

INTERNATIONAL FINANCE IN THE 21ST CENTURY: GLOBAL IMBALANCES, VALUATION EFFECTS, AND FINANCIAL INTEGRATION

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Structure of presentation

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- **The period preceding the global financial crisis**
 - Boom in international capital flows
 - Global imbalances
- **The global financial crisis**
- **The past decade**
 - Rising asset prices
 - Reduced K-flows and CA imbalances
 - Rising stock imbalances
 - Evolving features of international financial integration

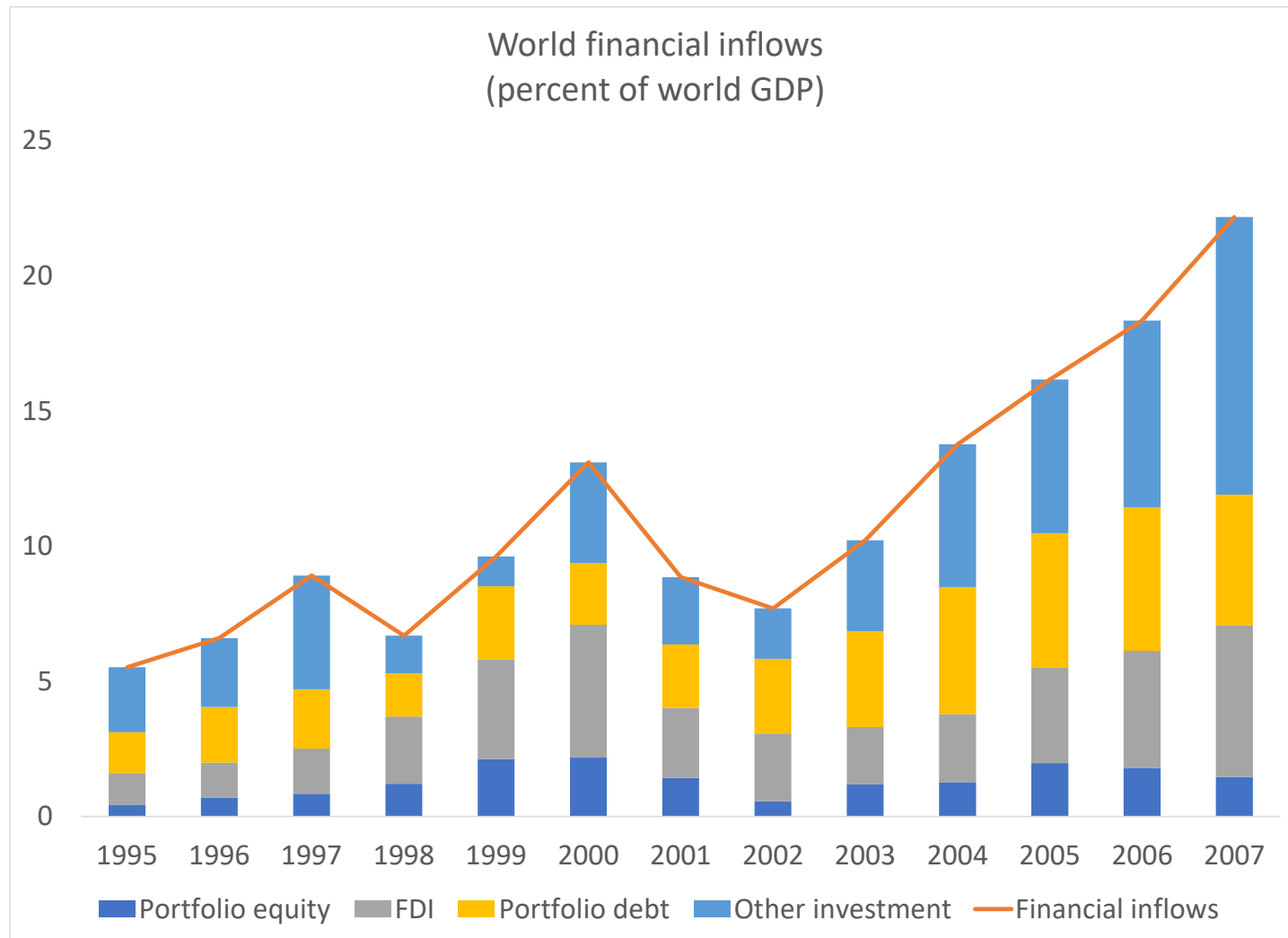
- **Appendix: Some key BOP and IIP definitions**

1995-2007:
Boom in capital flows,
global imbalances

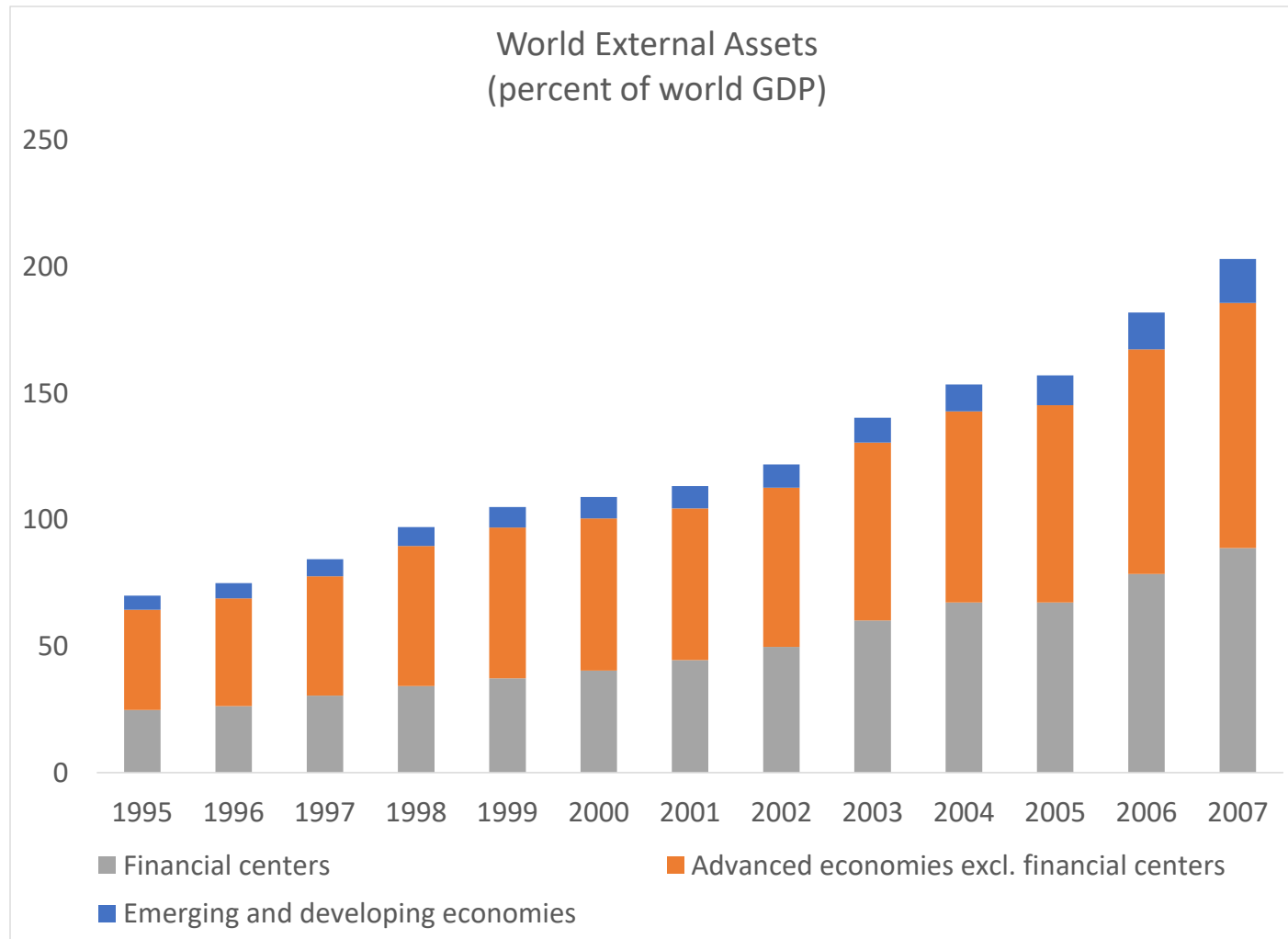
Background

- Rapid expansion of current account imbalances
- Boom in international capital flows
- Period generally characterized by very easy external financing conditions, rising asset prices, housing and credit booms in a number of countries
- IMF worried about global imbalances, and a potential disorderly adjustment
 - ▣ Multilateral consultation on global imbalances (2006)
 - ▣ Systematic assessments of exchange rate misalignment and current account gaps

