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FINANCIAL INTEGRATION AND CRISES

2021

Lecture 5

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Global Imbalances and External Adjustment

- Evidence
- Causes of current account imbalances
- Net versus gross capital flows
- External adjustment

References: Obstfeld (2012, 2018); Milesi-Ferretti and Lane (2014), Blanchard and Milesi Ferretti (2011).

SUW Chap. 6.4, 6.5, Chap. 7.1, 7.2

IMF External Sector Report 2017, 2021

Global Imbalances

- **Global Imbalances refer to large and persistent current account deficits and surpluses.**
- Large CA deficits and surpluses result from Financial Integration and, in principle, may reflect consumption smoothing and an efficient allocation of capital:
  - Surpluses and deficits would result from consumption smoothing.
  - Capital should flow where it is more productive; it should finance projects with higher returns (See Lecture 2)

BUT

- **Persistent CA deficits are difficult to reconcile with consumption smoothing and investment growth**; they raise sustainability issues. Indeed, the word "imbalances" suggests disequilibrium.
- **Divergent asset and liability positions across countries are ultimately unsustainable.**

The risks of global imbalances

- **Large and persistent CA deficits** expose a country to the risk of:
  - **Sudden stops of capital inflows** that trigger financial crises with **disruptive adjustments** of the current account, i.e. sharp exchange-rate depreciation, deep recessions and banking crises:

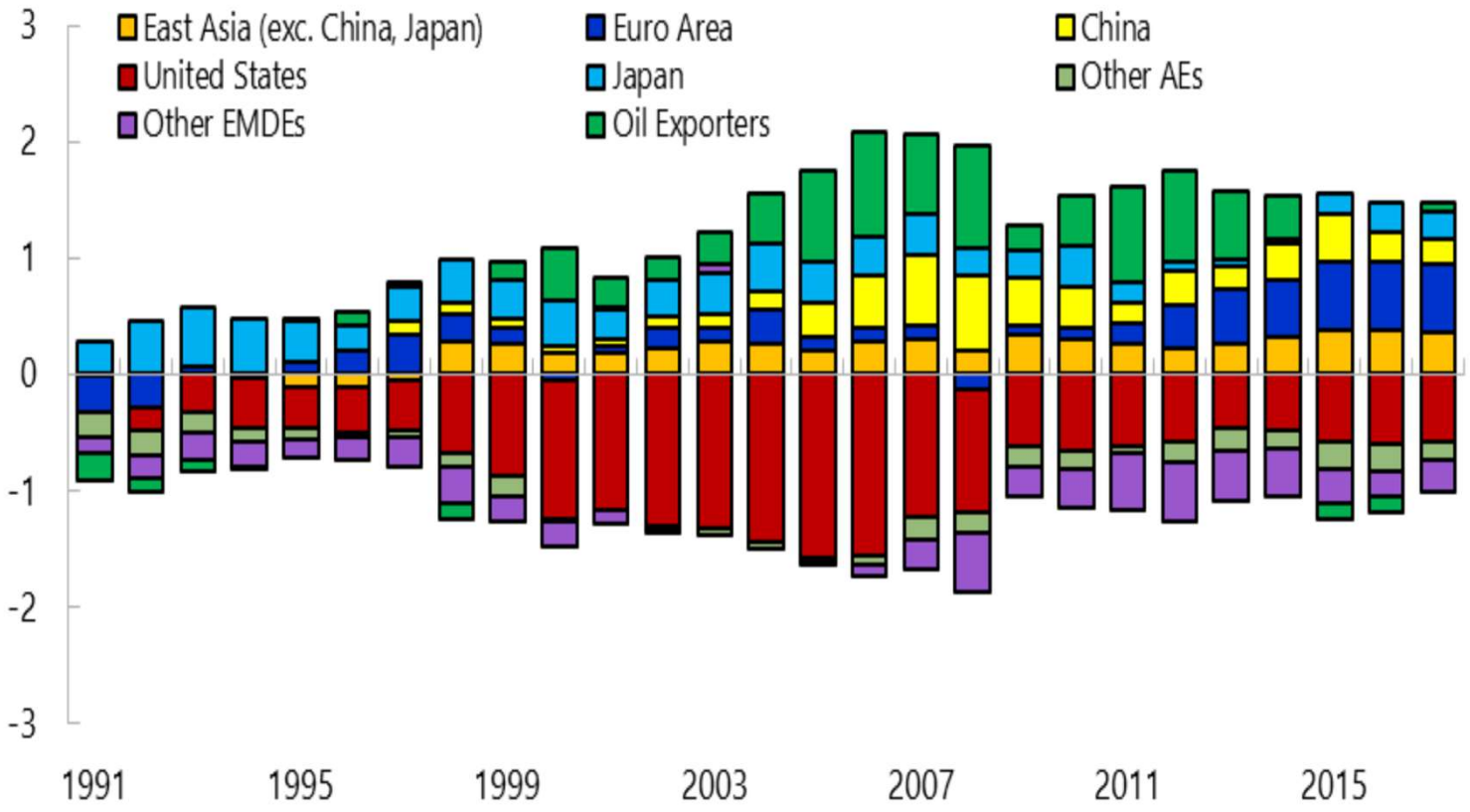
$$CA \cong NX(Y, Y^*, \varepsilon) \geq 0 \rightarrow Y \downarrow + \text{depreciation}$$

  - **Systemic Risk:** crises may propagate to other economies because of trade links, financial interdependence and contagion.
    In particular, a systemic crisis would unfold in case of a *sudden* adjustment of US imbalances.
  - **Trade war** that harms growth.
- Large **CA surpluses** should also be monitored, as they signal:
  Unfair competitive advantage from undervalued exchange rates;
  Lack of aggregate demand (fiscal austerity).

See Obstfeld (2018); Blanchard and Milesi-Ferretti (2011)

Global Imbalances in percent of World GDP

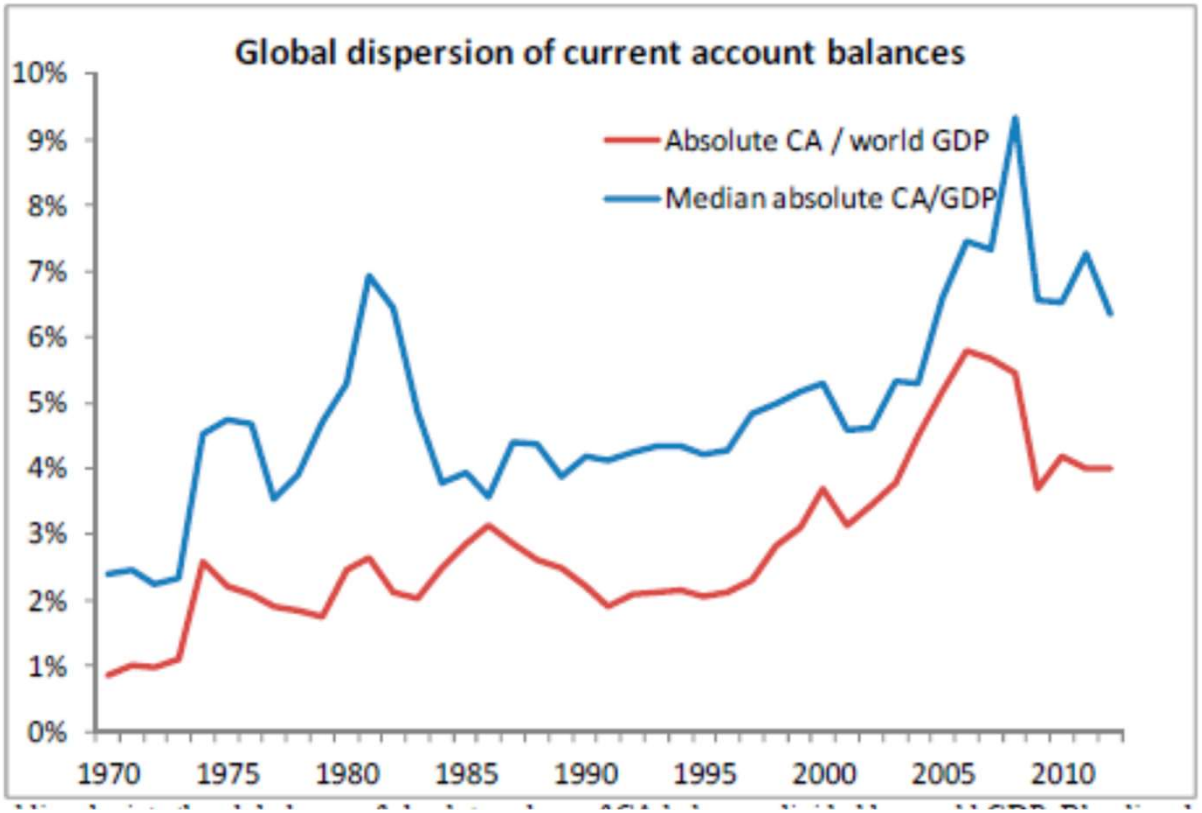
CA surpluses and deficits - % of world GDP - country groups - 1991-2017



Source: IMF, World Economic Outlook.

Imbalances at country level are even greater

Absolute value of CA balances - 1970-2012



Source: Lane and Milesi-Ferretti, External Wealth of Nations database

Good or Bad?

CA imbalances are the result of increasing financial integration that allows saving and investment to be different: $I \neq S$

Imbalances may reflect:

- Efficient allocation of capital (capital should flow where it is more productive) and consumption smoothing.
- Disequilibria due to bad policies, exchange-rate misalignments; failures of financial markets and the international monetary system.

Good Imbalances

- Productive investment that is financed by foreign capital;
- More efficient financial markets attract foreign investors;
- Countries with ageing population can save and invest abroad;
- Commodity exporters can smooth consumption against price fluctuations

See Blanchard Milesi-Ferretti (2009); Lecture 2.

Bad imbalances

Bad domestic policies and institutions

- High budget deficits/surpluses due to political reasons;
- High private saving to compensate for a poor welfare system;
- Low investment due to poor institutions: low competition; insufficient protection of property rights; etc. (Rodrik-Subramanian 2009)

Market failures

- Lack of prudential regulation of financial institutions;
- Bubble-driven asset booms that attract forein capital and boost consumption;

International systemic distortions

- Undervalued exchange rates to support "export-led growth";
- Accumulation of foreign reserves as self-insurance against crises, due to insufficient global liquidity provision.

