to other countries
    - current account surplus decreases (deficit increases)
    - greater wealth implies greater demand of foreign goods (e.g. US econom growth)
- **2. Inflation and its impact on trade competitiveness: "CPI differentials"...**
    - Higher CPI leads to increased imports and decreased exports due to eroded competitiveness

LARGE DOMESTIC PRIVATE + PUBLIC CONSUMPTION= OVERHEATING= TWIN DEFICITS



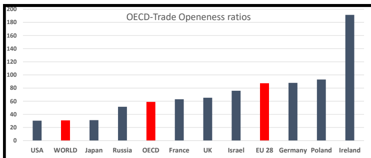
Source: Fitch

FACTORS AFFECTING A CURRENT ACCOUNT

- **3. Government restrictions**
  - Import tariff (tax on imported goods)
    - increases prices & lowers demand on imported goods
    - increases current account of the country
    - US tariffs on apparel and farm products
    - "banana war": exports from European former colonies (Africa-Caribbean-Pacific): USA entitled to impose US$191 million sanctions on Europe
    - Non-tariff barriers (health norms and regulations) and quotas:
    - Export and loan Subsidies

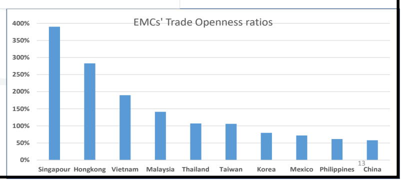
FACTORS AFFECTING A CURRENT ACCOUNT

- **4. Exchange rates**
  - = currency valued in terms of another currency
  - = stronger exchange rate (overvaluation) might lead to lower exports, decrease in current account surplus, or rising deficit
    - exported goods would cost more for foreign importers, thus decreasing demand for the good
    - assuming price-elastic goods (sensitive to price changes!?)
    - Stronger Euro and weaker US$ throughout 2003-08 mean export-led recovery in the US and gloomy growth scope in Europe! Only advantage: no imported inflation due to rising oil prices
    - Trump considers that the Yuan, the Yen and the Euro are too weak!



TRADE OPENNESS RATIO

(X+M/GDP%)



1. CORRECTING A TRADE DEFICIT?

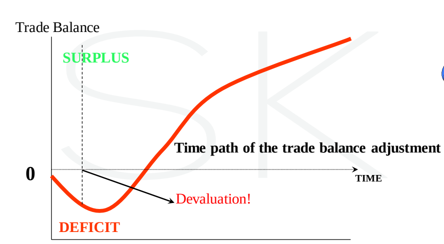
▶ **Impact of domestic currency devaluation**
- prices should increase for imports
  - foreign exporters may reduce price to maintain market share
- other currencies may also weaken to stay competitive
  - no net gain from weaker domestic currency
- international trade contracts create a lag effect
  - 18+ month lag exists in US
- intra-company trade is resistant to currency fluctuations
  - 50% of all international trade
  - 60% of European exports are intra-European transactions

HOW TO SHRINK A TRADE DEFICIT?

▶ **Boosting Exports?** depends on the price elasticity of foreign demand but also on the supply elasticity of exported products at home

▶ **Reducing Imports**? depends on relative share of "incompressible" imports (foodstuffs, energy resources, capital goods, machinery, any import for re-export…), but also on the price elasticity of domestic demand

TIME LAGS, ELASTICITIES AND THE ADJUSTMENT MECHANISM: "**J CURVE**"



TRADE ELASTICITIES

What about the price effects of exchange rate changes on the BOP?

- **Import demand elasticity** to prices =
  $\Delta MD / \Delta P\$ < 0$
- **Export elasticity** to exchange rate change =
  $\Delta X / \Delta P\$ > 0$
- **Supply elasticity** to increased export demand =
  $\Delta S / \Delta XD > 0$?

This elasticity depends on the availability of finance, equipment, (imported) inputs, labor...

- Terms of trade (deterioration post devaluation): it takes more units of Exports to buy x units of imports

DEVALUATION: THE DAY AFTER ?