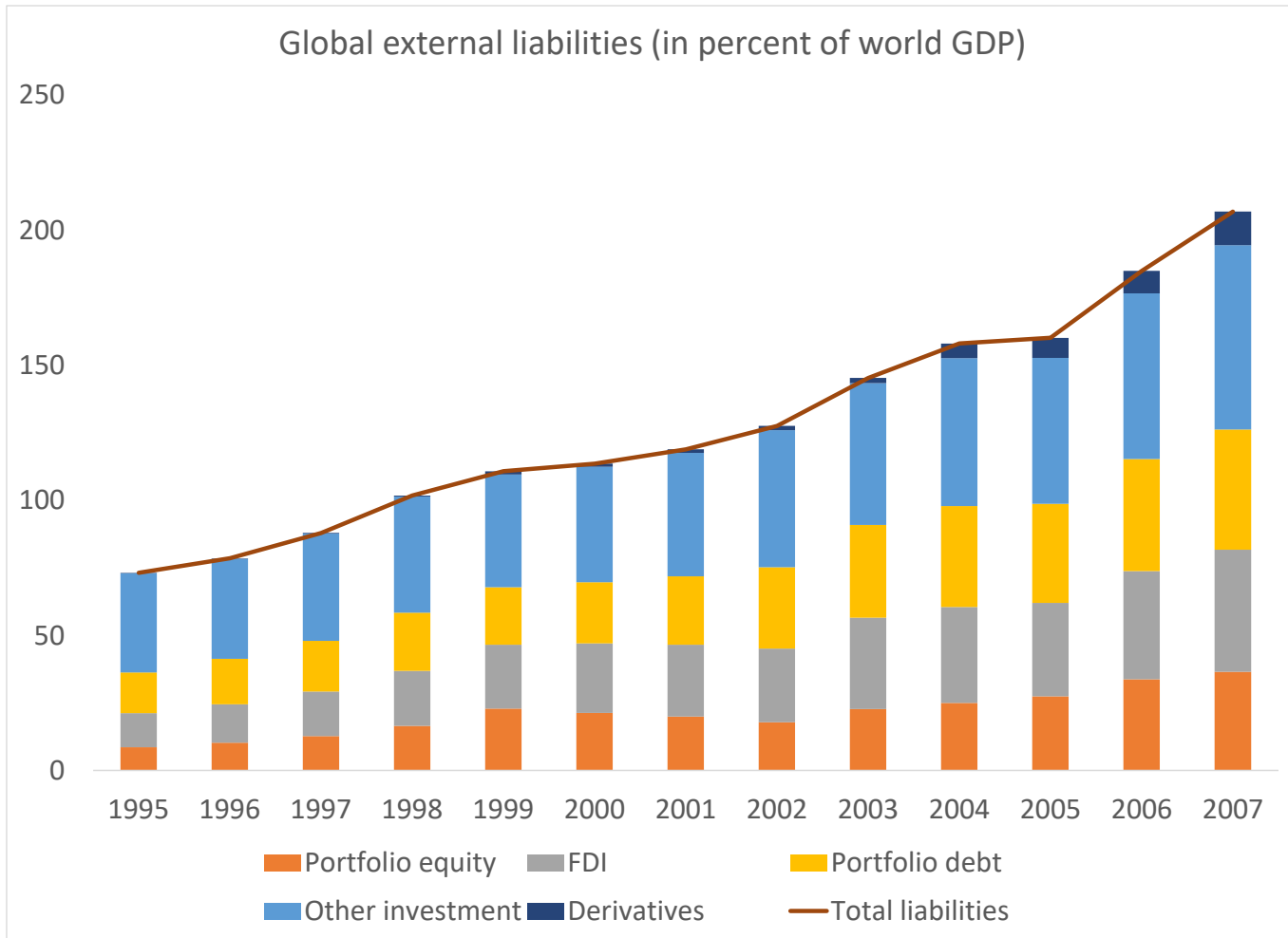
A boom in international capital flows



...and rapidly rising external assets and liabilities

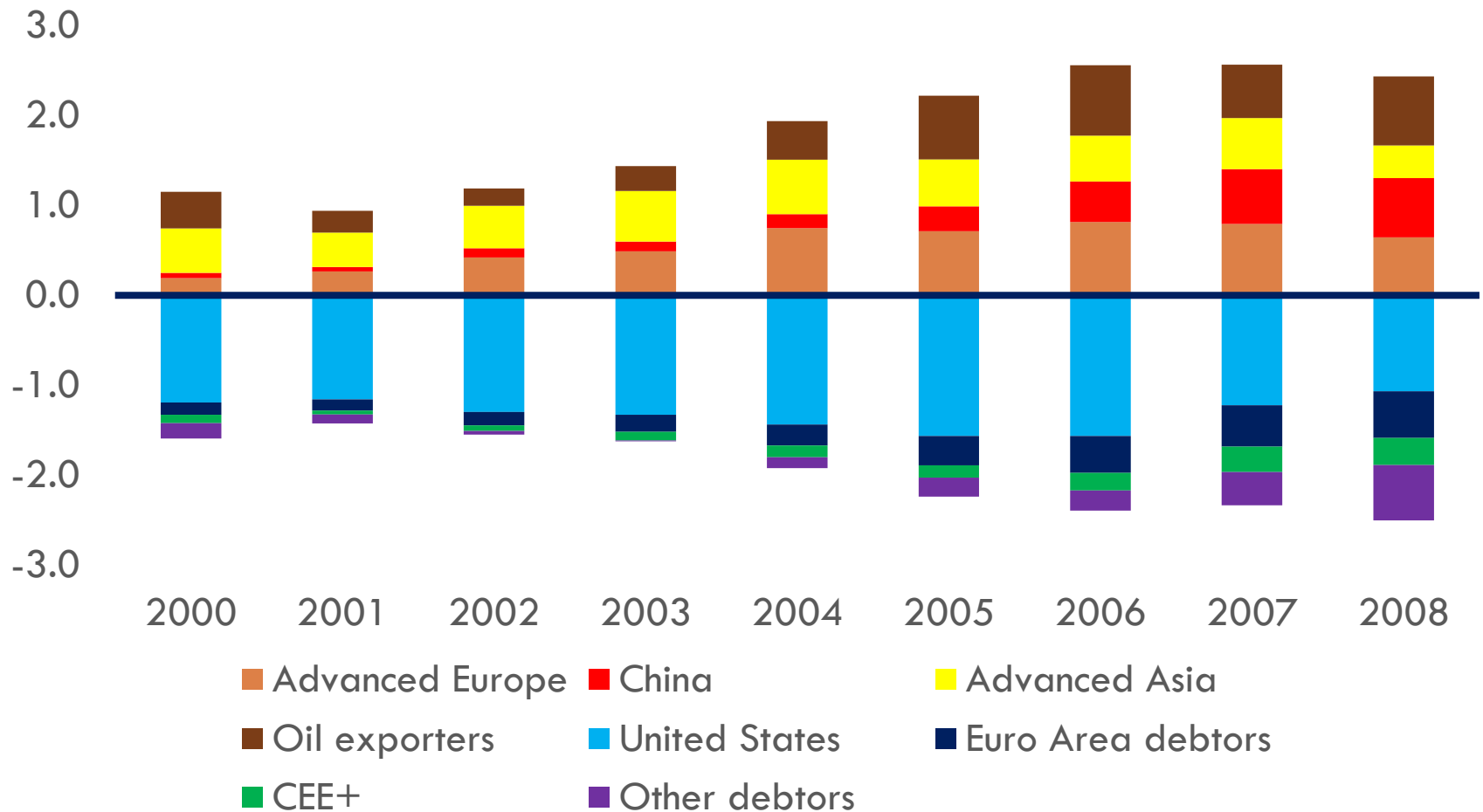


...with all classes of external holdings on the rise

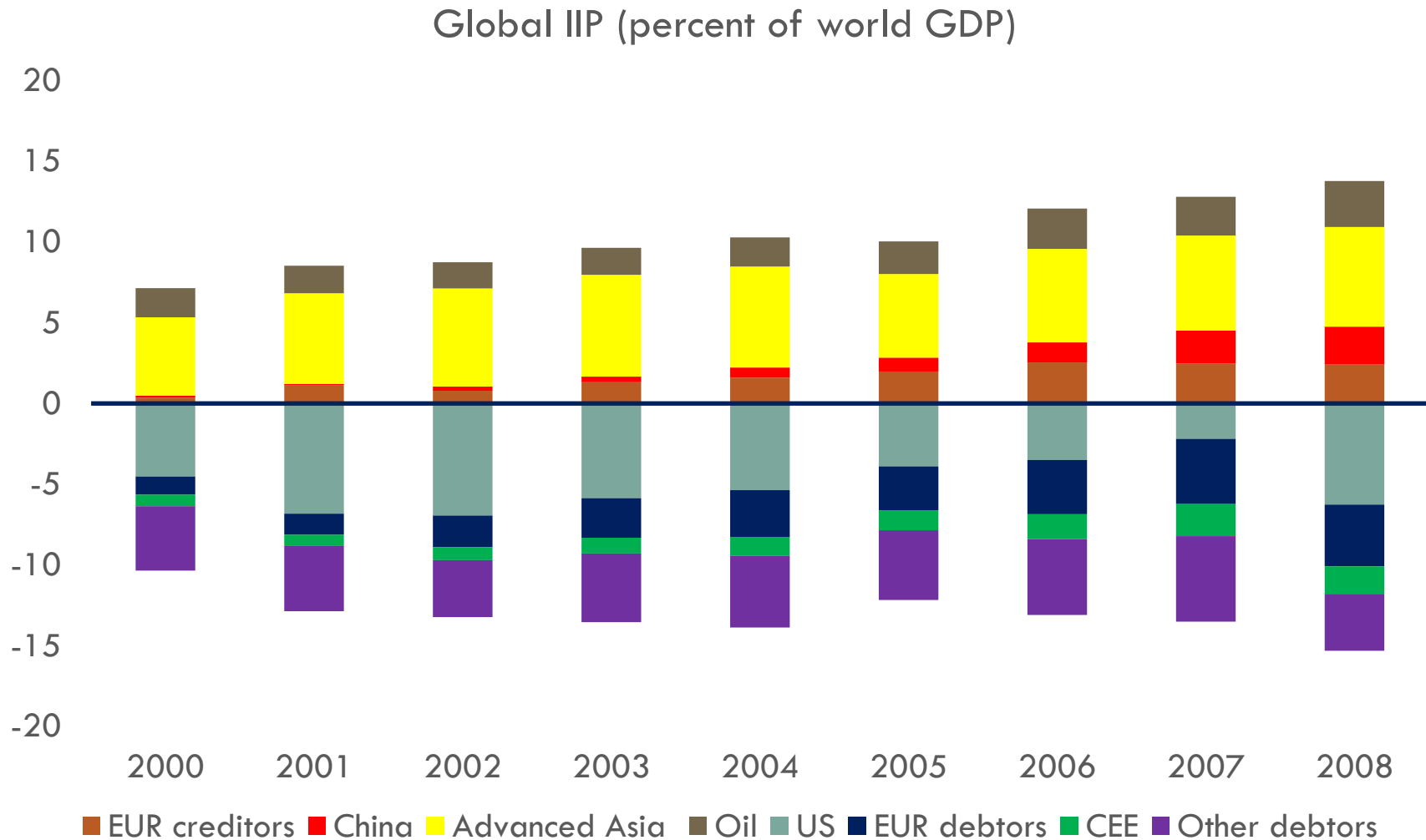


Global CA imbalances pre-crisis

Global current account imbalances (percent of world GDP)



Global stock imbalances pre-crisis



Net and gross positions, asset prices

- The growth in capital flows and gross positions boosted the potential for valuation effects, as it increased the “base” on which these effects operate.
- This is particularly the case for the growth in cross-border equity holdings, where asset price fluctuations are particularly large
- Exchange rate changes were also notable during these years (euro-dollar went from 1.13 at end-2001 to 0.69 at end 2007).

Evidence and Theory (I)

- Good survey of the literature in Gourinchas and Rey (2014)
- Uphill capital flows, contrary to the basic “neoclassical model” (higher rates of return in EMDEs would call for net borrowing to finance capital accumulation). Gourinchas-Jeanne, 2013 ReStud)
- But case overstated: special role for CHN, oil exporters, official flows
- Reasons for high demand for US assets
- Emerging mkts: FX reserve accumulation as insurance against external crises (Mexico, Asian crisis, Brazil, Russia, Argentina...), part of export-led development strategy (China), revenues from oil
- Global savings glut (Bernanke, 2005)
 - ▣ Scarcity of “safe assets” (Caballero, Farhi, Gourinchas, 2017)
 - ▣ Precautionary saving (Mendoza, Quadrini, Rios Rull, 2009)

Evidence and Theory (II)

- Empirical assessment of CA imbalances on the basis of “fundamentals” (Chinn-Prasad, 2003; Lee et al, 2008 on IMF “CGER” methodologies)
- General findings:
 - ▣ Role of fiscal policy
 - ▣ demographic factors
 - ▣ Level of development
 - ▣ Initial creditor/debtor position
- Overall, reasonable fit but actual imbalances mostly larger than estimated values. Assessment: “excess imbalances”
- Resolution of imbalances: exchange rate adjustment (estimates of overvaluation, undervaluation). Dollar assessed as overvalued, RMB undervalued.
- IMF methodologies subsequently refined with a more “normative” bent (“EBA”).

The global financial crisis and its immediate aftermath

The crisis

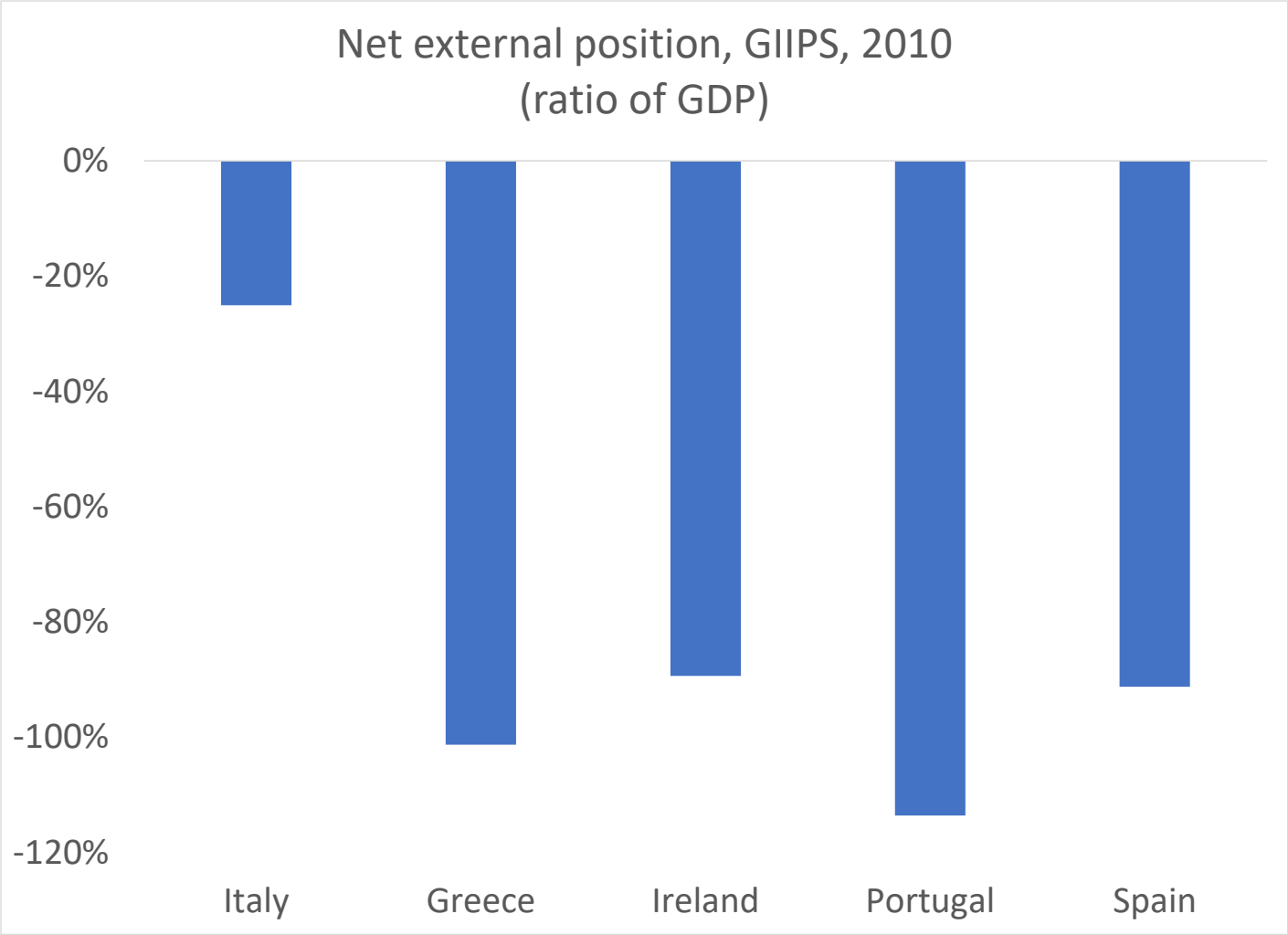
- The crisis was not the “disorderly unwinding of CA imbalances”
- Despite the US being at the epicenter of the crisis, the USD actually strengthened during the period of highest financial stress
- Clear ex post that imbalances were a symptom of pre-crisis excesses...
- Indeed, the “bonanza” ended abruptly with the crisis—tighter external financing conditions, reassessment of external credit risk for many borrowers
- Imbalances narrowed substantially – but mostly through large declines in aggregate demand and GDP growth in deficit countries

What was the legacy of the crisis in terms of imbalances?