Explanations of global imbalances

Three not mutually exclusive explanations of CA imbalances:

Domestic perspective

- **Low private and government saving** due to consumption booms and budget deficits (**Twin Deficits Hypothesis)**

$$CA = S + (T - G) - I$$

International perspective

- **Saving Glut Hypothesis** – Excess private savings in developing countries redirected externally to more developed financial markets

$$CA = S_N - I = \Delta A^* - \Delta L^* = \text{net capital outflows}$$

- **Foreign reserve accumulation** motivated by

  i) Demand for Safe Assets;

  ii) Undervalued exchange rates for export-led growth strategies

The relevance of each explanations has changed over time.

High consumption and fiscal deficits

High private and government borrowing – Focus on domestic problems

- According to this view CA imbalances are due to saving-investment imbalances at the country level; in particular to fiscal deficits/surpluses

CA imbalances can be due to:

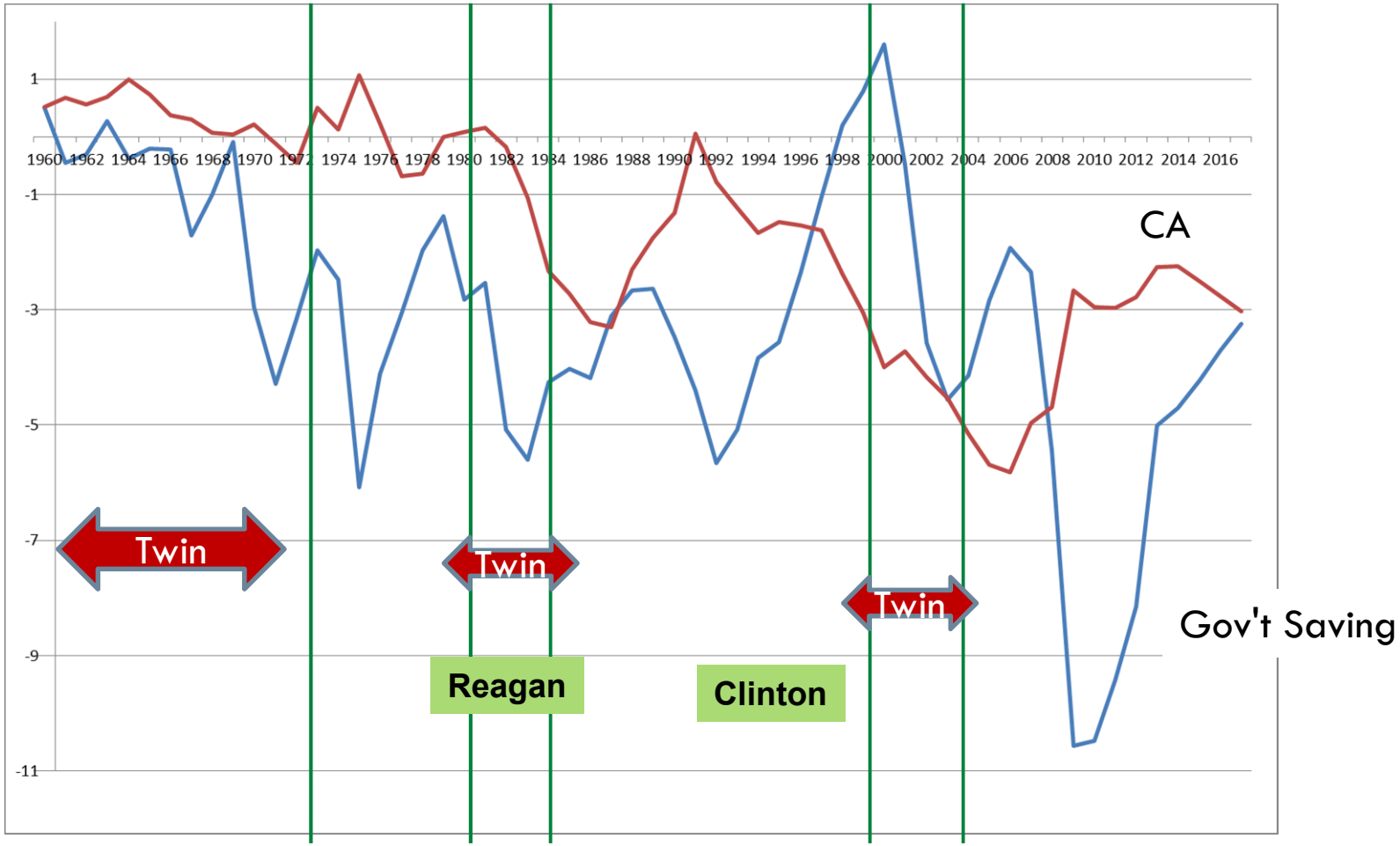
- **Too high private consumption** driven by growing indebtedness favored by asset/housing bubbles (eg in the US, peripheral EU, etc.)
- **Large government deficits** due to political reasons (eg in the US). View known as **Twin Deficit Hypothesis** (see SUW Chap. 14)

But also to

- **Low investment**
- **Large government surpluses** due to fiscal austerity (eg in Germany and the Netherlands).

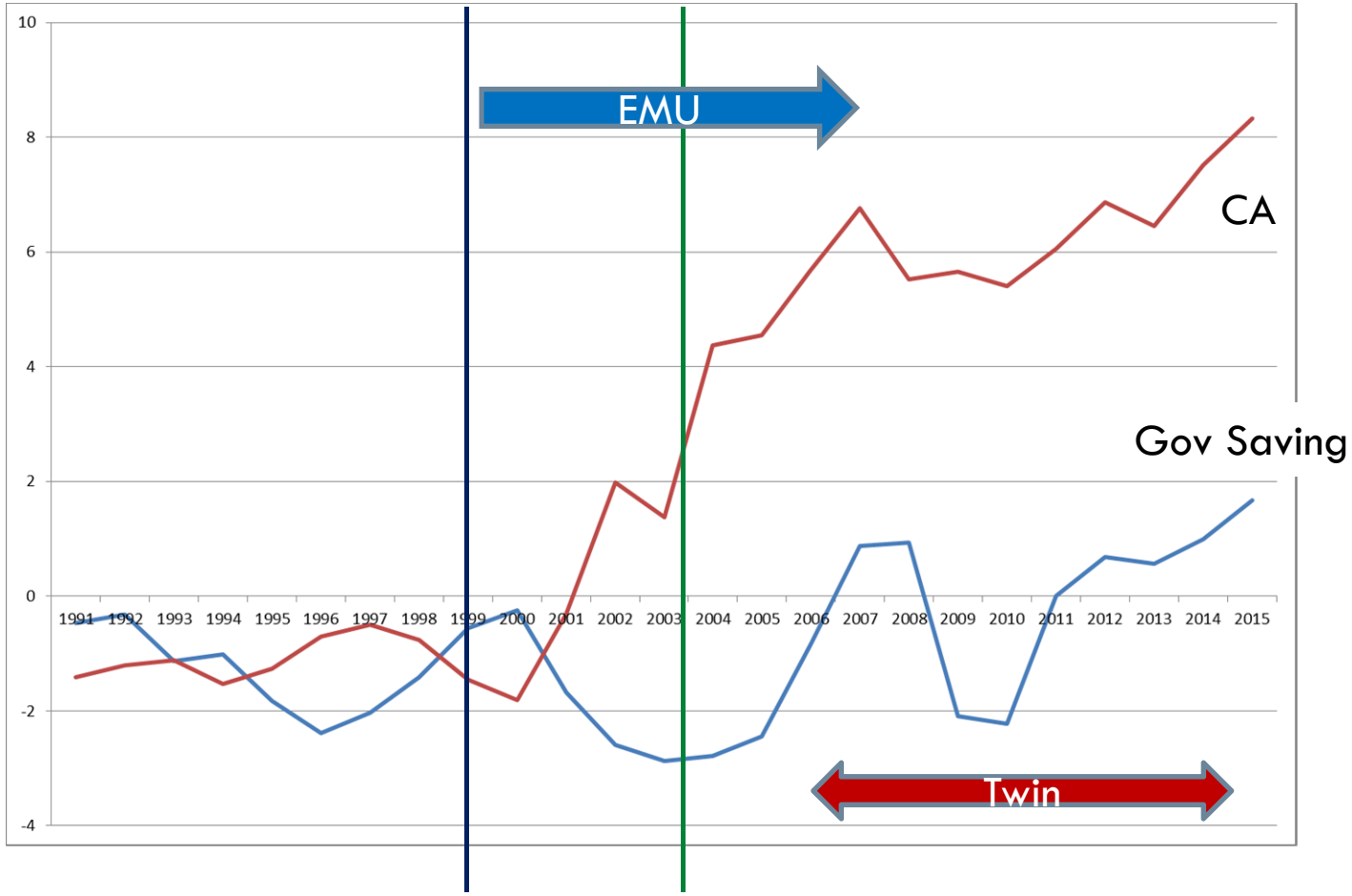
Twin Deficits not an explanation for the US