KEY ROLE OF ELASTICITIES = RATIO OF TWO VARIATIONS

Supply elasticities

- $\dfrac{\Delta\ +\text{Domestic production}}{\Delta\ +\text{Foreign demand}}$

Demand elasticities

- $\dfrac{\Delta\ -\text{Domestic consumption}}{\Delta +\text{Import prices}}$

$\dfrac{\Delta\ +\text{Foreign demand}}{\Delta\ -\text{export prices}}$

REDUCING THE TRADE DEFICIT?

- Import elasticity of domestic economic growth

$\Delta M / \Delta Y$ = Income elasticity of demand for imports: percentage of (induced) change in imports divided by the percentage of change in income: if M double while Y is growing 50%, **the value of income elasticity = 2**.

TIME LAGS, ELASTICITIES AND THE ADJUSTMENT MECHANISM

The J-Curve and **Marshall-Lerner** conditions:

- A devaluation will improve the trade balance if the **sum** of price elasticities of imports and exports is > 1

- In the long-term, if goods exported are elastic to price, export revenue will increase if foreign export demand increases proportionately more than the decrease in price. If goods imported are elastic, total import expenditure will decrease. Both will improve the trade balance!

To boost export competitiveness, what should a country's central bank devalue?

The nominal exchange rate or the real effective exchange rate?

REAL EXCHANGE RATES

▶ The RER is the product of the nominal exchange rate between two currencies and the ratio of prices

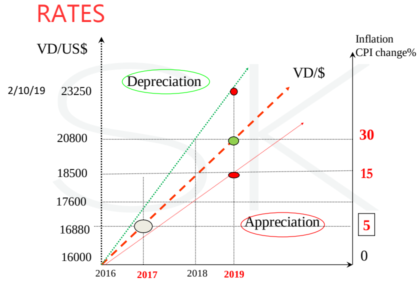
$$RER = NR \times \frac{Px}{Py}$$

If the €/$ exchange rate is 1€= 1,5 $, and if average prices for the same basket of goods are 2,5 € in the EU and 3,70$ in the US,
then the **RER = 1**

RER €/$= 1,5 * (2,5/3,7)

See: Finance & Development, September 2007, pp. 46-47.

NOMINAL AND REAL EXCHANGE RATES



MEASURING COUNTRY COMPETITIVENESS?
NOMINAL AND REAL EFFECTIVE EXCHANGE RATES

▶ **Nominal EERs**= geometric weighted averages of bilateral exchange rates (weighted by trading shares)

▶ **Real EERs** = weighted averages of bilateral exchange rates adjusted by **relative prices.**

$$REER_{country\ i} = \sum_{j=1}^{N} \text{trade weight (country j)} \times \text{Real Exchange Rate (country j)}$$

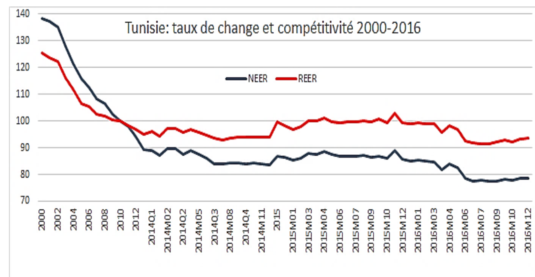
country j=1,2,...N are country i's trading partners, exchange rates in natural logarithms (geometric averages)

REAL EFFECTIVE EXCHANGE RATES

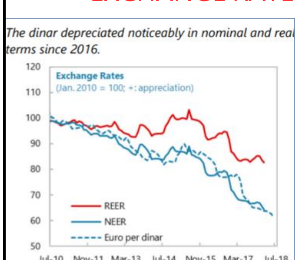
- **Real**: inflation- adjusted exchange rate
  ex.: will the devaluation fully offset inflation in country x?

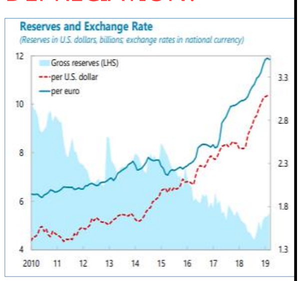
- **Real Effective**: exchange rate adjusted for inflation-differential with **major trading partners**: a tool of exchange rate management policy (e.g. Mexico)

TUNISIA: NOMINAL AND REAL EFFECTIVE EXCHANGE RATES



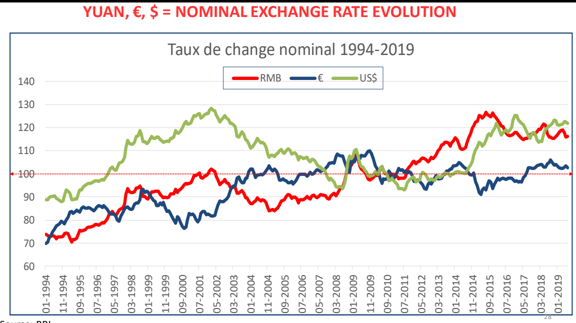
EXCHANGE RATE DEPRECIATION?