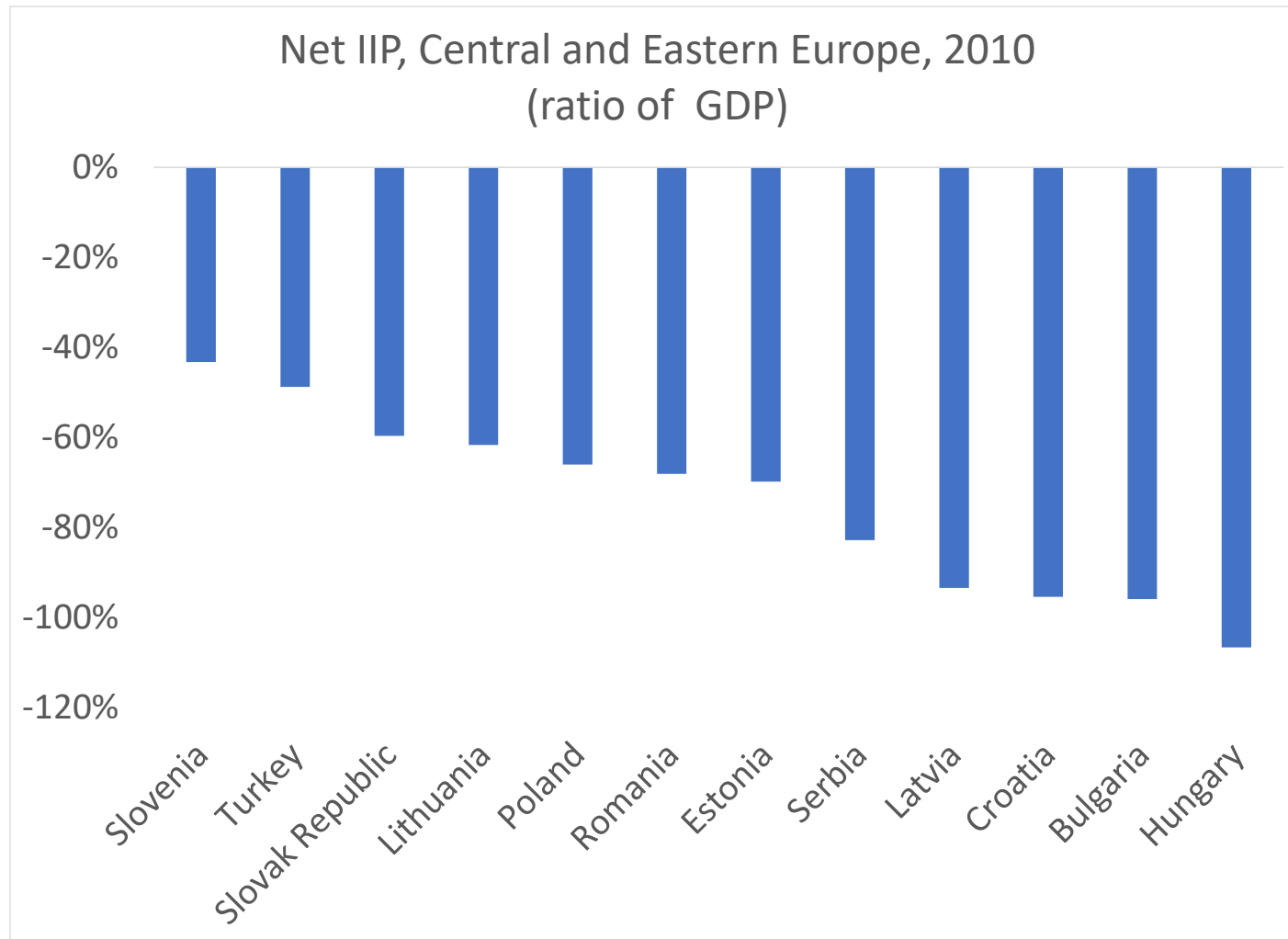
- Painful external adjustment in countries than ran large deficits
- Output cost of crisis and subsequent years higher in countries with larger pre crisis imbalances (eg euro area crisis)
- Non-CEE emerging markets recovered well, helped by the rebound in commodity prices.

- Very large debtor positions in the euro area “periphery” and in central and eastern Europe
- Surprisingly low level of US external liabilities

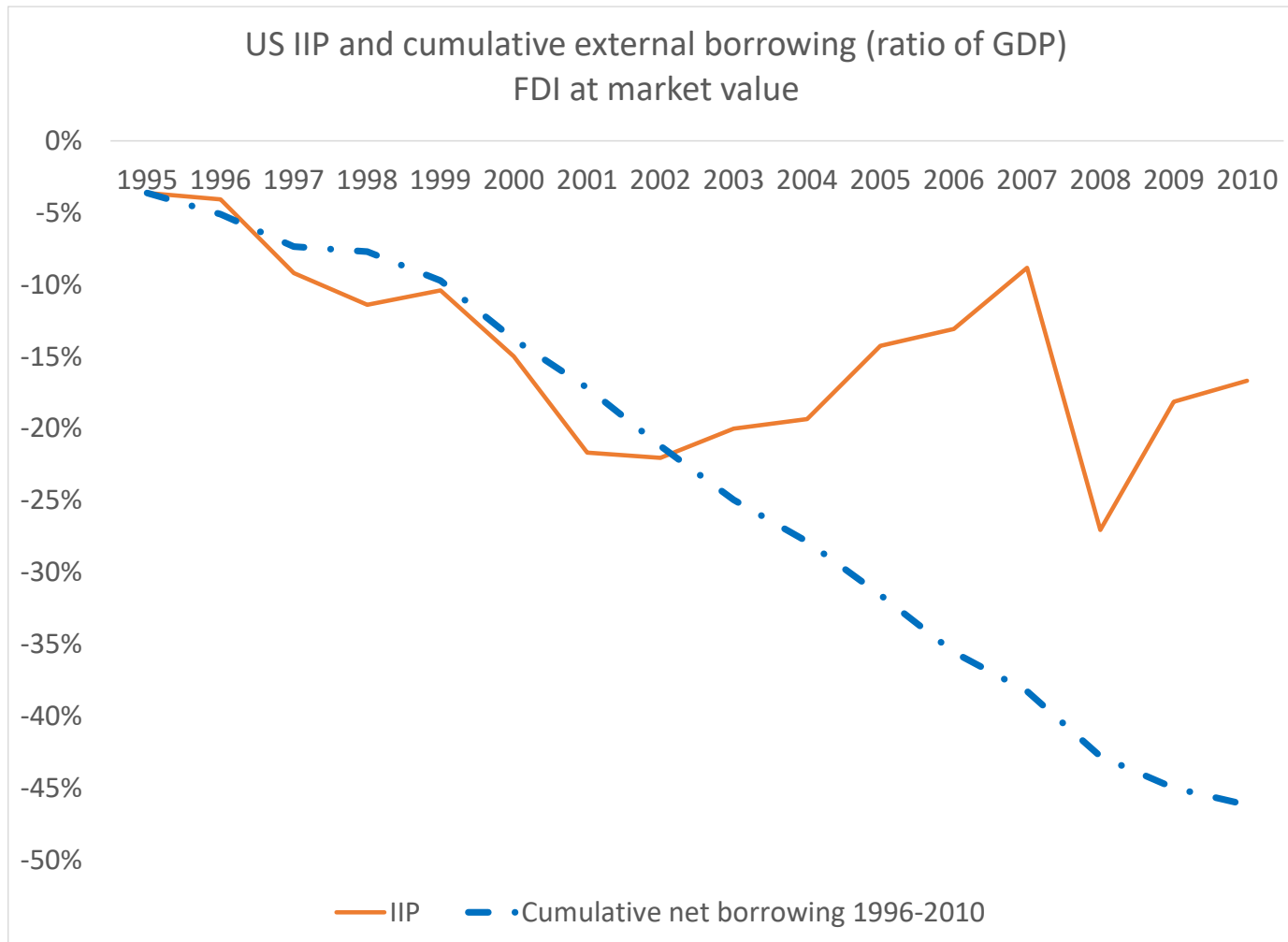
Selected debtor countries in the euro area



Debtor countries in central and eastern Europe



The surprisingly low external liabilities of the US

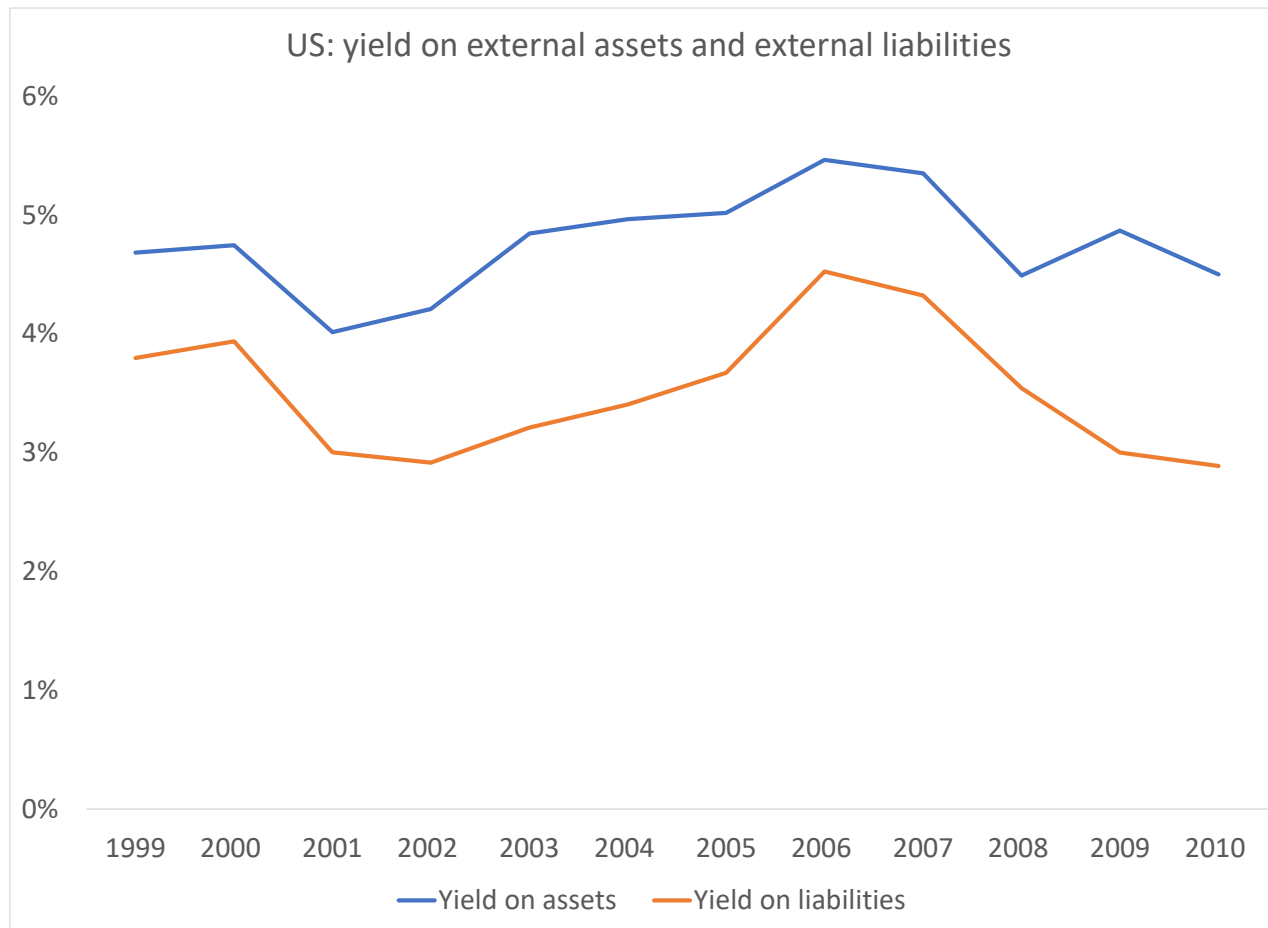


Why did the US liability position stay modest?