CA balance and Government Saving - percent of GDP - 1960-2016



Twin Deficit Hypothesis works for Germany

CA balance and Government Saving - % of GDP – 1991-2015

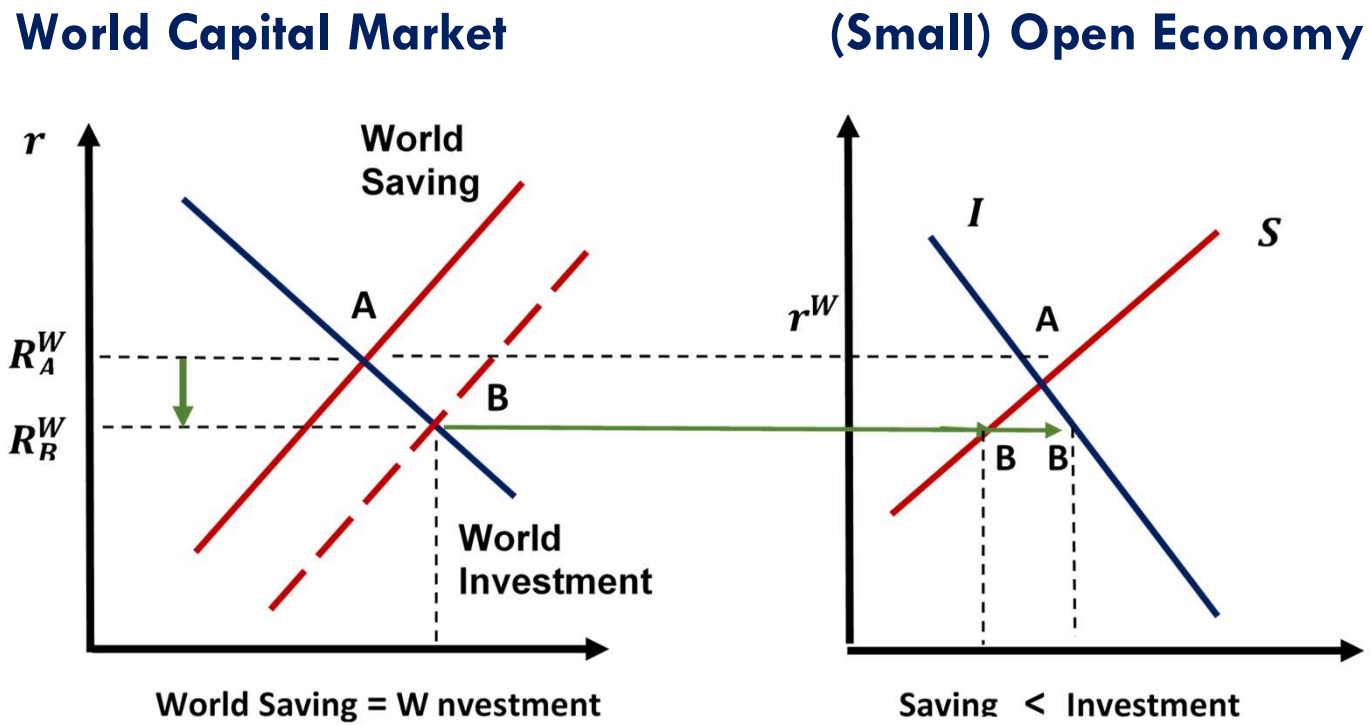


Savings Glut Hypothesis

Savings Glut Hypothesis – Focus on private capital flows

- CA imbalances were determined by **large savings in emerging Asian economies,** surplus EU countries and commodity exporters that were invested in the US and other deficit countries.
- These capital inflows led to a consumption boom in the US and peripheral EU, causing large CA deficits, especially in the 2000s.
- Excess savings accumulated due to: i) rapid economic growth; ii) demographic changes; iii) poor welfare systems; iv) low investment due to poor institutions iv) high commodity prices.
- These savings flew into the US because of well-developed financial markets providing 'safe', liquid assets denominated in dollars BUT also because of US financial ease due to deregulation and innovation (see Obstfeld 2018).

The Saving Glut



An increase in world saving, in particular in Asia and commodity exporters, leads to a lower real equilibrium interest rate, r^W, from point A to point B, that determines an increase in investment and a reduction of saving in small (and large) open economies so that $\boldsymbol{I > S \Longrightarrow CA < 0}$.

Foreign Reserve Accumulation

Reserve Accumulation Hypothesis – Focus on official capital flows

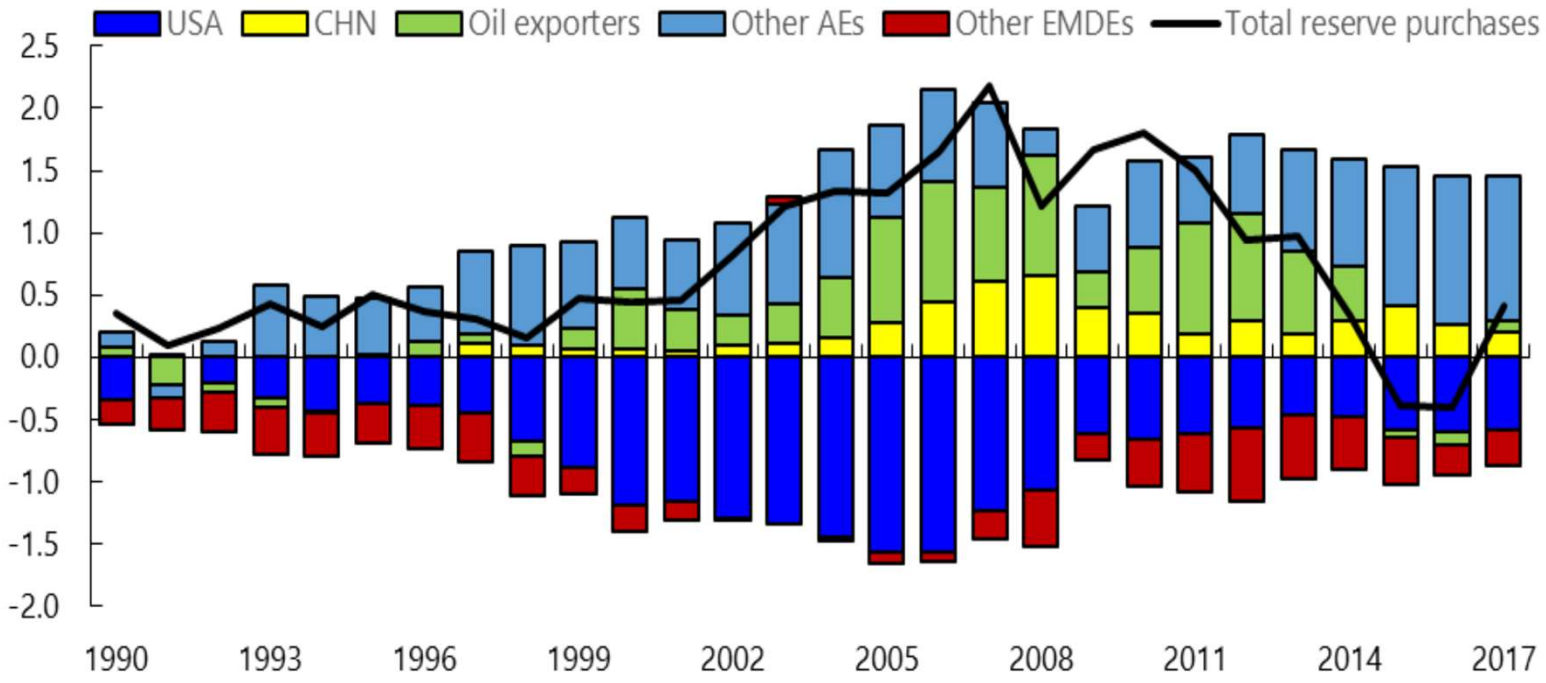
- Capital flows originated from active intervention by Central Banks; i.e. were due to **foreign reserve accumulation**.
- Trade surpluses in Asian countries and commodity exporters were invested in safe assets provided by US (and UK)
- As trade surpluses are invested in foreign assets, and money creation is sterilized, **the exchange rate remains undervalued** thus preventing the adjustment of trade imbalances.

Reserve Accumulation was huge after the Asian crisis and motivated by

- Self-insurance strategies against the risk of new crises;
- Safe asset purchases by commodity (oil) exporters;
- Export-led development strategies supported by low exchange rates.

Account surpluses are highly aligned with reserve assets purchases until 2007

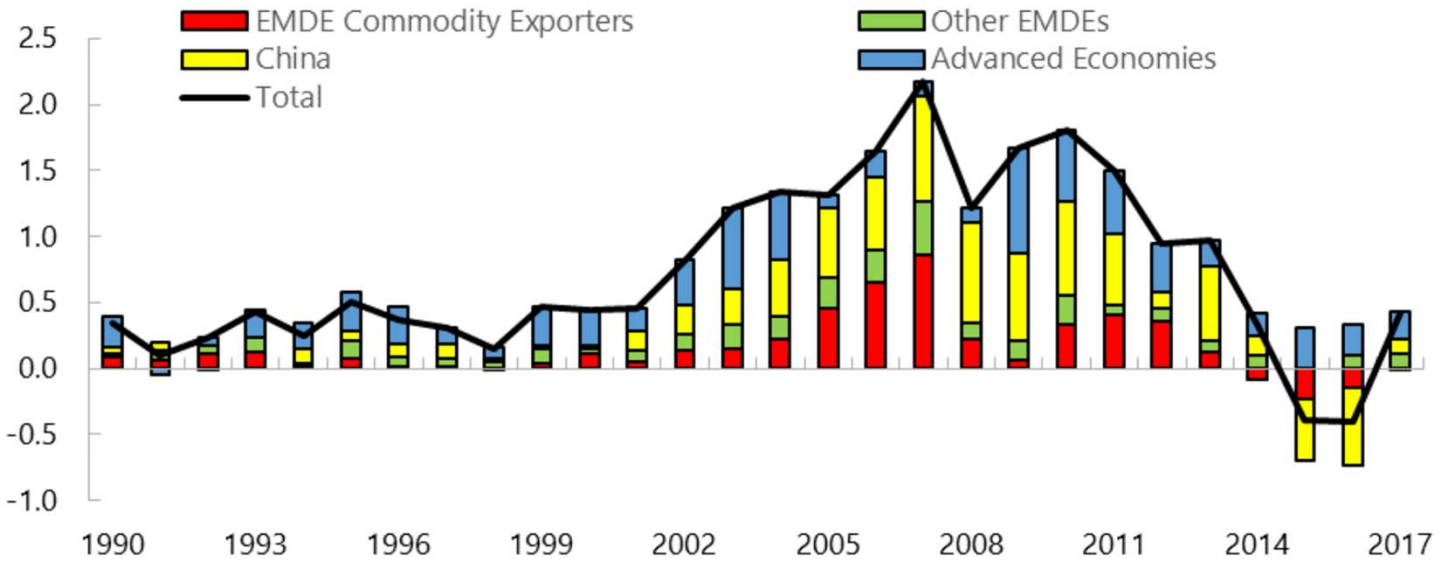
CA blances and reserve purchases 1990-2017 - percent of world GDP



Source: World Economic Outlook.