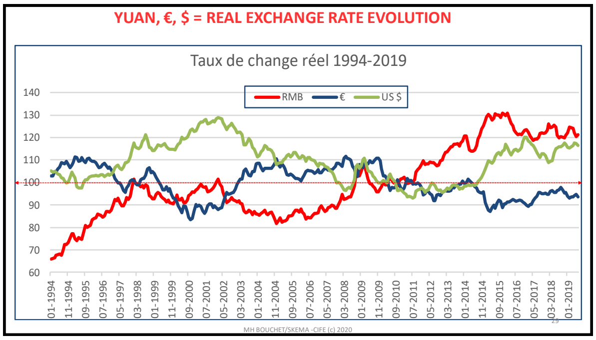


http://data.imf.org/regular.aspx?key=60998108

YUAN, €, $ = NOMINAL EXCHANGE RATE EVOLUTION



Source: BRI


YUAN, €, $ = REAL EXCHANGE RATE EVOLUTION
Taux de change réel 1994-2019
RMB
€
US $
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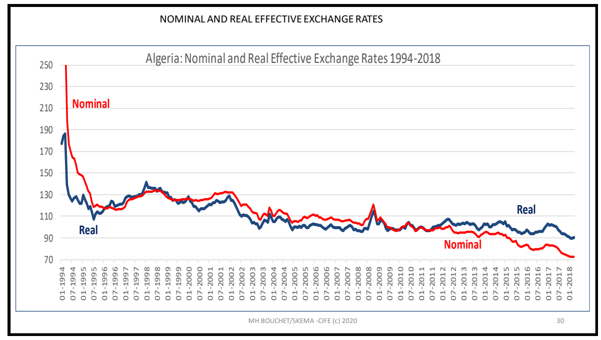
NOMINAL AND REAL EFFECTIVE EXCHANGE RATES
Algeria: Nominal and Real Effective Exchange Rates 1994-2018
Nominal
Real
Real
Nominal
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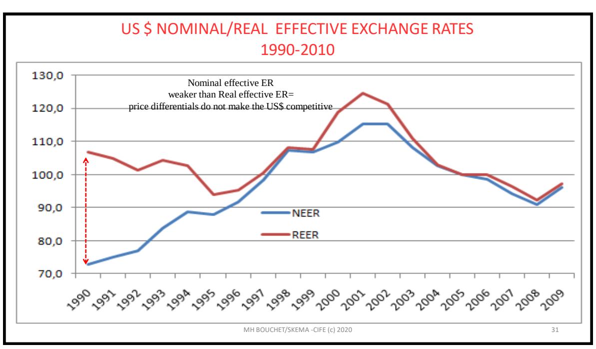
US $ NOMINAL/REAL EFFECTIVE EXCHANGE RATES
1990-2010
Nominal effective ER
weaker than Real effective ER=
price differentials do not make the US$ competitive
NEER
REER
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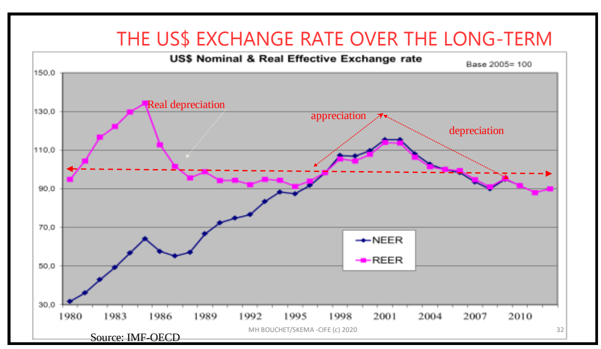
THE US$ EXCHANGE RATE OVER THE LONG-TERM
US$ Nominal & Real Effective Exchange rate
Base 2005= 100
Real depreciation
appreciation
depreciation
NEER
REER
Source: IMF-OECD
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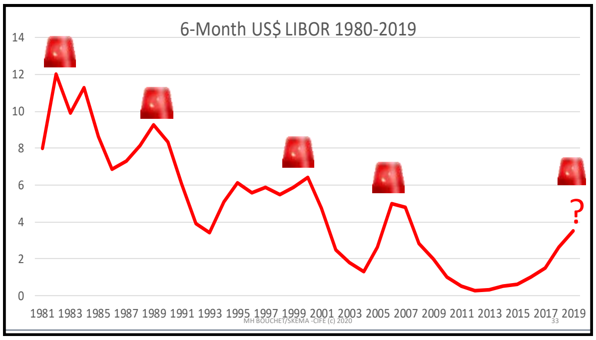
6-Month US$ LIBOR 1980-2019
14
12
10
8
6
4
2
0
?
1981 1983 1985 1987 1989 1991 1993 1995 1997 1999 2001 2003 2005 2007 2009 2011 2013 2015 2017 2019
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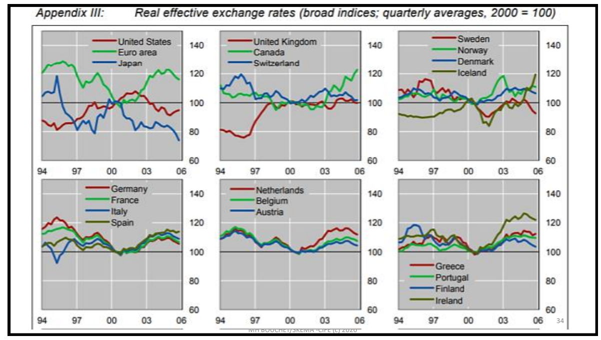
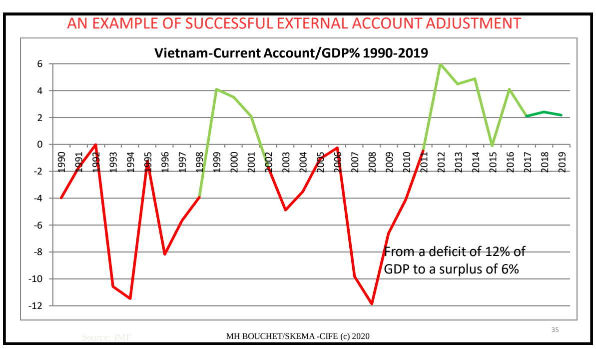