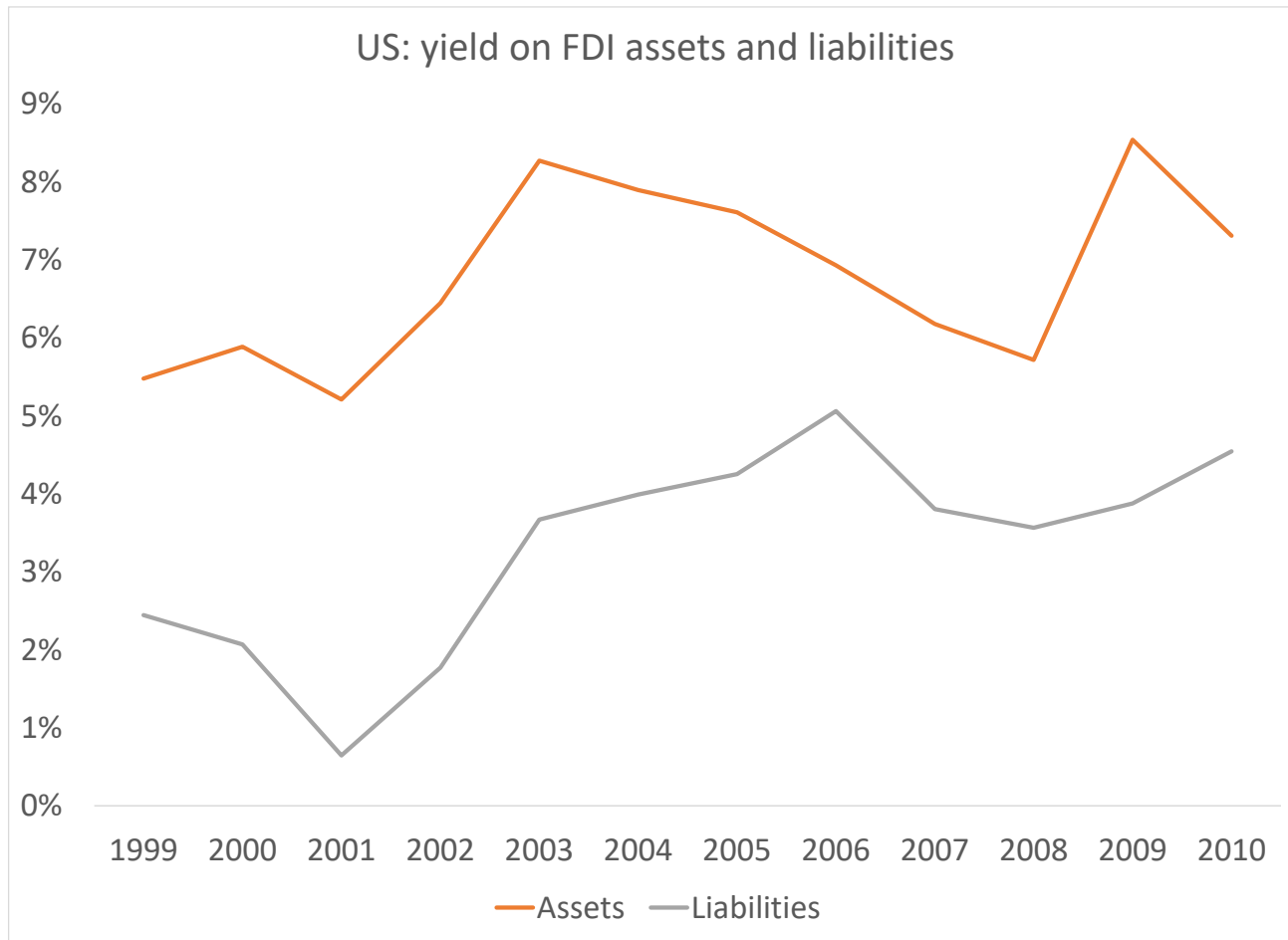
- $b_t - b_{t-1} = bgs_t + \frac{r_t^L - g_t}{1 + g_t} b_{t-1} + \frac{r_t^A - r_t^L}{1 + g_t} a_{t-1} + e_t$
- Valuation effects
 - ▣ USD depreciation since 2002
 - ▣ weak US stock price returns relative to world returns ($r_t^A - r_t^L > 0$)
- But also “other changes” in the US IIP ($e_t > 0$)

Literature emphasizing exorbitant privilege

- The US records higher investment income on its assets than liabilities



...but mostly because of FDI yields, which are often driven by tax considerations

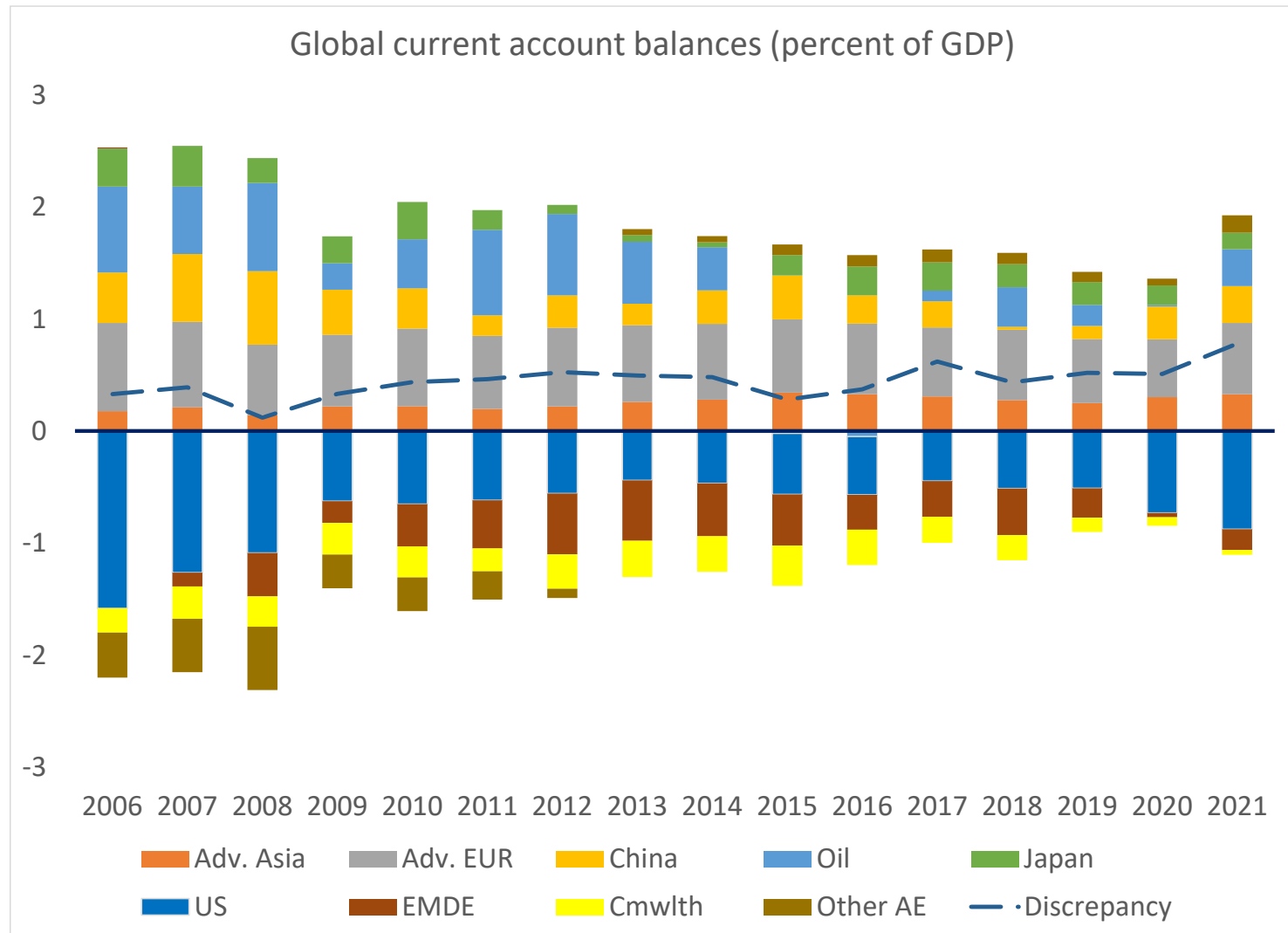


Return differentials and valuation gains

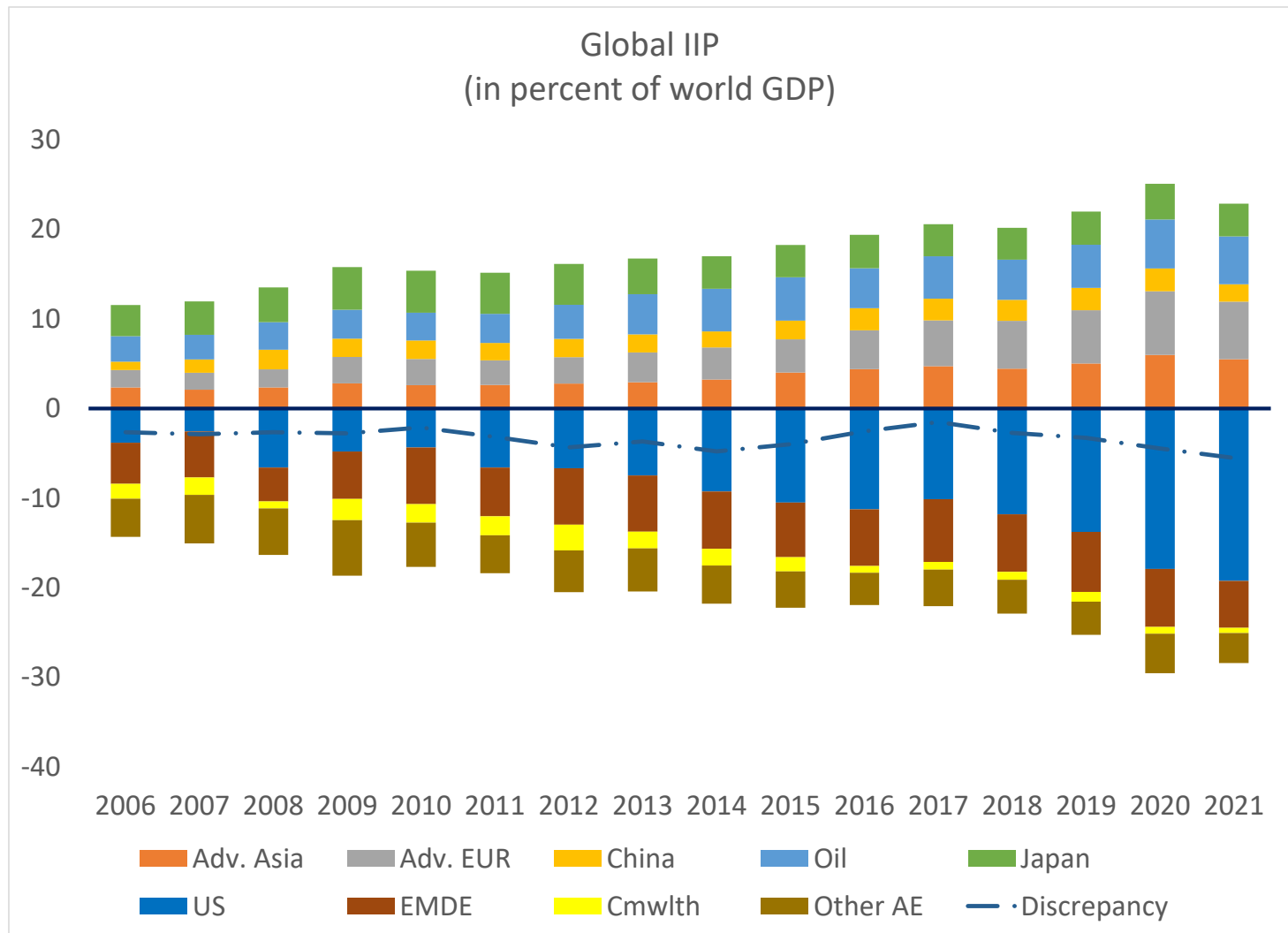
- The share of instruments with higher returns (FDI in particular) is higher for US assets than for US liabilities, so that also raises the yield differential.
- In addition, the large positive valuation gains between 2002 and 2010 imply that differences in *rates of return* (which include K-gains) are even larger.
- There is a debate in the literature on the extent to which US investors have higher returns on their assets than on their liabilities.
- See Gourinchas and Rey (2007) but also Curcuru et al (2009, 2013).