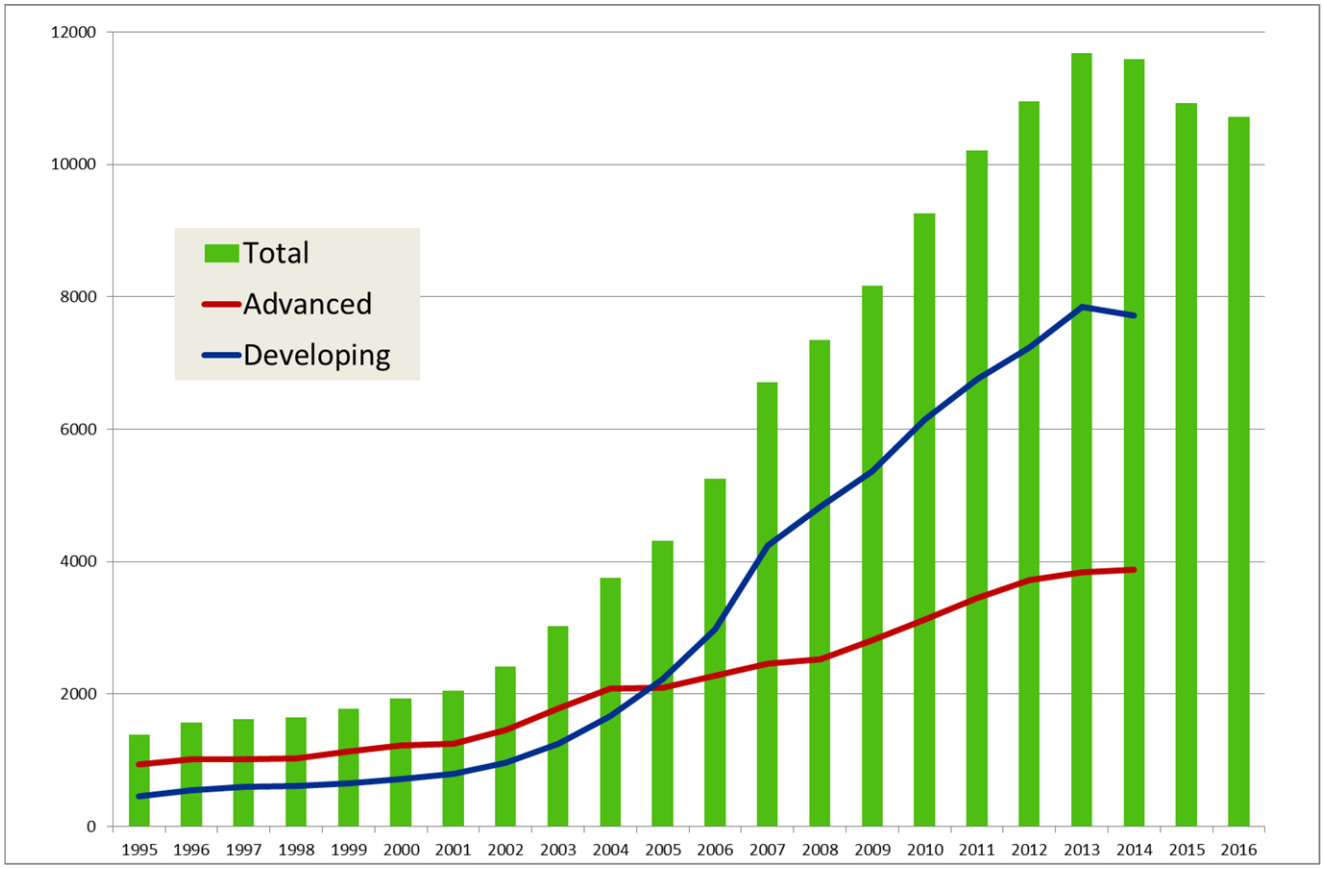
Global reserve purchases by region

Reserve purchases 1990-2017 - percent of world GDP



Source: World Economic Outlook. "Oil Exporters" follows WEO classification and includes Norway.
"EMDE Commodity Exporters" follows the classification of Boz, Cubeddu, and Obstfeld (2017)

Foreign reserves, world total in US $ billion Advanced and Developing countries, 1995–2016

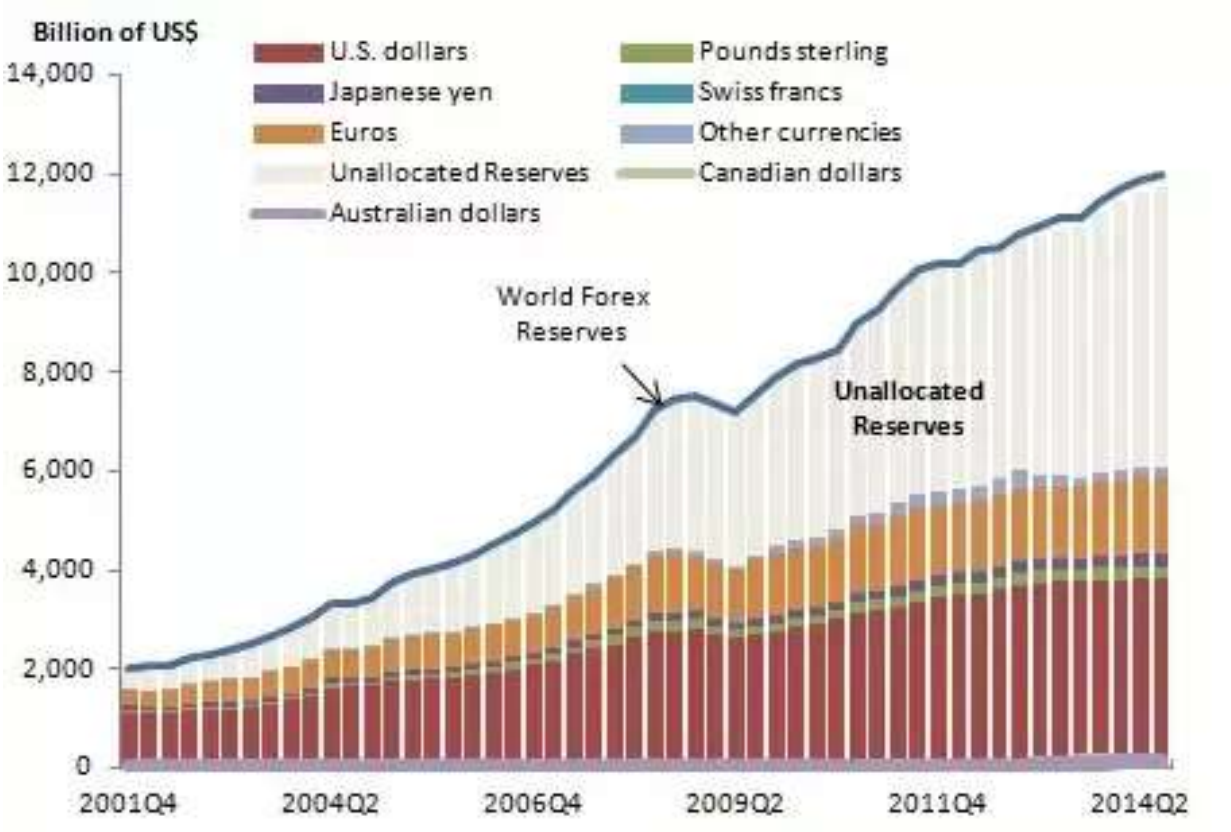


Reserves by country	
April 2016	US$ billion
China	3,520
Japan	1,321
Euro Area	820
Switzerland	661
Saudi Arabia	581
Russia	407
Hong Kong	380
Rep Korea	372
India	366
Brazil	362

Source: IMF COFER

Currency Composition of Foreign Reserves

World Foreign Reserves – 2001-2014



The US dollar is the main international reserve currency

A large share of foreign reserves is held in dollar denominated assets

Source: IMF COFER

Reasons for accumulating foreign reserves

Foreign-exchange reserves

- Traditionally, enabled Central Banks to intervene in the foreign exchange market in order to prevent undesired exchange-rate movements affecting trade or the viability of fixed exchange regimes.

The large accumulation of foreign reserves allows countries to

1. Insure against sudden stops of capital inflows and capital flights that characterize modern crises;
2. Maintain an undervalued exchange rate and thus a strong export performance. (As capital inflows are sterilized, money supply and inflation do not increase and the real exchange rate is held at a competitive level).

- In both cases, official intervention prevents the appreciation of the exchange rate and thus the adjustment of trade imbalances.

Failures of the international monetary system

According to the "Reserve Accumulation" view

Imbalances reflect failures of the international monetary system:

- Lack of international safe assets replaced by US Treasuries;
- Lack of insurance/liquidity that leads to reserve accumulation;
- Lack of rules regarding the international exchange-rate system.

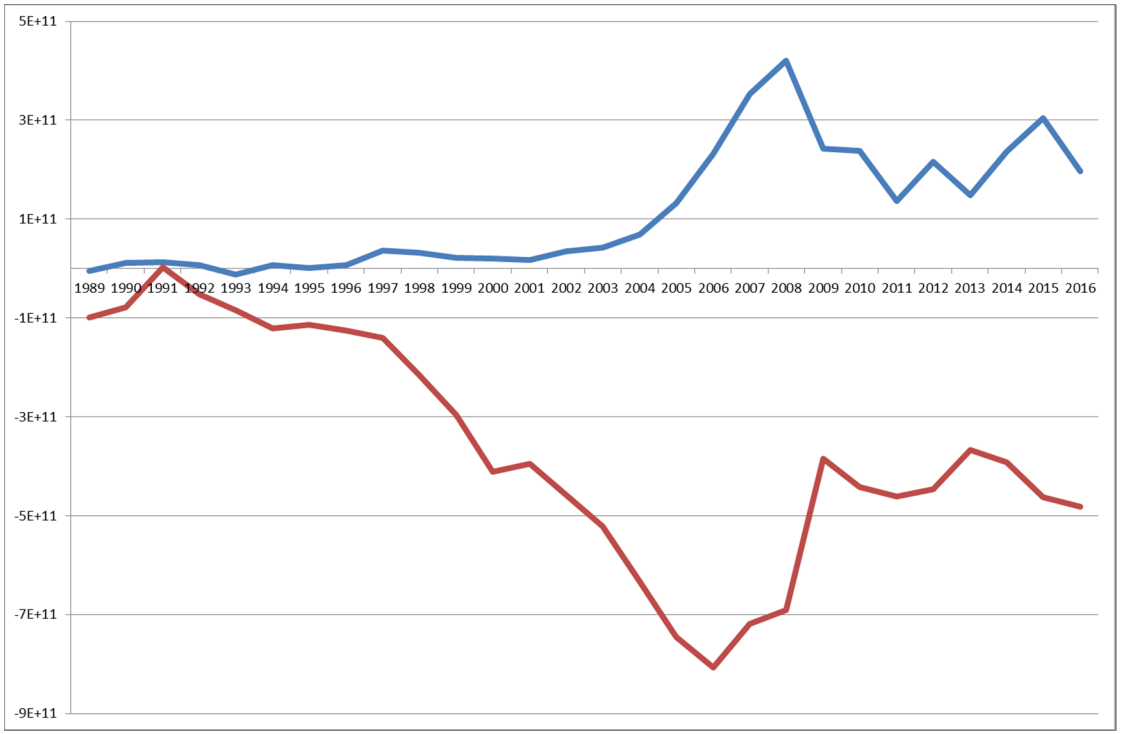
- Surplus emerging economies could maintain undervalued exchange rates and thus trade surpluses. (Switzerland until 2015)

CA Imbalances in the Euro Area are also the result of exchange-rate misalignments partly due to the single currency and the lack of a risk sharing system such as an automatic fiscal transfer mechanism.