Appendix III: Real effective exchange rates (broad indices; quarterly averages, 2000 = 100)
United States
Euro area
Japan
United Kingdom
Canada
Switzerland
Sweden
Norway
Denmark
Iceland
Germany
France
Italy
Spain
Netherlands
Belgium
Austria
Greece
Portugal
Finland
Ireland
140
120
100
80
60
94 97 00 03 06
34


AN EXAMPLE OF SUCCESSFUL EXTERNAL ACCOUNT ADJUSTMENT
Vietnam-Current Account/GDP% 1990-2019
6
4
2
0
-2
-4
-6
-8
-10
-12
1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
From a deficit of 12% of
GDP to a surplus of 6%
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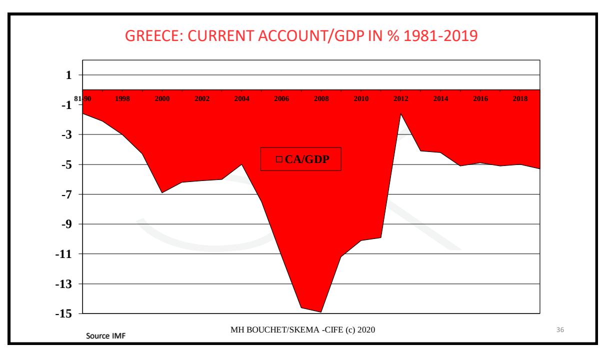
GREECE: CURRENT ACCOUNT/GDP IN % 1981-2019
1
-1
-3
-5
-7
-9
-11
-13
-15
CA/GDP
Source IMF
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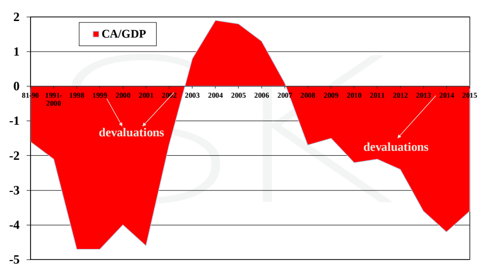
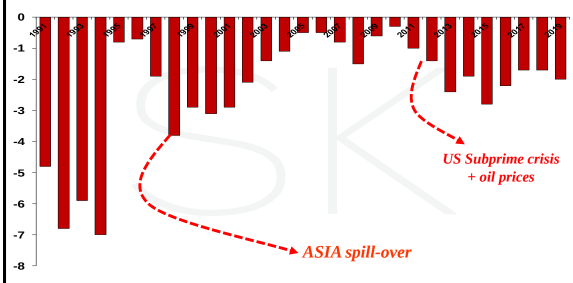
BRAZIL: CURRENT ACCOUNT/GDP IN %