2010-2021:
Reduced flow imbalances,
Growing stock imbalances

Shrinking global CA imbalances since the GFC



but growing creditor and debtor positions



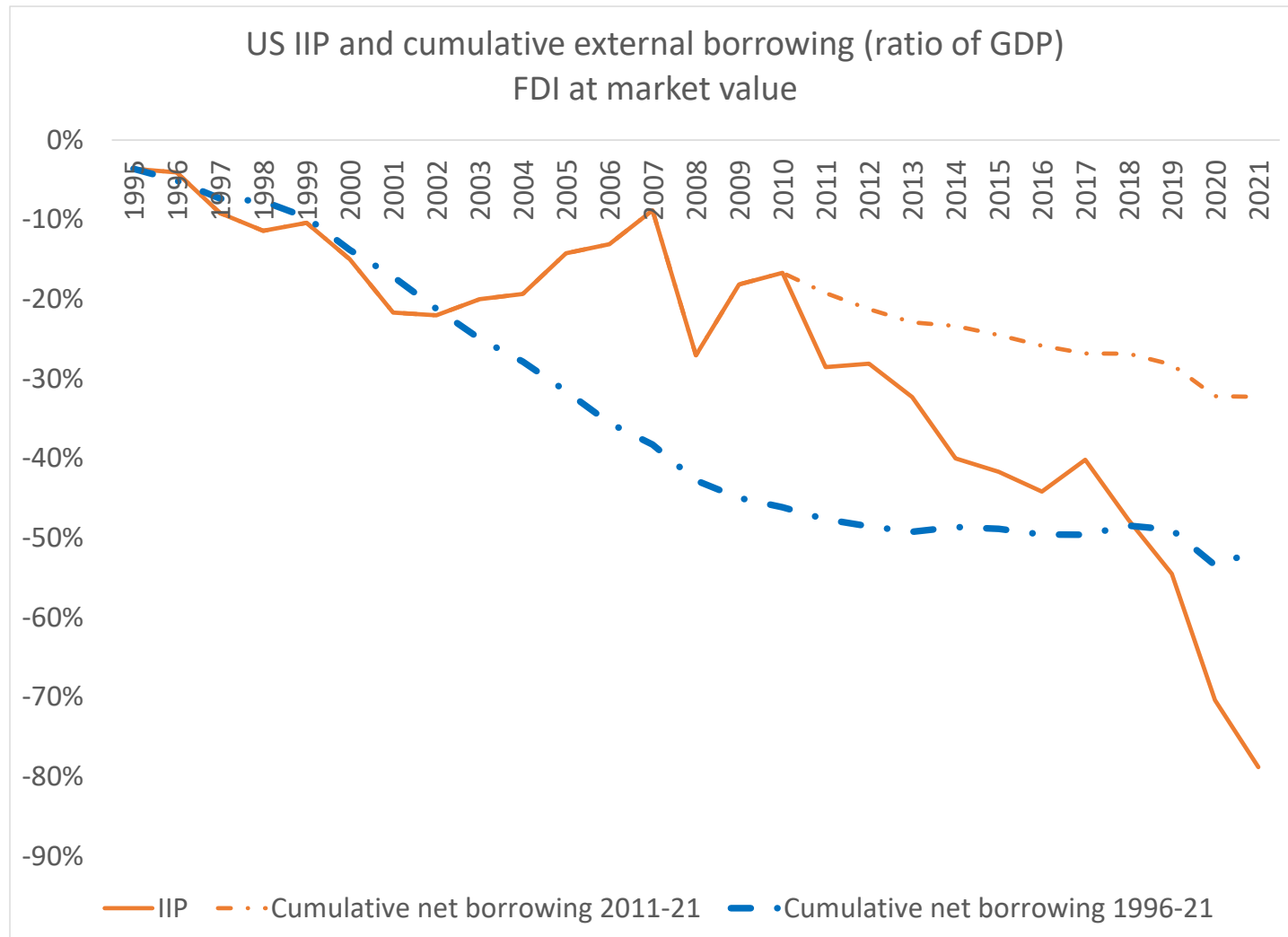
Why the expansion of creditor and debtor positions?

- Creditor countries generally continued to run surpluses, and (some) debtor countries (including the US) to run deficits

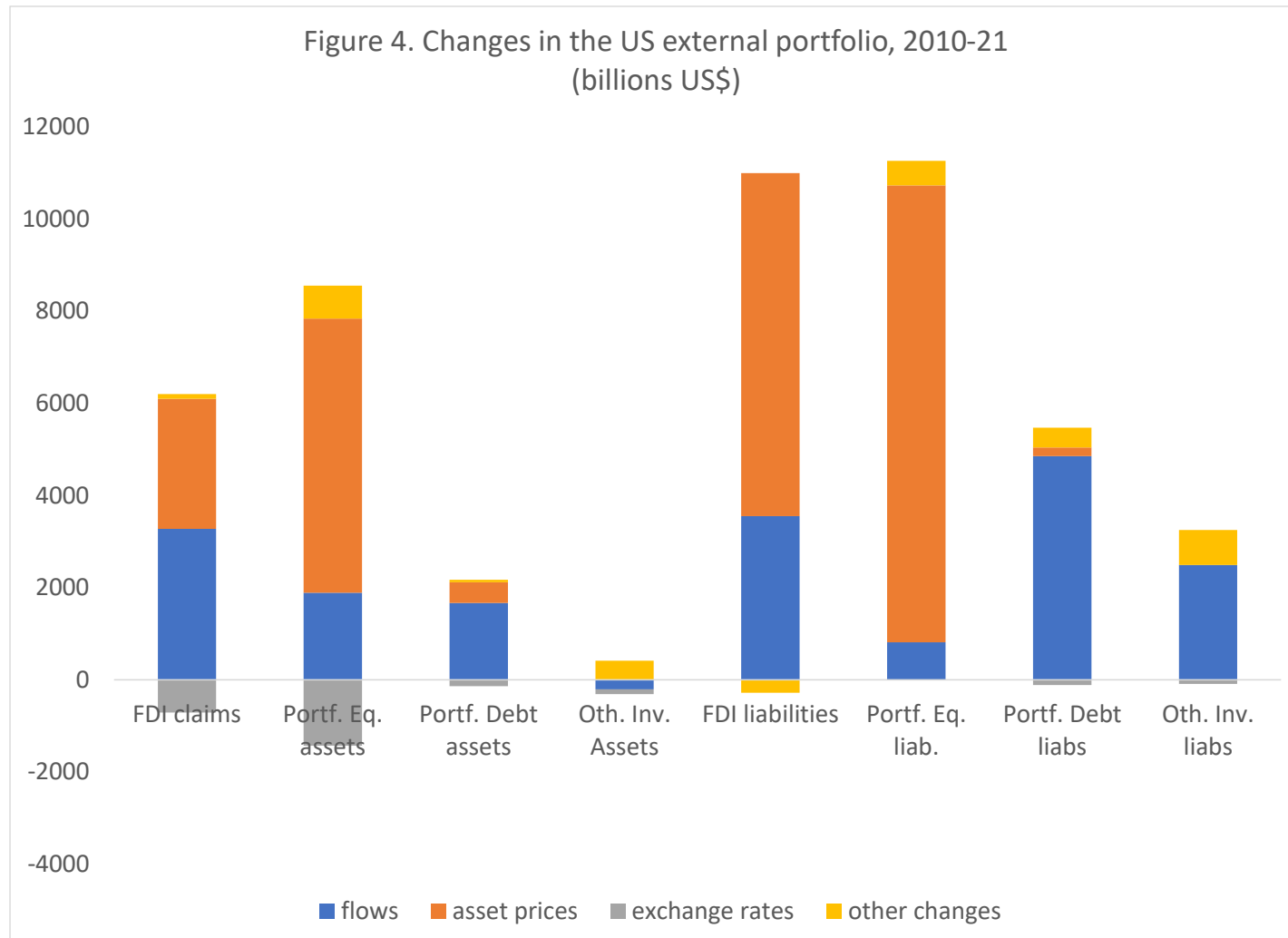
- But also massive valuation changes linked to
 - ▣ Exchange rate developments
 - ▣ Asset price changes

- World stock prices up 128% in USD terms between end-2010 and end-2021
 - ▣ US: 282%
 - ▣ World ex US: 30.7%

Massive worsening in US net IIP driven by valuation (-80 % of GDP in 2021)



Massive shift in US net IIP driven by valuation (by instrument)



Emergence of new creditors

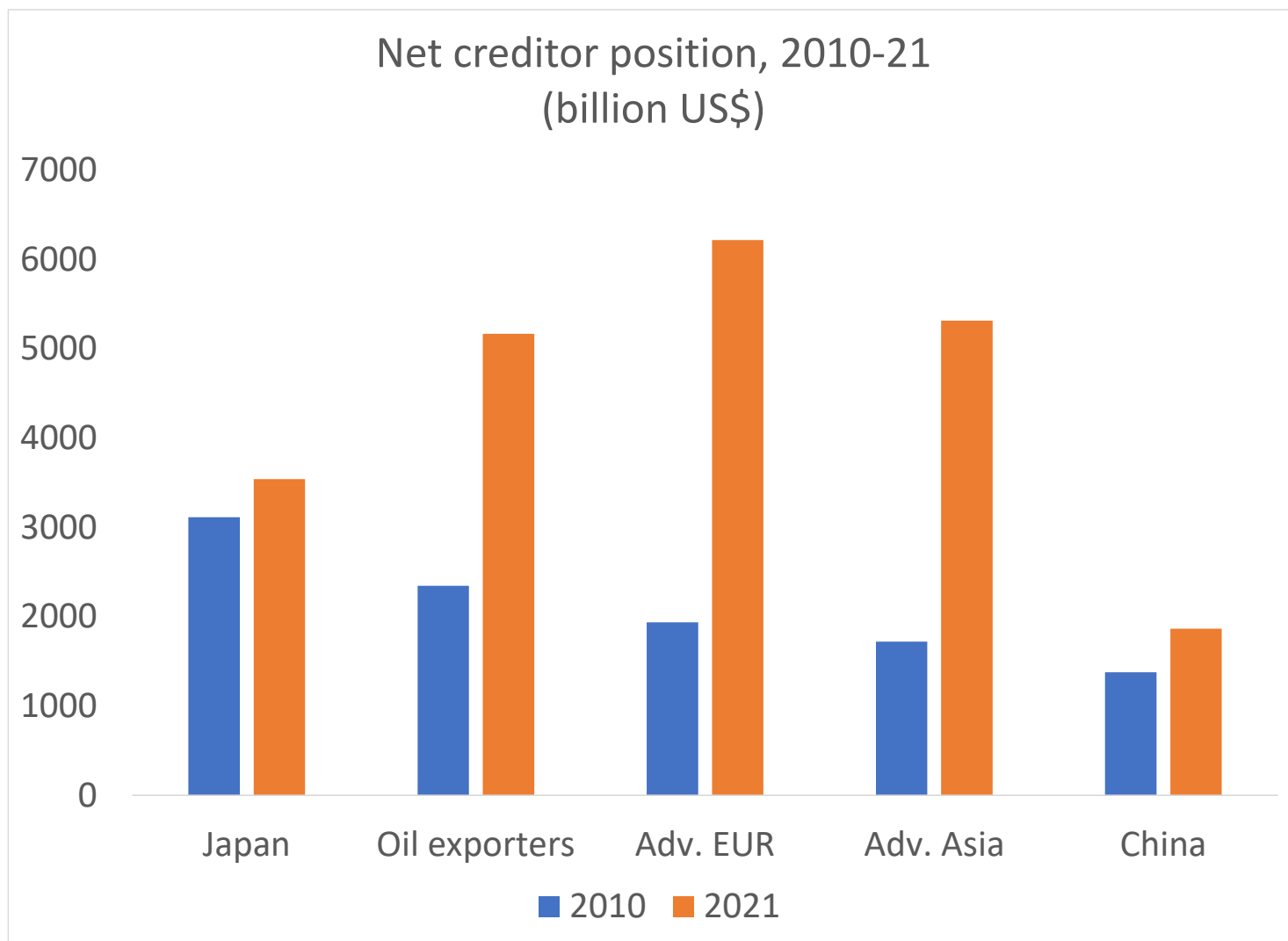
- Advanced Europe:
 - ▣ Austria, Belgium, Germany, Netherlands, Denmark, Norway, Sweden, Switzerland
 - ▣ In absolute terms, large creditors are Germany (\$2.6 tr), Norway (\$1.3 tr.), Netherlands (\$866bn)

- Advanced Asia:
 - ▣ Hong Kong, Korea, Singapore, Taiwan
 - ▣ In absolute terms, HK (\$2.1 trn), Taiwan (\$1.4 trn), SGP (\$1 trn)

- Large CA surpluses played a big role (valuation helped in some cases, especially Norway, Hong Kong)

- Middle East oil exporters remain large creditors as well – but much bigger measurement challenges

Emergence of new creditors



Who benefited from valuation gains?