China was blamed for undervalued renminbi

Since 2000, an increasing fraction of the CA deficit of the US is accounted for by the deficit with China. This fraction was 20% in 1999 and has increased, reaching a peak of 70% in 2009.

The CA of China and US in billion dollars 1990-2016



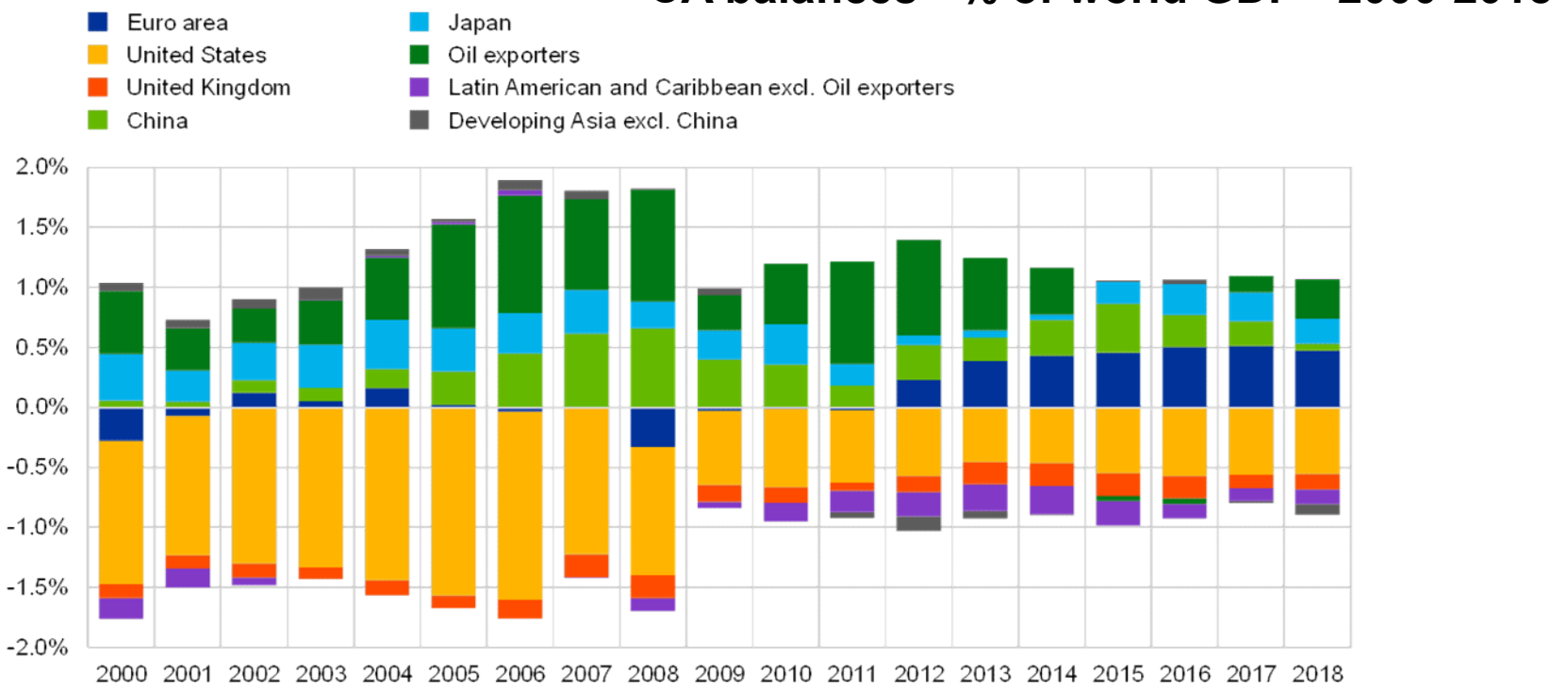
Source: IMF BoP Statistics

Total CA balances of US and China almost mirroring each other

In the Pre-Covid, CA surpluses relocated away from Oil Exporters and China to the Euro Area

Fiscal austerity explains the increasing surplus of the Euro Area

CA balances - % of world GDP - 2000-2018



Sources: IMF World Economic Outlook

Does the current account matter any more?

- Borio-Disyatat (2011) and many others contend that net flows, ie CA balances, are negligible compared to gross flows and so is their impact on financial stability (see Lecture 2).
- Gross Capital Flows (and gross stocks) provide more information about financial market conditions; financial risk and probability of crises.
- In the run up to the GFC there was an explosion of two-way capital flows across borders favored by financial ease and deregulation.

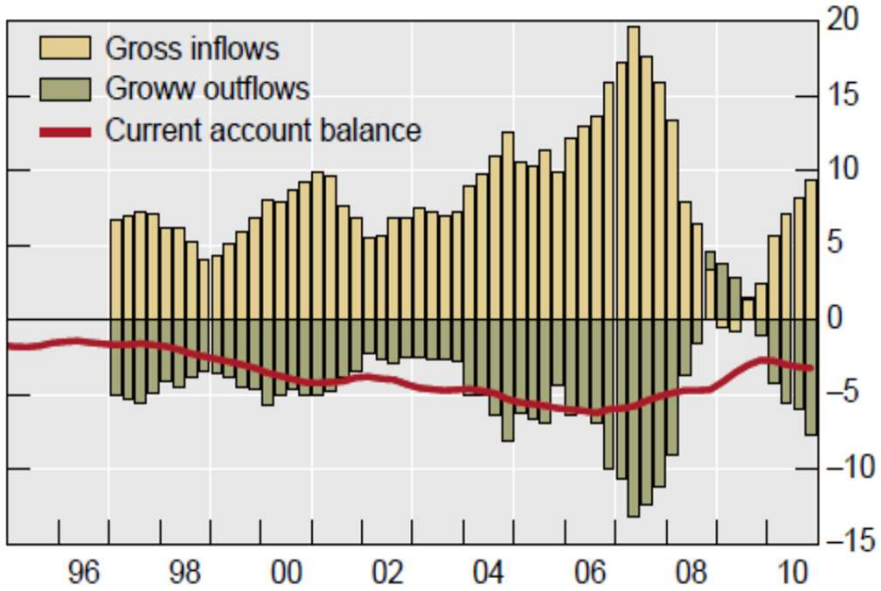
Example of zero net-flow transactions that increased by the same amount assets and liabilities in US and Germany and led to financial instability:

- Landesbanks purchased US AAA-rated asset-backed securities (backed by mortgages, corporate loans, etc) that became toxic in 2007 by issuing asset-backed commercial paper (ABCP) (guaranteed by the German government) to US money-market funds.

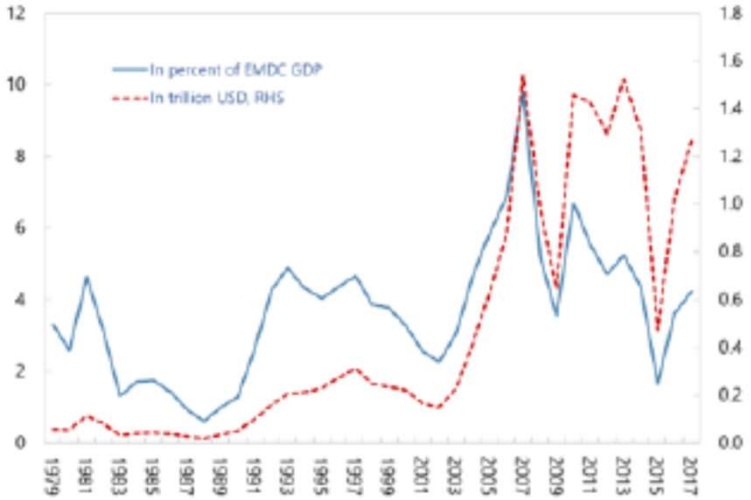
Gross versus net financial flows

In the run up to the crisis US gross flows were about three times greater than CA deficits, ie net flows

US Gross inflows and outflows



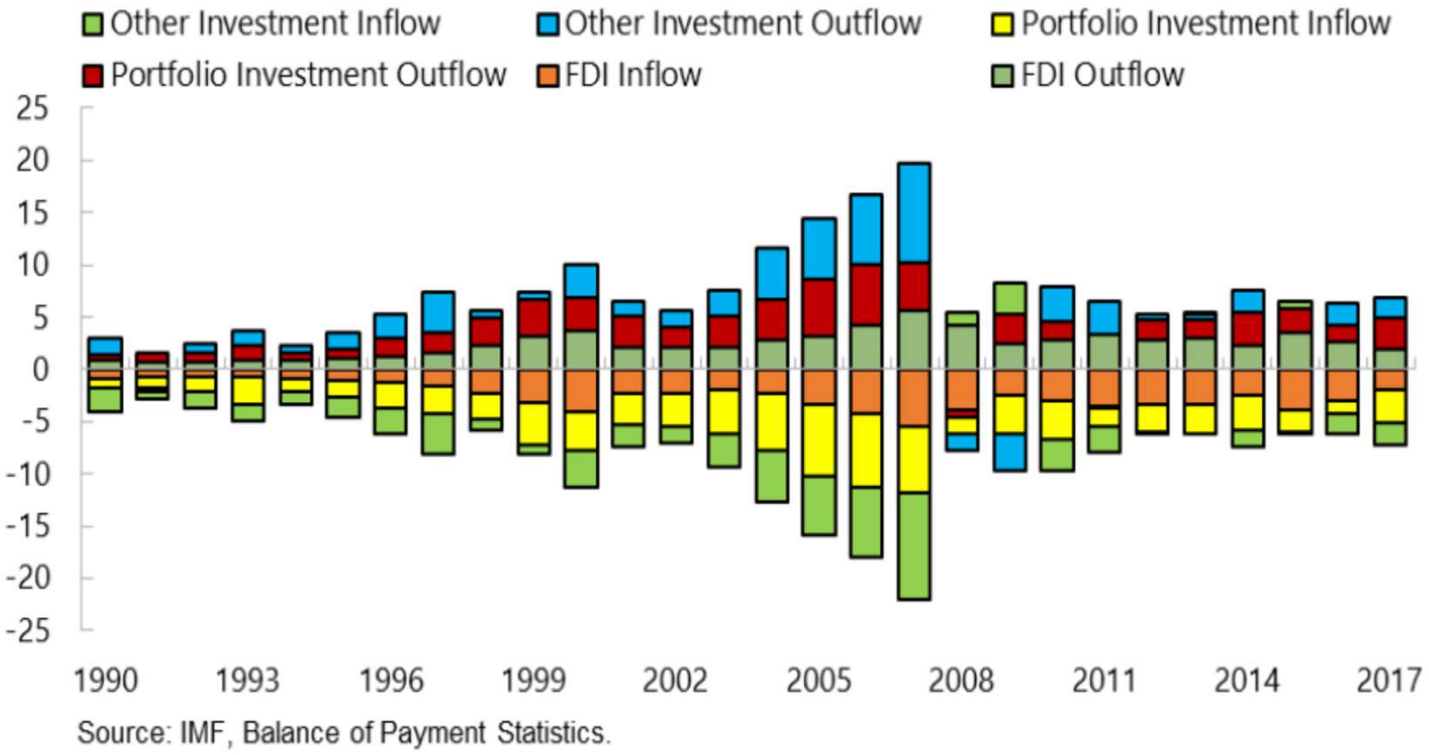
Capital flows ($ Billion and % of GDP) to Emerging and Developing Countries