IMF 2015

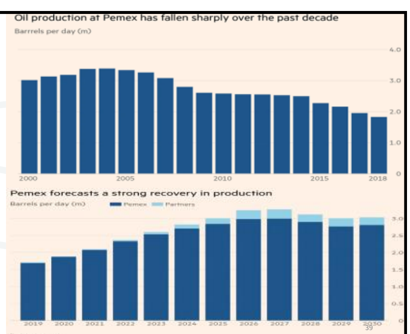
MEXICO : CURRENT ACCOUNT BALANCE/GDP RATIO % 1990-2019



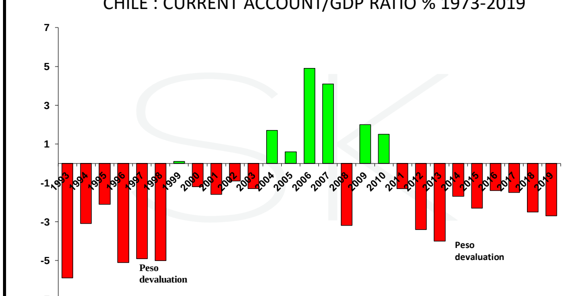
Source: IMF & IIF 2016

MEXICO'S OIL PRODUCTION, EXPORT REVENUE PROSPECTS AND CURRENT ACCOUNT DEFICIT

(Oil = 20% of budget revenues and 8% only of export receipts)

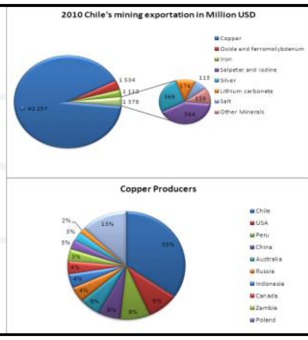


CHILE : CURRENT ACCOUNT/GDP RATIO % 1973-2019

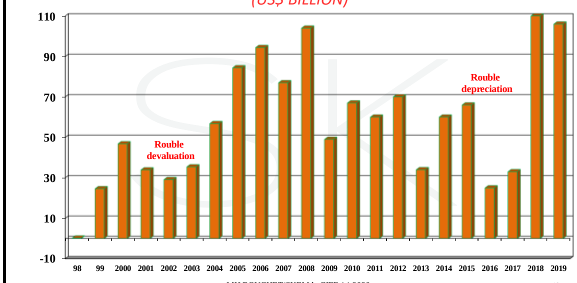


Source: IMF 2019/CDD

CHILE'S TRADE BALANCE: STRUCTURAL DEPENDENCE ON COMMODITIES



RUSSIA: CURRENT ACCOUNT BALANCE
(US$ BILLION)



Source: IMF & IIF

TUNISIA'S BOP 2016-2024 (IMF 2020 ART.IV)