- Holders of US equities, FDI in the US
- Very large gains for Canada, but also UK, Australia, and countries with large sovereign wealth funds (Norway, Kuwait, UAE...).
- For Canada,
 - ▣ net borrowing 2010-21: 500 bn
 - ▣ net change in IIP, 2009-21: +\$1.4 trillion.
- But also EMDE (excl. China and oil exporters) experienced net valuation gains
 - Exchange rate depreciation / inflation differentials
 - Weaker asset price dynamics

Creditor countries -- Factors at play

- Differentiated picture
- Large role for government saving (including oil-driven SWF) in some cases (Norway, Middle East oil exporters, but also SGP)
- Geopolitical factors (Taiwan)
- Demographics
- Presence of large institutional investors (generally associated with larger portfolio equity holdings)



*Some considerations on external
adjustment and valuation effects*

Positive valuation effects can be bad news

- A fall in the value of the domestic capital stock reduces domestic wealth.....
- ...but to the extent that nonresidents own some capital in the country the external position will improve
- A country on the brink of default can have an improvement in the external position, as the market value of its external debt declines
- Bottom line: net *external* wealth not always positively correlated with *total* wealth

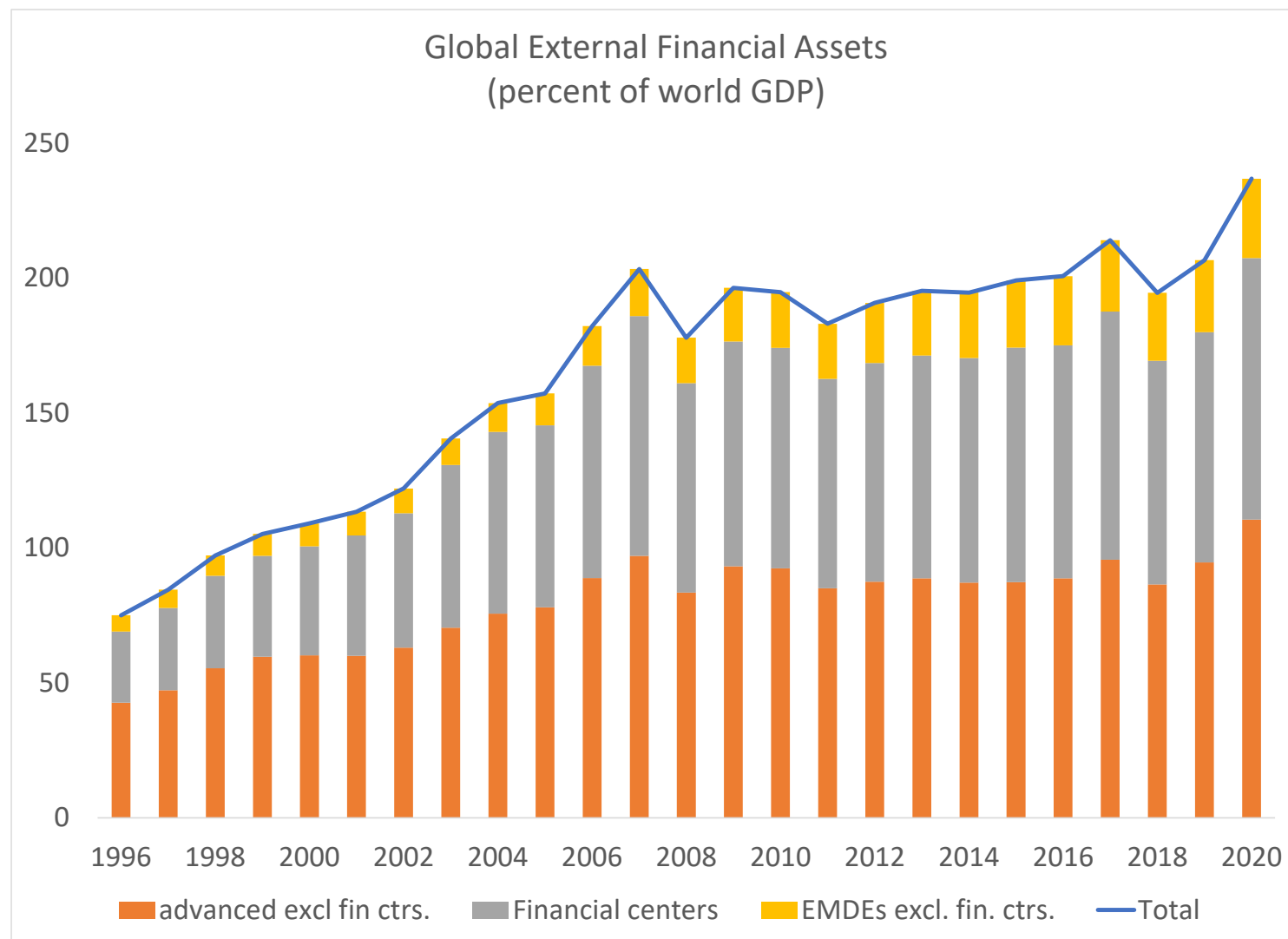
Valuation effects and external adjustment

- If a debtor country is “long” FX, a depreciation will improve the external position and spur net exports. This can ease external adjustment
- Compare this with a scenario where a country borrows only in FX (classic negative balance sheet effects from an exchange rate depreciation).
- Net liabilities: equity or debt? External adjustment harder in countries with net external debt liabilities (Catao-Milesi Ferretti, 2016).

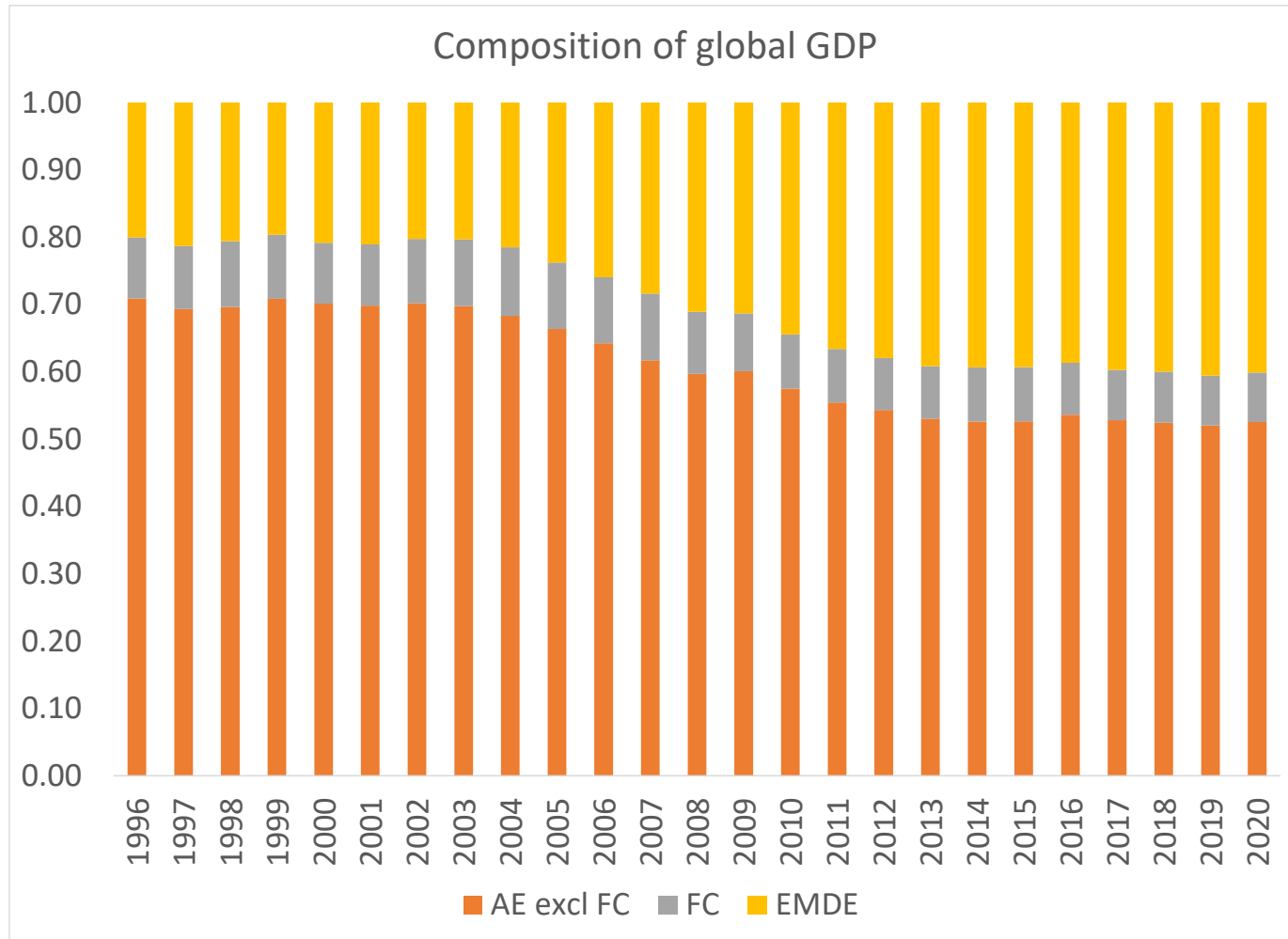


*Global financial integration in the
21st century*

Financial assets and liabilities: financial centers and advanced economies dominate



Weight of EMDEs in GDP is rising



Documenting international financial integration: Why the slowdown?

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- Much lower capital flows to and from advanced economies and financial centers
 - ▣ *Retrenchment in global banking*
 - ▣ *Euro area crisis*

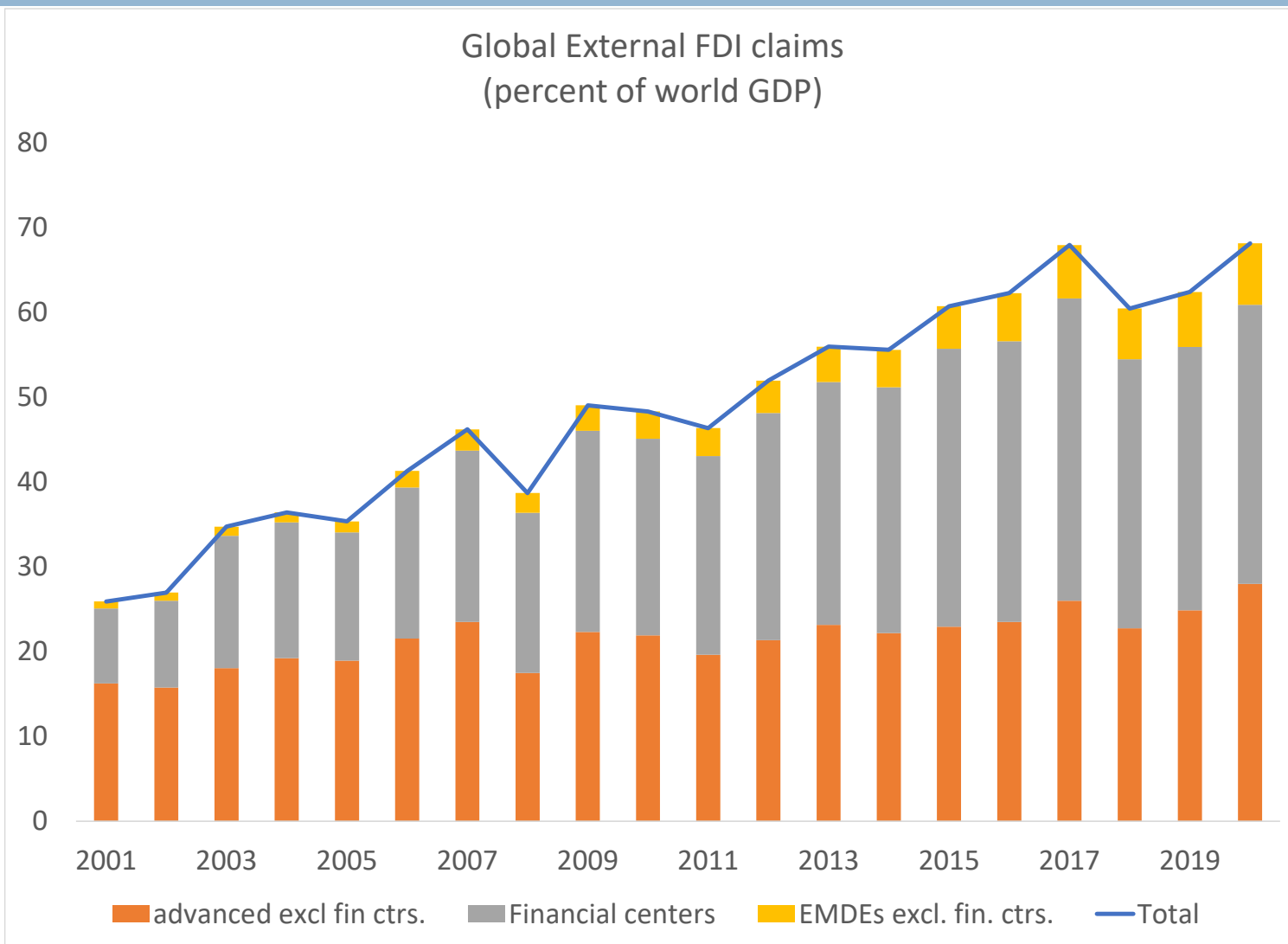
- Increased weight of EMDEs in global GDP
 - ▣ *These economies have lower shares of external claims and liabilities to GDP, and hence lower the global share as they grow in importance*