The sheer volume of capital flows and the growing stocks of assets and liabilities are obviously correlated with risk of financial instability.

Does the current account matter any more?

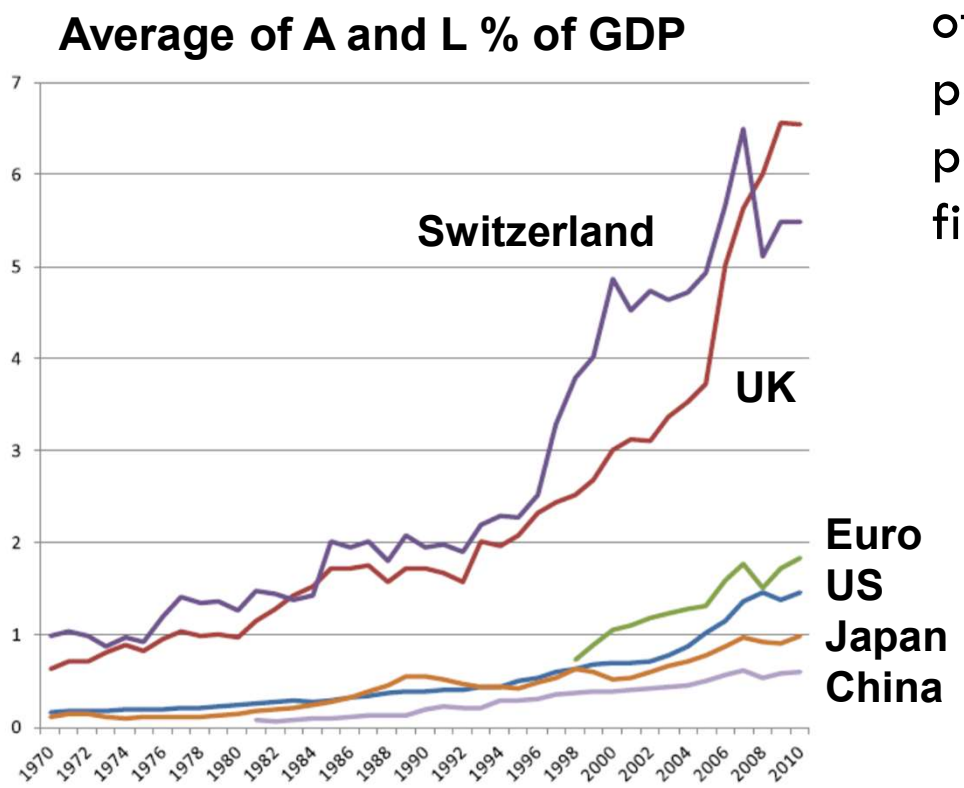
Global Gross financial inflows and outflows – percent world GDP



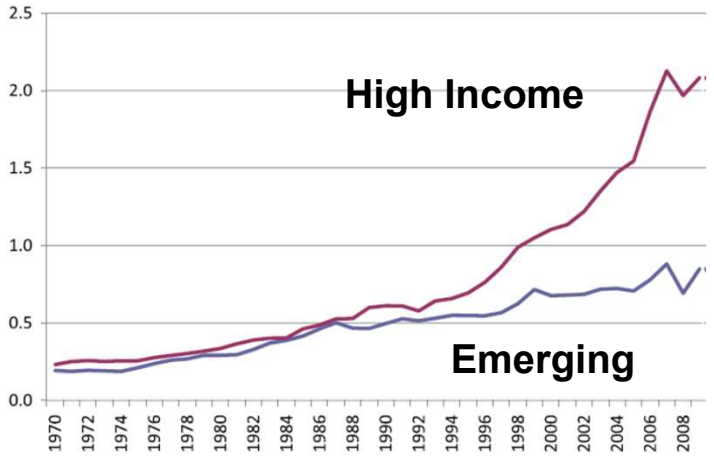
Source: IMF, Balance of Payment Statistics.

Foreign Assets and Liabilities have grown wide!

The sheer volume of assets and liabilities is obviously associated with the risk of financial instability



Obstfeld (2012): the rapid expansion of gross international asset and liability positions is even more striking and potentially more threatening to financial and economic stability."



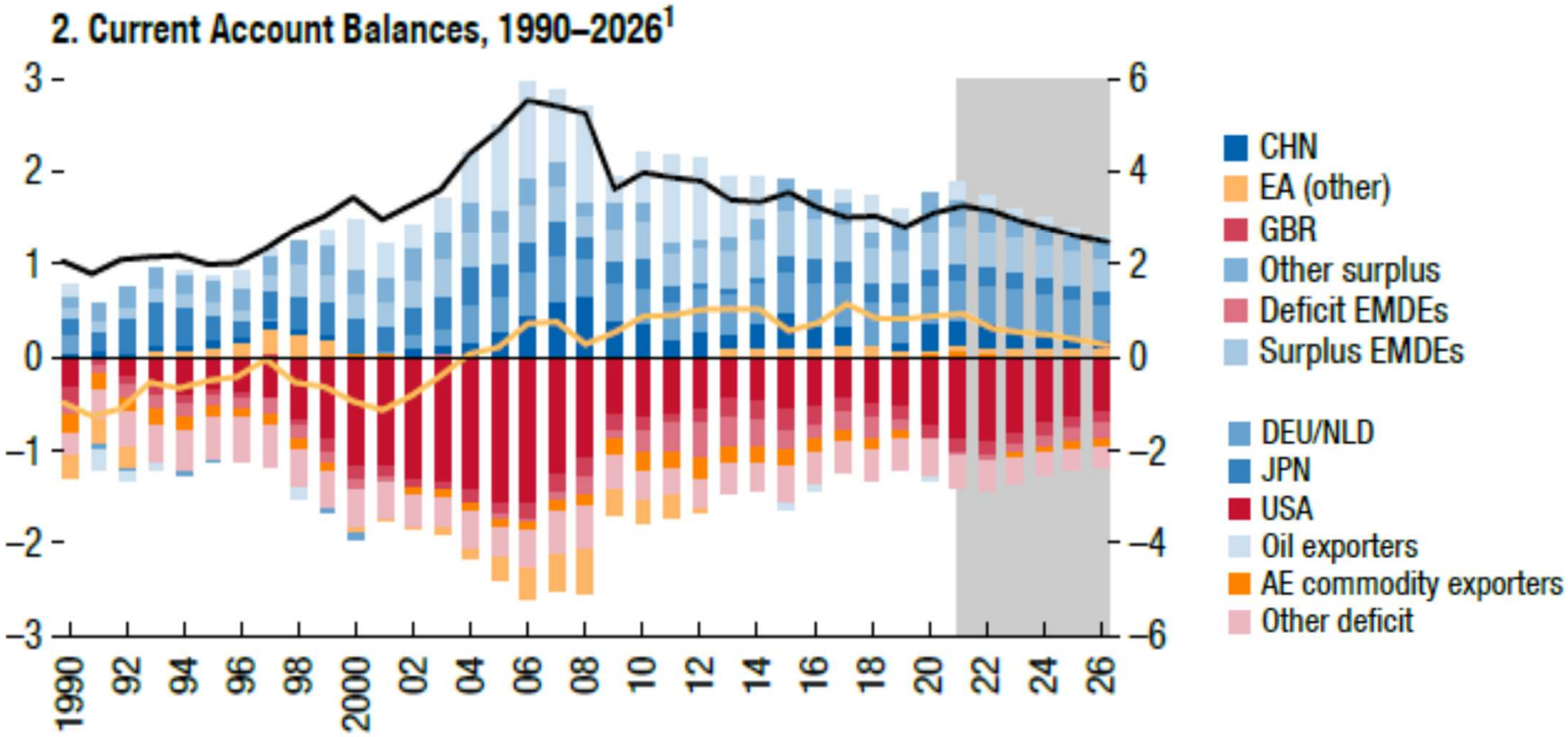
The current account should be monitored

- **Obstfeld (2012, 2018)** acknowledges that CA imbalances were not the main direct cause of the GF crisis but they contributed to the crisis, e.g., by maintaining low interest rates in the US.

Reasons for monitoring CA imbalaces

- **CA deficits** are often a symptom of increasing stock vulnerabilities, as they **are related to credit and asset-market booms**. For instance, easy financial conditions (and poor regulation) will tend to promote leverage, which in turn facilitates divergence between spending and income.
- There is indeed evidence that **current account deficits help predict crises** in developing countries (Reinhart-Rogooff 2009).
- Persistent, though smaller, CA imbalances are leading to a continuous **divergence in net investment positions** (NIIPs) of creditors and debtors that may become unsustainable.