	2016 Annual	2017 Annual	2018 Q1	2018 Q2	2018 Q3	2018 Q4 Est.	2018 Annual Est.	2018 Annual 4th Rev	2019 Q1 Proj.	2019 Q2 Proj.	2019 Q3 Proj.	2019 Q4 Proj.	2019 Annual Proj.	2019 Annual 4th Rev	2020 Annual Proj.	2020 Annual 4th Rev	2021 Annual Proj.	2022	2023	2024
Current account balance	-3,901	-4,080	-1,164	-1,122	-1,135	-1,053	-4,474	-3,909	-881	-1,058	-902	-805	-3,648	-3,415	-3,187	-3,247	-2,970	-2,840	-2,698	-2,644
Trade balance	-4,806	-5,308	-1,187	-1,483	-1,890	-1,390	-5,951	-5,473	-1,176	-1,412	-1,761	-1,089	-5,438	-5,170	-5,411	-5,057	-5,382	-5,228	-5,078	-4,881
Exports	13,568	14,231	4,176	4,045	3,346	3,917	15,485	16,135	4,132	3,935	3,497	3,958	15,522	17,004	16,153	17,715	16,843	17,669	18,536	19,503
Energy	765	846	235	221	171	253	880	983	218	163	169	219	769	1,072	813	1,083	932	945	967	994
Non-energy	12,804	13,384	3,941	3,824	3,175	3,665	14,605	15,152	3,914	3,773	3,328	3,739	14,754	15,933	15,340	16,632	15,910	16,724	17,569	18,509
of which: non-food	11,368	11,844	3,270	3,268	2,806	3,216	12,561	13,265	3,451	3,312	3,020	3,374	13,156	14,091	13,676	14,629	14,172	14,881	15,611	16,428
Imports	-18,374	-19,538	-5,363	-5,528	-5,236	-5,308	-21,435	-21,609	-5,308	-5,347	-5,258	-5,047	-20,960	-22,174	-21,564	-22,772	-22,225	-22,897	-23,614	-24,384
Energy	-2,024	-2,513	-802	-697	-942	-718	-3,159	-3,242	-665	-709	-680	-573	-2,627	-2,942	-2,674	-2,861	-2,706	-2,793	-2,915	-3,057
Non-energy	-16,351	-17,025	-4,561	-4,831	-4,294	-4,590	-18,276	-18,367	-4,643	-4,638	-4,578	-4,473	-18,333	-19,232	-18,890	-19,911	-19,519	-20,104	-20,699	-21,327
of which: non-food	-14,567	-15,101	-4,025	-4,319	-3,783	-4,154	-16,280	-16,272	-4,075	-4,136	-4,091	-3,961	-16,263	-16,835	-16,684	-17,435	-17,249	-17,769	-18,293	-18,848
Services and transfers (net)	905	1,228	23	361	755	337	1,476	1,565	295	353	859	284	1,790	1,755	2,224	1,810	2,412	2,388	2,380	2,238
Services	113	305	-44	137	421	200	714	648	224	281	582	180	1,266	689	1,678	827	1,473	1,422	1,375	1,178
of which: tourism	1,105	1,170	239	321	627	359	1,546	1,464	290	375	599	343	1,607	1,560	1,781	1,620	1,852	1,831	1,820	1,717
Transfers (net)	792	923	68	224	333	137	762	917	71	72	277	104	524	1,065	546	983	939	966	1,005	1,060
of which: workers' remittances	1,794	1,861	437	444	583	380	1,845	2,006	388	409	497	389	1,683	2,102	1,633	2,193	1,740	1,853	1,984	2,121
of which: interest payments on external debt	-756	-607	-234	-147	-197	-108	-685	-794	-240	-255	-131	-282	-908	-896	-972	-1,028	-1,106	-1,240	-1,369	-1,487
Capital and financial account	2,506	4,079	538	1,119	1,438	2,004	5,099	4,225	941	982	751	1,054	3,728	4,433	3,003	3,806	3,318	3,592	3,607	3,984
Capital account balance	95	184	5	3	3	116	127	77	18	42	42	23	124	32	71	66	71	71	70	70
Financial account balance	2,411	3,895	532	1,116	1,435	1,888	4,972	4,147	923	941	709	1,031	3,604	4,401	2,932	6,387	3,247	3,522	3,536	3,915
Direct investment and portfolio (net)	638	746	169	200	231	338	938	723	178	230	218	277	903	958	986	1,093	953	1,057	1,171	1,263
Medium- and long-term loans (net)	762	2,280	77	118	375	447	1,017	1,891	410	643	-236	-179	638	1,627	-143	1,450	968	1,281	966	949
Disbursements	2,191	4,266	401	463	735	865	2,464	3,920	760	1,298	567	249	2,875	4,030	1,924	3,526	3,572	3,025	3,064	3,606
Amortization	-1,428	-1,986	-323	-344	-361	-418	-1,447	-2,029	-350	-656	-803	-428	-2,237	-2,403	-2,067	-2,077	-2,604	-1,744	-2,098	-2,657
Short-term debt and other capital flows (net)	1,010	869	286	798	829	1,104	3,017	1,534	336	68	727	934	2,064	1,816	2,089	1,197	1,326	1,184	1,400	1,702
Overall balance	-1,396	-1	-626	-3	303	951	625	316	60	-77	-152	249	80	1,019	-184	559	347	752	909	1,341
Errors and omissions 2/	-350	-342	24	-282	-407	-589	-1,253	0	391	0	0	0	391	0	0	0	0	0	0	0
Financing	1,746	343	602	285	104	-362	629	-316	-451	77	152	-249	-472	-1,019	184	-559	-347	-752	-909	-1,341
Gross international reserves ("-": accumulation)	1,460	348	488	424	-23	-488	402	-545	-293	-70	227	-612	-748	-1,627	-487	-880	-267	-624	-652	-920