Intermediation through financial centers: evolution since the crisis

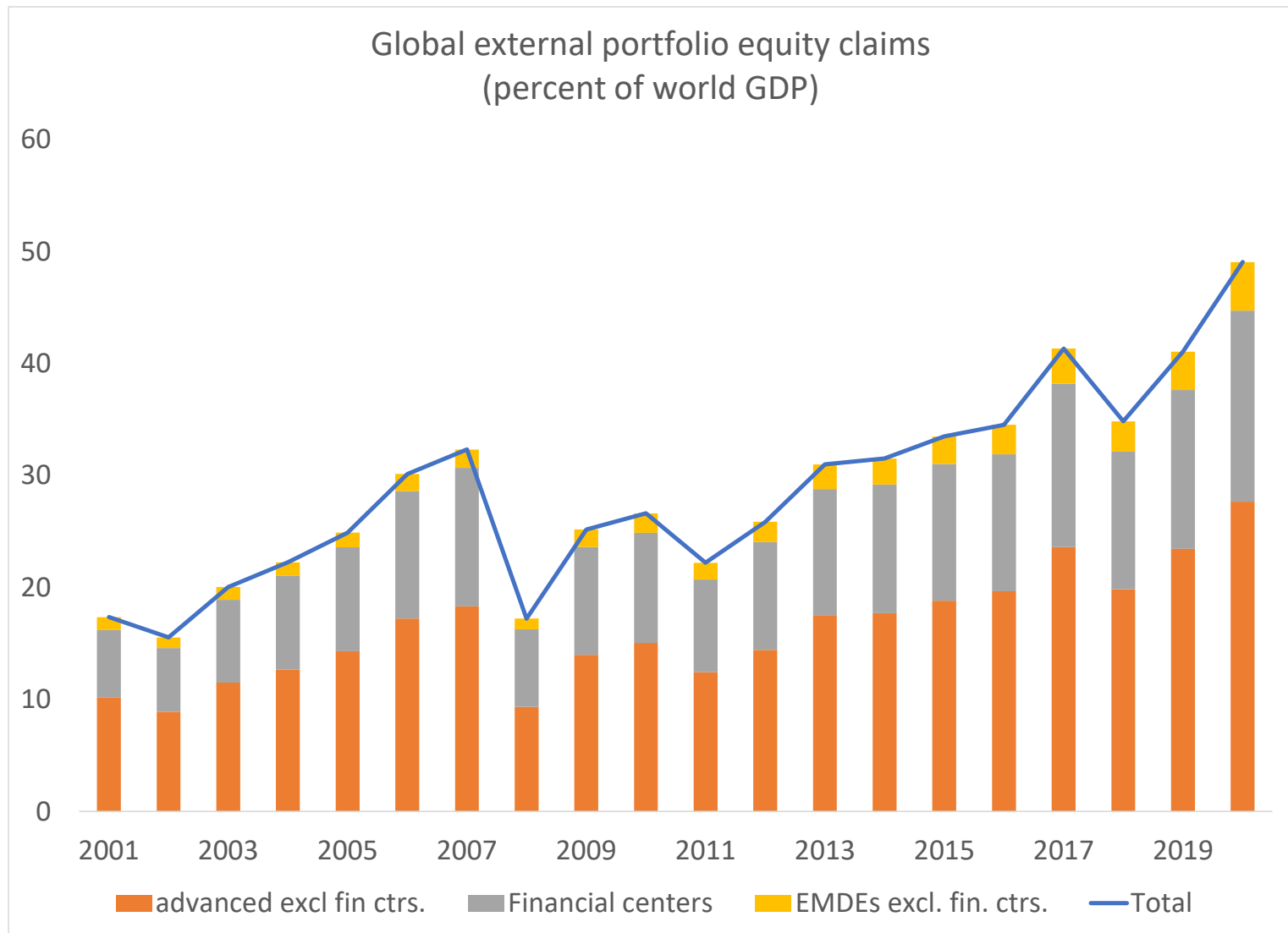
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- Pre-crisis: key role for banking centers (such as the UK and Switzerland)
- Post-crisis: Retrenchment in global banking, increased role for centers intermediating activity by MNCs and hosting the investment fund industry
 - Ireland
 - Luxembourg
 - Netherlands
 - Cayman Islands

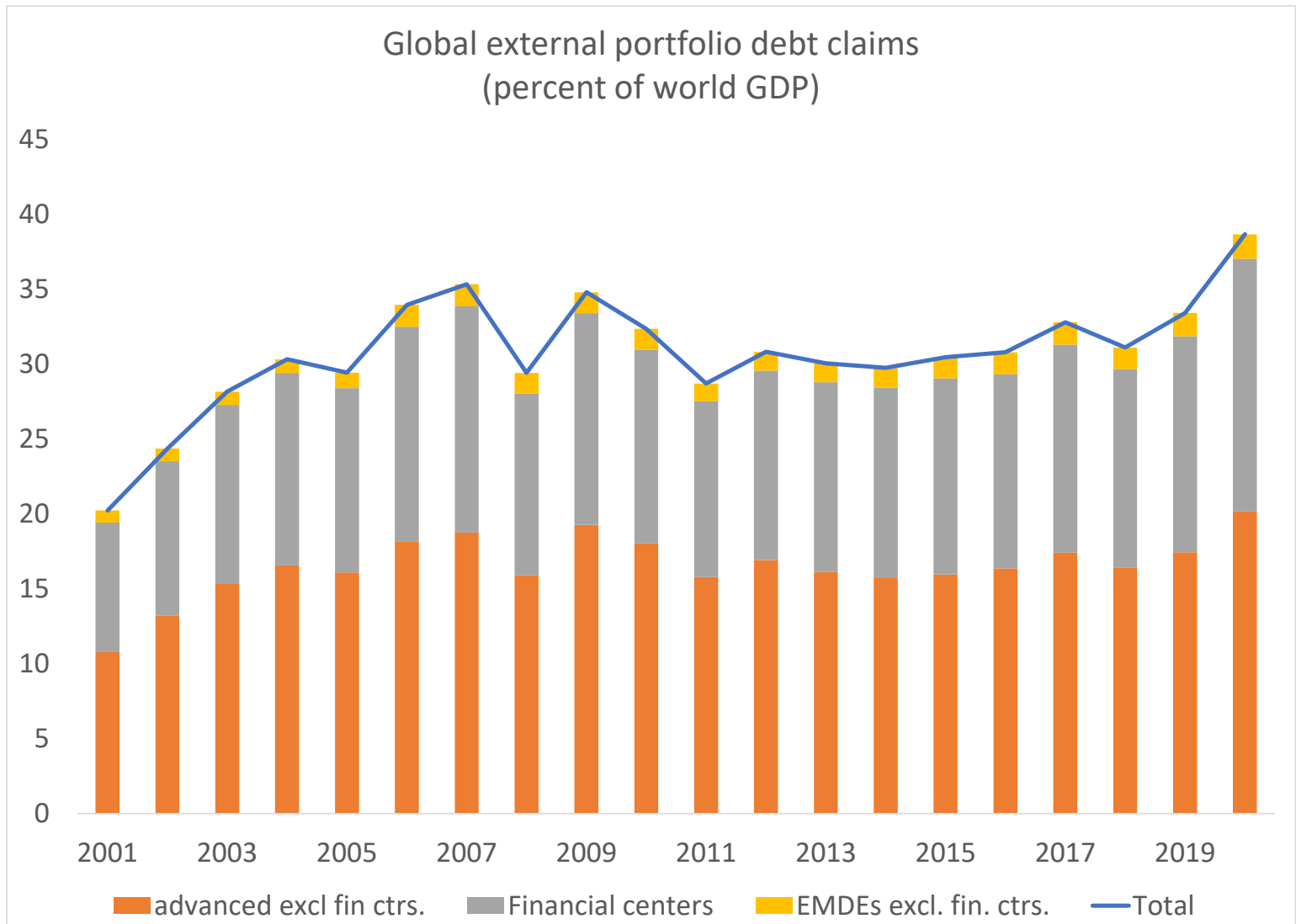
After the GFC: rising FDI (especially financial centers)



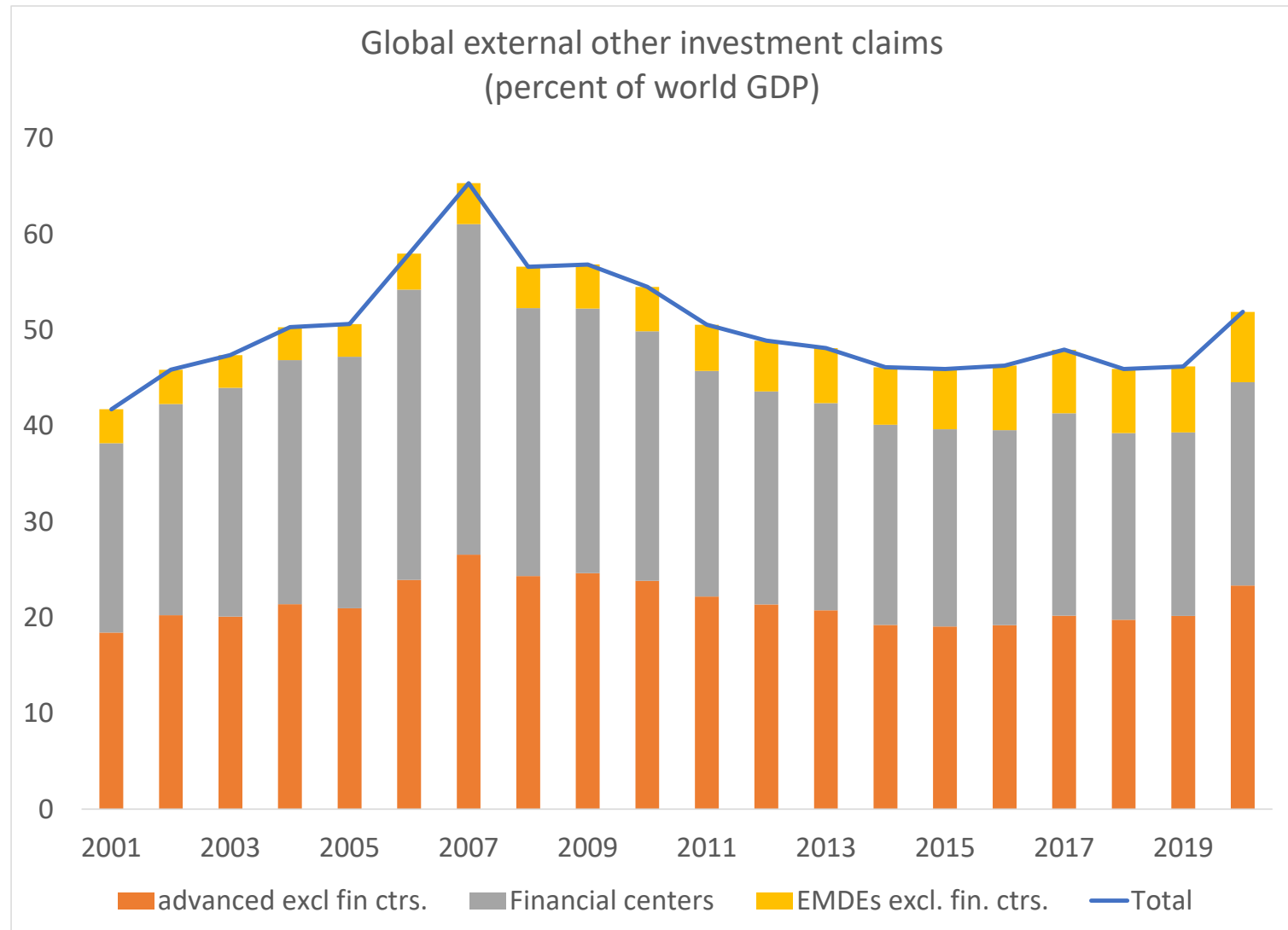
After the GFC: rising portfolio equity (soaring stock market valuations)