CA imbalances which had declined after 2008 increased in 2020 and are set to widen in 2021



Sources: IMF External Sector Report 2021

Table 1.1. Selected Economies: Current Account Balance, 2018–21

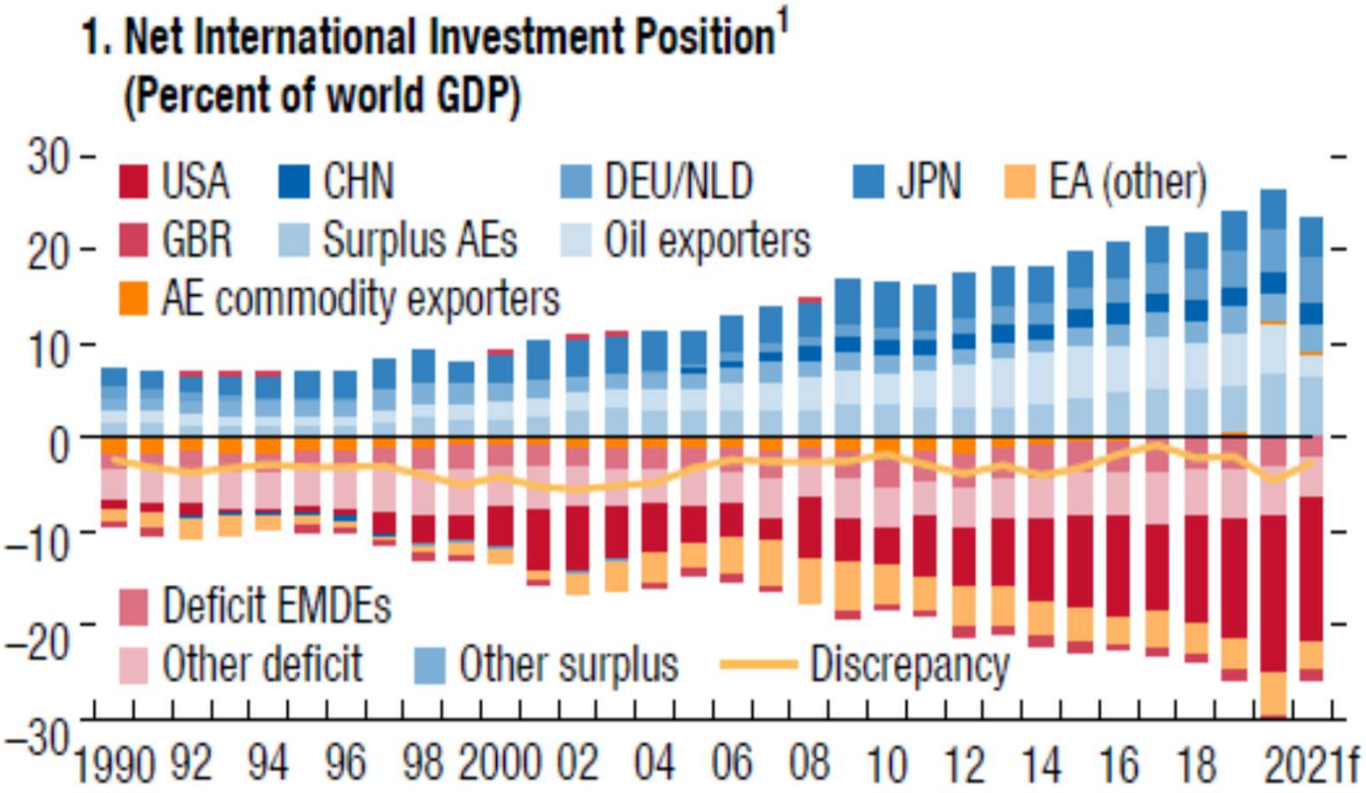
	Billions of US Dollars				Percent of World GDP				Percent of GDP			
	2018	2019	2020	2021 Projection	2018	2019	2020	2021 Projection	2018	2019	2020	2021 Projection
Advanced Economies												
Australia	–30	9	35	38	0.0	0.0	0.0	0.0	–2.1	0.7	2.5	2.4
Belgium	–4	2	–1	–5	0.0	0.0	0.0	0.0	–0.8	0.3	–0.2	–0.9
Canada	–40	–36	–30	–15	0.0	0.0	0.0	0.0	–2.3	–2.1	–1.8	–0.8
France	–16	–18	–50	–62	0.0	0.0	–0.1	–0.1	–0.6	–0.7	–1.9	–2.1
Germany	292	274	265	327	0.3	0.3	0.3	0.4	7.4	7.1	7.0	7.6
Hong Kong SAR	14	21	23	20	0.0	0.0	0.0	0.0	3.7	5.7	6.5	5.5
Italy	52	60	67	74	0.1	0.1	0.1	0.1	2.5	3.0	3.5	3.5
Japan	177	188	165	195	0.2	0.2	0.2	0.2	3.5	3.7	3.3	3.6
Korea	77	60	75	77	0.1	0.1	0.1	0.1	4.5	3.6	4.6	4.2
The Netherlands	99	90	63	91	0.1	0.1	0.1	0.1	10.8	9.9	7.0	9.0
Singapore	58	53	60	55	0.1	0.1	0.1	0.1	15.4	14.3	17.6	14.6
Spain	27	30	8	14	0.0	0.0	0.0	0.0	1.9	2.1	0.7	1.0
Sweden	15	27	31	31	0.0	0.0	0.0	0.0	2.6	5.1	5.7	5.0
Switzerland	49	49	28	56	0.1	0.1	0.0	0.1	6.7	6.7	3.8	6.7
United Kingdom	–105	–88	–95	–121	–0.1	–0.1	–0.1	–0.1	–3.7	–3.1	–3.5	–3.9
United States	–450	–480	–616	–876	–0.5	–0.6	–0.7	–0.9	–2.2	–2.2	–2.9	–3.9

Table 1.1. Selected Economies: Current Account Balance, 2018–21

	Billions of US Dollars				Percent of World GDP				Percent of GDP			
	2018	2019	2020	2021 Projection	2018	2019	2020	2021 Projection	2018	2019	2020	2021 Projection
Emerging Market and Developing Economies												
Argentina	–27	–4	3	10	0.0	0.0	0.0	0.0	–5.2	–0.9	0.8	2.3
Brazil	–42	–51	–24	–9	0.0	–0.1	0.0	0.0	–2.2	–2.7	–1.7	–0.6
China	24	103	271	274	0.0	0.1	0.3	0.3	0.2	0.7	1.8	1.6
India[1]	–57	–25	26	–36	–0.1	0.0	0.0	0.0	–2.1	–0.9	1.0	–1.2
Indonesia	–31	–30	–5	–15	0.0	0.0	0.0	0.0	–2.9	–2.7	–0.4	–1.3
Malaysia	8	12	14	15	0.0	0.0	0.0	0.0	2.2	3.4	4.2	3.8
Mexico	–25	–4	26	22	0.0	0.0	0.0	0.0	–2.1	–0.3	2.4	1.8
Poland	–8	3	21	13	0.0	0.0	0.0	0.0	–1.3	0.5	3.5	2.0
Russia	116	65	34	67	0.1	0.1	0.0	0.1	7.0	3.8	2.3	3.9
Saudi Arabia	72	38	–20	23	0.1	0.0	0.0	0.0	9.2	4.8	–2.8	2.8
South Africa	–13	–11	7	3	0.0	0.0	0.0	0.0	–3.5	–3.0	2.2	1.0
Thailand	28	38	16	2	0.0	0.0	0.0	0.0	5.6	7.0	3.3	0.5
Turkey	–22	7	–37	–21	0.0	0.0	0.0	0.0	–2.8	0.9	–5.1	–2.7
Memorandum item:[2]												
Euro Area	393	307	285	401	0.5	0.4	0.3	0.4	2.9	2.3	2.2	2.8
Global Current Account Balance	2,590	2,477	2,736	3,141	3.0	2.8	3.2	3.4	…	…	…	…

Differences in net investment positions kept widening despite compression of CA balances

NIIPs Percent of World GDP - 1990-2021



Stocks remain historically high. In 2020 changes in NIIP positions were larger than explained by CA balances reflecting large valuation changes

Sources: IMF External Sector Report 2021

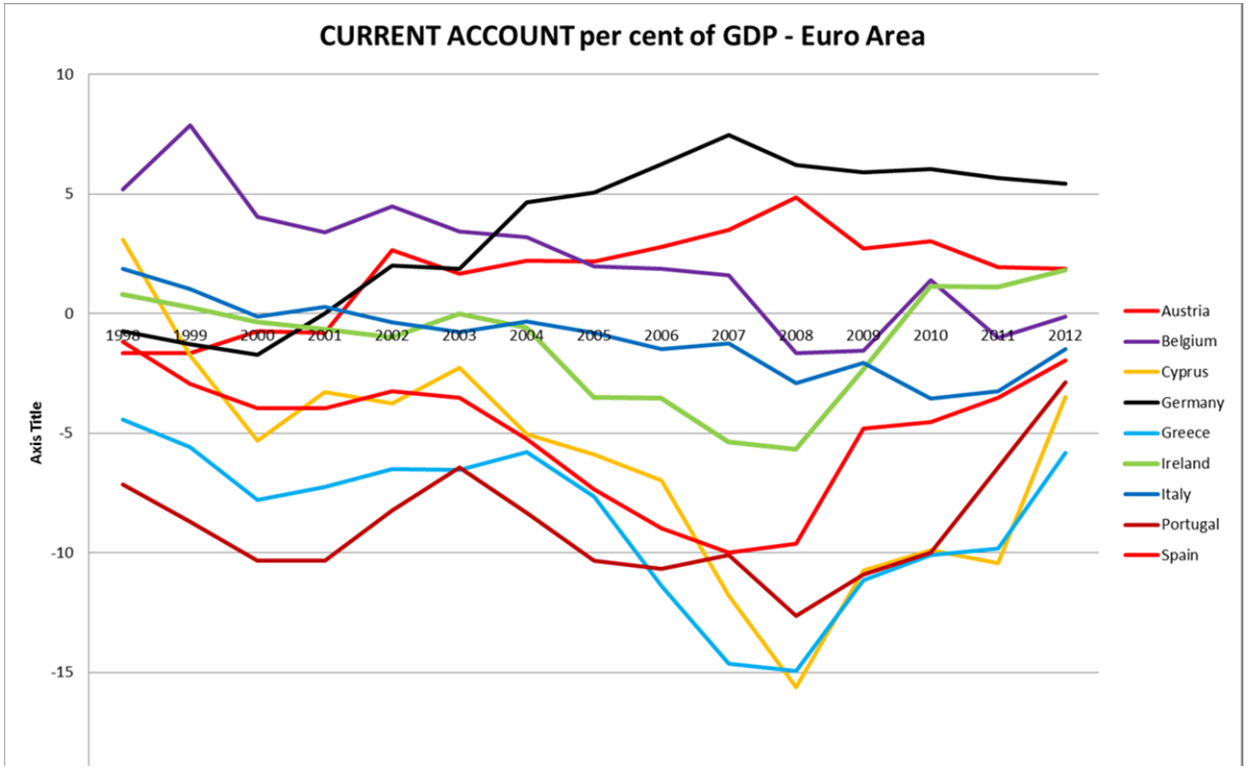
Imbalances imply greater costs from crisis