2. CUTTING INFLATION AND SLOWING DOWN OVERHEATING ECONOMY WITH EXCHANGE RATE APPRECIATION?

Principle:

- 1. A currency appreciation would cut the cost of imported goods and services, as well as import commodities (gasoline, machinery, production materials), hence helping to reduce the CPI.
- 2. Lowering imported costs will make them cheaper and more competitive, forcing local producers to lower prices to maintain their market share (?)

2. CUTTING INFLATION AND SLOWING DOWN OVERHEATING ECONOMY WITH EXCHANGE RATE APPRECIATION?

- 3. Improbable trio: a central bank cannot stabilize the exchange rate and liberalize the capital account while implementing an independent monetary policy to control inflation. Floating rate frees the central bank from the need to buy foreign exchange and to increase the money supply.
- 4. Appreciating exchange rate leads people to wish to hold the currency and to own assets priced in this currency, hence reducing the demand pressure and the CPI.

- All in all, appreciation of the local currency can help control inflation? This much depends on the composition of imports and the « pass through » between importers and consumers!

US CURRENT ACCOUNT, IMPORT PRICES AND DOLLAR EXCHANGE RATE

- Key: Rate of exchange rate « **pass through** » = degree to which a change in the value of a country's currency induces a change in the price of the country's imports and exports
- Pass-through is always incomplete: in the OCDE countries import prices have become progressively less responsive to changes in exchange rates over the past decade or so
- The dollar's depreciation has had little impact on import prices and on the reduction of the US current account deficit (about 50% of the cumulative change in the $ has been transmitted to higher US import prices over 2002-05)

Source: Fed RBNY Current Issues 09/2006 and June 2007

US CURRENT ACCOUNT, IMPORT PRICES AND DOLLAR EXCHANGE RATE IN 2019-20?

Weaker $ = Lower US demand? Stronger exports?

- The European exporter must decide what share of the dollar depreciation to absorb in his profit margin and what share to pass on to US consumers

US CURRENT ACCOUNT, IMPORT PRICES AND DOLLAR EXCHANGE RATE

- Why will a weaker $ boost foreign demand for US exports but with little impact on lower US imports, hence is unlikely to close the US trade deficit?

1. Special role of the US$ in invoicing international trade transactions = insensitivity of import prices to exchange rates
2. Competitive market share concerns of foreign exporters
3. High US marketing and distribution costs that form part of the final consumption prices of imported goods. All these costs reduce the share of the final price that is affected by exchange rates movements.