Obstfeld (2018) suggests other

Reasons for monitoring CA imbalaces

- Growing net foreign liability positions will eventually force debtor countries to cut spending, and the longer the adjustment is postponed, the more likely that the process is abrupt and disruptive.
- Persistent global imbalances may spark a trade war as deficit countries try to counter macroeconomic forces with import barriers.
- Although recent crises were not driven by problems in financing CA deficits, prior imbalances increased the cost of the adjustment process.
- Lane and Milesi-Ferretti (2014) show that countries with bigger CA deficits before the GFC tended to suffer greater demand compression when the crisis struck.
- The relation between deficits and costs is evident for Euro Area

Euro Area deficit countries were those most severely affected by the financial crisis

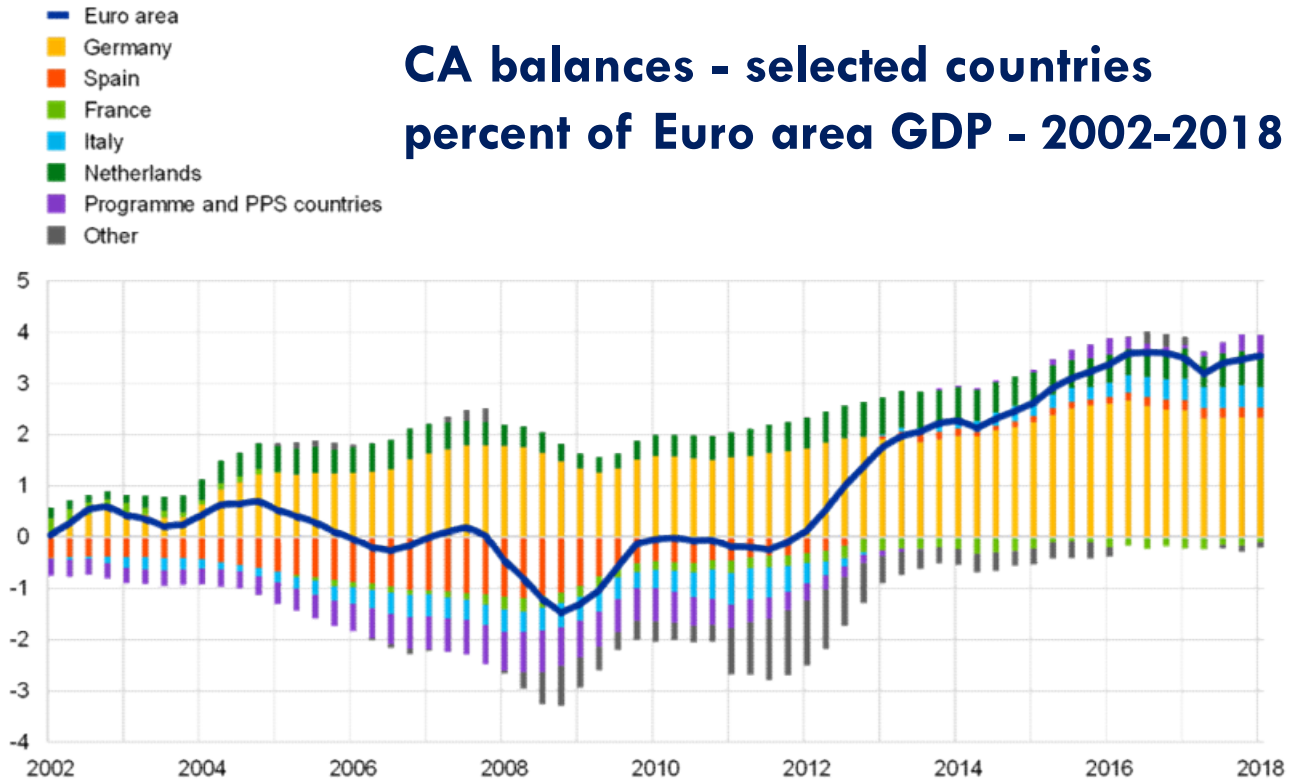


They were also badly hit by the Euro debt crisis.

The link between CA deficits and adjustment costs makes a strong case for monitoring CA imbalances

Correction has been strong and one-sided

CA balances - selected countries
percent of Euro area GDP - 2002-2018



Source: ECB.

Notes: The latest observation is for the first quarter of 2018. PPS stands for post-programme surveillance.

External CA adjustment and costs

Lane and Milesi-Ferretti (2014) look at the relation between the post-crisis change in the CA (from 2005-08 to 2012) and a measure of "**excessive imbalances**" before the crisis:

$$CA\_GAP = Actual\_CA - Fitted\_CA$$

- that reflects the deviation of the CA balance from its expected level based on economic fundamentals (growth rate, per-capita GDP, demographics, fiscal balance, natural resources, past crises, etc.)

They investigate whether

- The post-crisis correction of CA imbalances was the result of cyclical factors or did have a more structural, policy-driven, component.
- In particular, whether the adjustment was related to
  - Pre-crisis imbalances
  - The Investment Position
  - The exchange rate regime

CA adjustment

Dependent Variable: **Change in the CA**

	(1)	(2)	(3)	(4)	(5)
CA gap	-0.76*** [-8.51]	-0.63*** [-6.46]	-0.79*** [-5.40]	-0.54*** [-6.71]	-0.76*** [-4.61]
CA gap*peg					
NFA/GDP 2004-07	-0.02* [-1.91]	-0.01 [-1.07]	-0.04** [-2.78]	-0.01 [-0.97]	-0.04** [-2.66]
NFA/GDP*peg					
Peg					
Constant	0.00 [0.89]	-0.01 [-1.44]	0.02** [2.52]	-0.01** [-2.10]	0.02** [2.42]
Observations	64	42	22	41	19
R-squared	0.63	0.62	0.76	0.48	0.71
Countries	All	No Peg	Peg	No Peg; No ICE	Peg; No Baltics

There is a strong adjustment towards the elimination of excessive imbalances:
75% of the GAP was closed.

This correction is independent of the exchange regime

Countries with large net (+,–) positions and pegs underwent stronger adjustments

Did exchange rate depreciation help?

Dependent Variable: **Real Appreciation**

	(1)	(2)	(3)	(4)	(5)
CA gap	0.46	0.74*	-0.62***	0.28	-0.53***
	[1.29]	[1.74]	[-8.36]	[0.90]	[-4.44]
CA gap*peg					
NFA/GDP 2004-07	0.00	0.05***	-0.03***	0.04***	-0.03***
	[0.12]	[3.26]	[-4.44]	[3.26]	[-3.72]
NFA/GDP*peg					
Peg					
Constant	0.02	0.04*	-0.03***	0.05**	-0.03***
	[1.25]	[1.92]	[-3.56]	[2.60]	[-3.57]
Observations	64	42	22	41	19
R-squared	0.05	0.18	0.55	0.07	0.46
Countries	All	No Peg	Peg	No Peg; No ICE	Peg; No Baltics

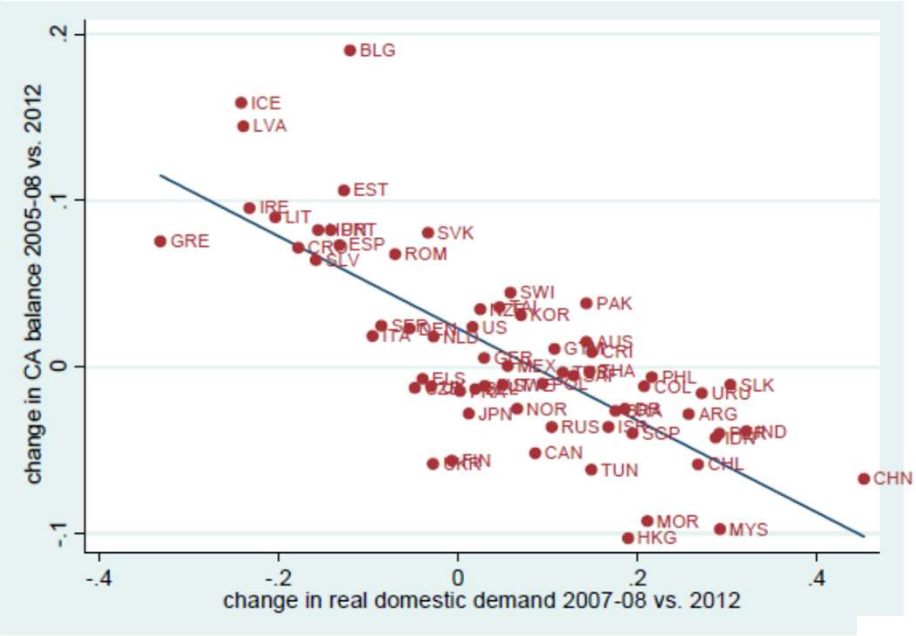
NOT AT ALL: Countries with positive GAPs or creditor positions depreciated

The burden of the adjustment is all on **expenditure reduction** as opposed to **expenditure switching** from real depreciation. This is even more true for countries pegging the exchange rate as the real exchange rate appreciated with negative GAPs (deficits)

CA improvements were associated with costly expenditure cuts (and poor macro performance)

The burden of adjustment has fallen mainly on "expenditure reduction"

Improvements in CA related to falls in Real domestic demand



	Change in domestic demand		
CA gap	1.69***	1.51***	0.79*
	[6.45]	[4.96]	[2.08]
NFA/GDP 2004-07	0.04**	0.01	0.10***
	[2.05]	[0.26]	[7.24]
Constant	0.06***	0.11***	-0.05***
	[3.77]	[6.80]	[-4.00]
Observations	64	42	22
R-squared	0.38	0.36	0.66
Countries	All	No Peg	Peg

Pre crisis CA Gaps are strongly correlated with changes in domestic demand