The History of the U.S. Balance of Payments

Stage I: The U.S. is a *young debtor nation* (1770-1870) -Current account deficit due to the need to import most goods and inability to produce many goods for export. -Capital account surplus due to a great deal of foreign investment in the U.S. in the areas of roads, farming, cattle ranches, railroads, and canals.
Stage II: The U.S. is a *mature debtor nation* (1870-1920) - Current account deficit due to large investment income being paid back to foreign investors based on the investment of stage I. Merchandise account in surplus -- exports > imports.
Stage III: The U.S. is a *young creditor nation* (1920-1945) -Huge surplus in the current account due to large volume of postwar (WWI) exports. -Capital account in deficit due to a great deal of U.S. investment in Europe for postwar reconstruction.

Source: http://www.digitaleconomist.com/bop_4020.html MH BOUCHET/SKEMA -CIFE (c) 2020 49

Stage IV: The U.S. is a *mature creditor nation* (1945-1980) -Merchandise deficit -- *exports < imports* but an investment income surplus with a slight net surplus overall. -Capital account is in deficit largely due to postwar (WW II) reconstruction in Europe and Japan.

Stage V: (1980-) -Large (and growing) deficit in the merchandise accounts (Trade Deficit) and slight surplus in the investment income accounts. -Large surplus in the capital account partially to finance the above merchandise deficit (foreign individuals and banks lending money to individuals in the U.S.) Additionally, since the U.S. has had a low inflation rate since 1982 and consistent economic growth , the U.S. has been a good place to invest relative to the rest of the world. However the current inflow of capital investment could eventually lead to large investment income payments in the near future. The investment income surplus may soon be eroded thus worsening the current account deficit.

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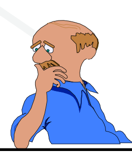
THE US CURRENT ACCOUNT DEFICIT DILEMMA

- Shrinking the deficit requires a weaker $
- Financing the deficit requires a strong $ by attracting US$2 billion/day foreign capital inflows



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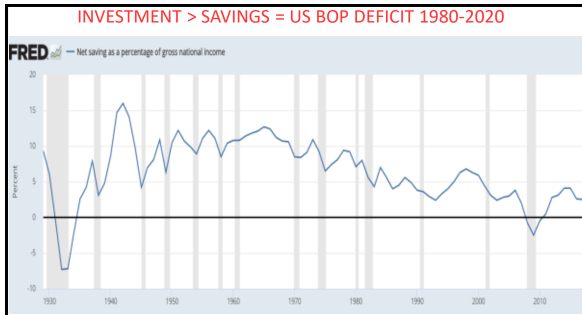
INVESTMENT > SAVINGS = US BOP DEFICIT 1980-2020



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THE RISE AND FALL OF US 10-YEAR TREASURY YIELDS 1790-2018

FINANCING THE US CA DEFICIT?

Record US CA deficit in 2003-2018 >7% of GDP

Mounting deficit in 2018-19 under Trump

- How to finance it? By importing K inflows from outside the US economy: need for high interest rates and/or strong US$ currency, or pressure on surplus countries (China, Korea, Japan)!
- Damocles' sword: Japanese investors massively withdraw their investments in US$ assets and UST bills and repatriate their funds in Japan. Meanwhile, nearly 50% of US securities remain in foreign hands
- US and Japan compete to lower their exchange rates to gain competitive trade advantage! **$ Crash Lending?**

FINANCING THE US CAD?

- Morgan Stanley : Why is the dollar not (yet) crashing?

The runaway CAD against Asian nations is not unduly worrying as long as Asia continues to park its capital surpluses in US assets (**60%** of the CAD is run against Asia and **bulk** of the US external deficit funded by Asian central banks)

« As long as Asia stays in the dollar zone, the dollar cannot **crash**»

- But mounting risk over the funding of the structural deficit leading to repatriation flows by foreign investors (hence weakening $/€ to $1,4 against the € in 10/2008)

FINANCING THE US CA DEFICIT IN 2019-20?

Record US CA deficit in 2003-2008 >7% of GDP

and 5% of GDP in 2009-2019

- How to finance it? By importing K inflows from outside the US economy: need for >0 real interest rates and/or strong US$ currency, or pressure on surplus countries (China, Korea, Japan and Germany)!
- Damocles' sword: Japanese investors massively withdraw their investments in US$ assets and UST bills and repatriate their funds in Japan. Meanwhile, nearly 50% of US securities remain in foreign hands. Declining share of China
- US and Japan compete to lower their exchange rates to gain competitive trade advantage! **$ Crash Lending?**