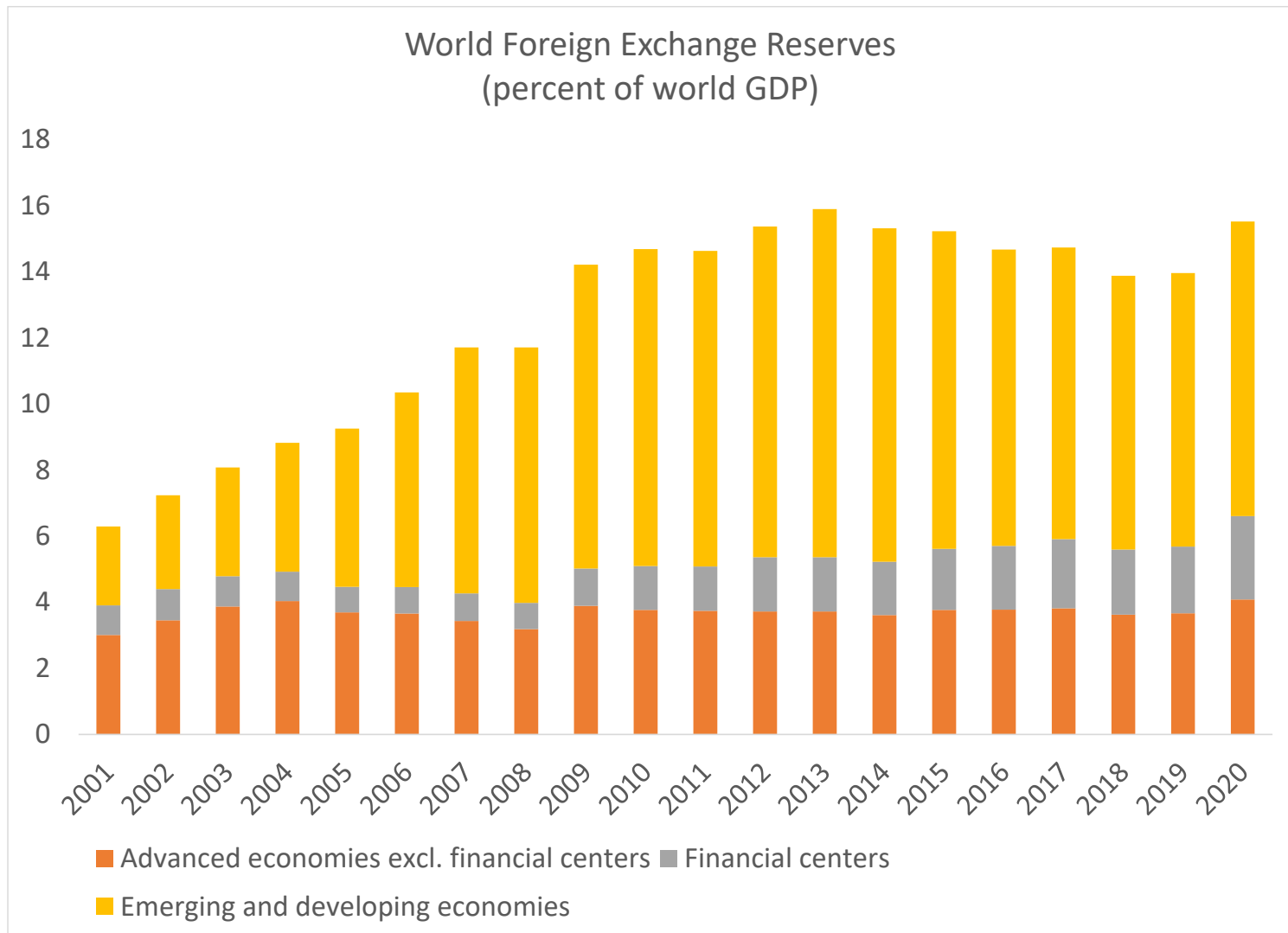
After the GFC: broadly stable portfolio debt claims



After the GFC: shrinking cross-border bank activity



FX Reserves: Mostly Emerging Economies



Are we measuring cross-country links correctly?

Key distortions

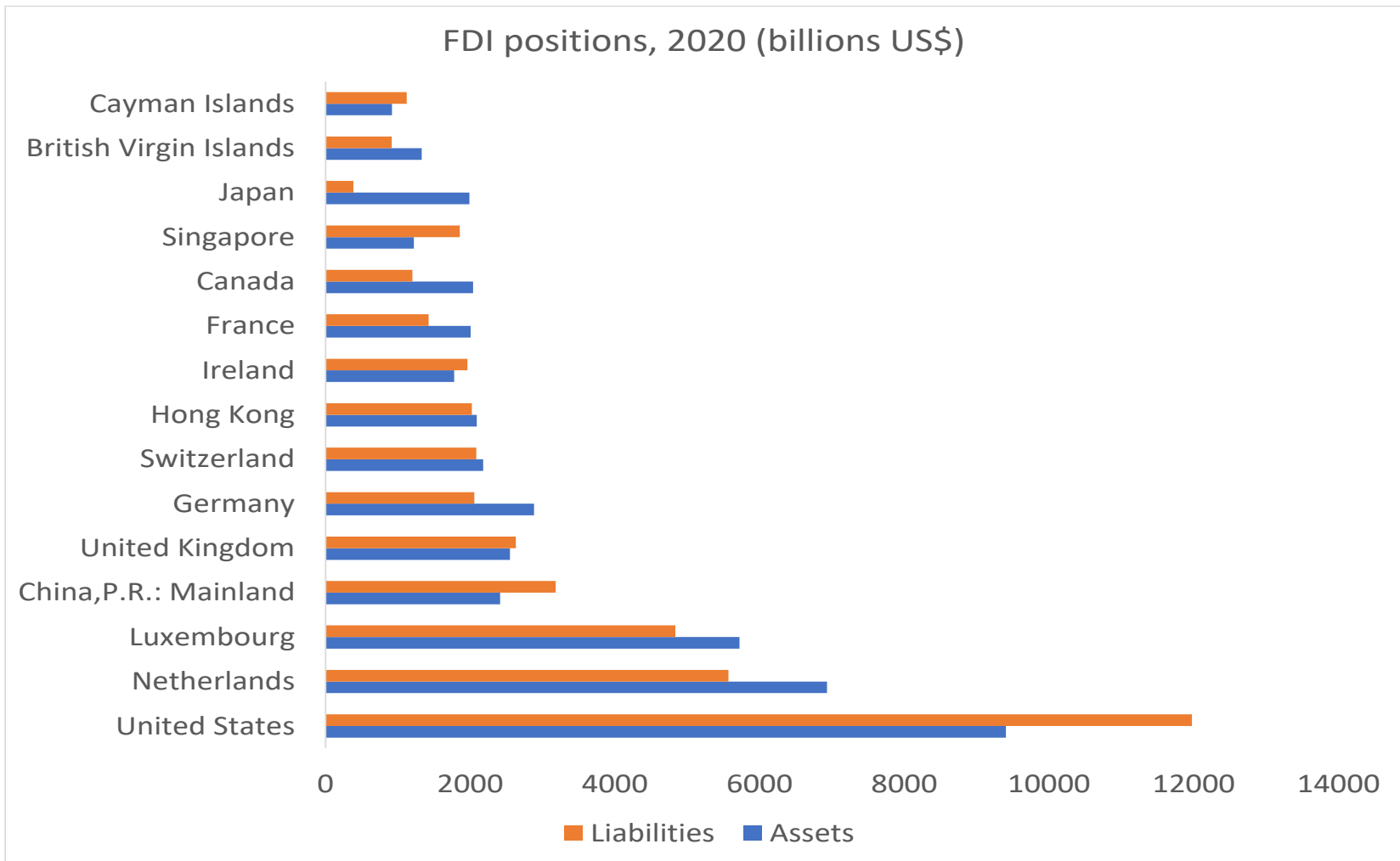
- Activity by multinational corporations (MNC) and globalization more generally distort volume, composition, and geographical pattern of global capital flows and external positions
 - MNC incorporation in low-tax countries
 - MNC use of SPEs to channel funds through financial centers
 - EM offshore issuance of debt securities
 - “Warehousing” of investment fund activity In financial centers (IRE; LUX; Cayman Islands)

FDI statistics: the role of financial centers

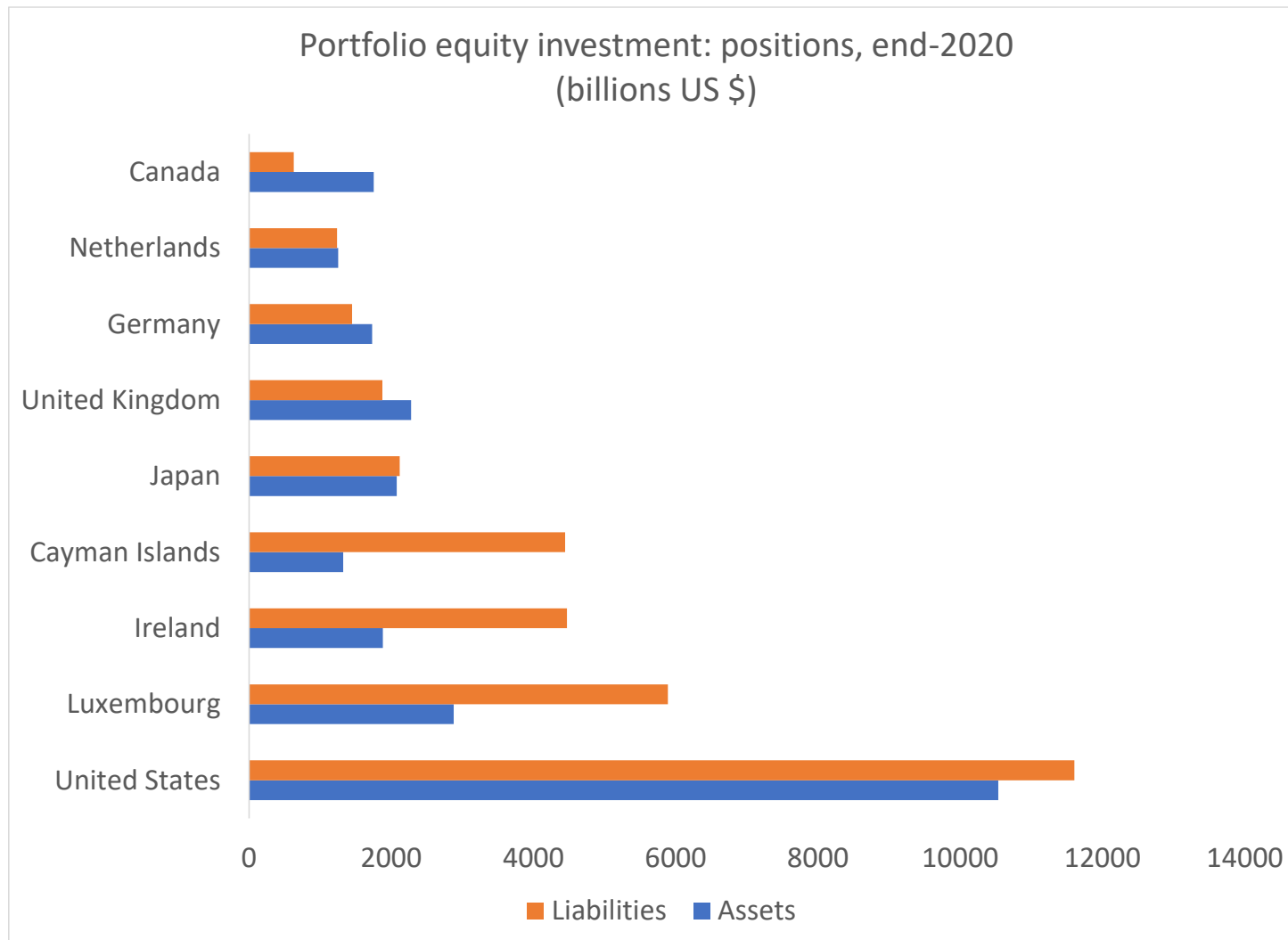
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- FDI largest component in financial centers' external claims and liabilities
- Over half of world's FDI claims are booked by FCs
- Factors explaining rising FDI:
 - ▣ Boom in SFEs/SPEs
 - ▣ Re-domiciling of MNCs to financial centers (e.g. Ireland)
 - ▣ Shifts in intellectual property capital towards FCs

FDI positions, 2020



The largest positions in portfolio equity



Summary

- What do we mean by “integration”?
 - Cross-border lending
 - Global portfolio diversification
 - Private sector (pension funds, households...)
 - Government investment (reserves, SWFs)
 - International allocation of production (greenfield FDI, M&A)

- But other factors at play too:
 - Location/residence of asset managers (eg fund industry in Ireland, Luxembourg, Cayman Islands)
 - Cross-border activity of banks
 - Financial activity of nonfinancial MNCs (tax/regulatory arbitrage, balance sheet management)

Size of cross-border claims and “international financial integration”

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- These additional factors imply a multiplication of apparent financial links and often involve “round-tripping”
- They attribute a disproportionate importance of financial centers in international financial linkages
- They also distort the composition of financial flows and cross-border exposures by instrument

How to improve things?

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- Link external positions to domestic financial accounts
- Banking statistics: consolidated data
- Portfolio investment
 - ▣ Some re-mapping possible for common equity, offshore bonds
 - ▣ Severe challenges for “seeing through” investment funds

- FDI
 - ▣ Separate reporting of SFE
 - ▣ Statistics by ultimate source/destination
 - ▣ How to allocate “consolidated data” geographically?
 - ▣ How to deal with tax inversions

APPENDIX

Some key BOP and IIP definitions

Use of key terms

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- “External” : residents vis-à-vis nonresidents
- Balance of payments and IIP classification:
 - FDI
 - Portfolio equity securities
 - Portfolio debt securities
 - Other investment (trade credits, deposits, loans...)
 - Financial derivatives
 - FX reserves

Data

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- Lane and Milesi-Ferretti, *The External Wealth of Nations* (posted on my home page on the Brookings website). Estimates of external assets and liabilities for over 200 countries, 1970-2021).
- IMF, *Balance of Payments and International Investment Position Statistics*

Key identities (I)

- $CA + KA + EO = FA$
- The sum of the current account balance and capital account balance should equal the financial account balance (net accumulation of financial assets overseas).
- The “balancing item” is errors and omissions, which captures both unrecorded financial flows and unrecorded CA transactions.

Key identities (II)

- $B(t) - B(t-1) = FA(t) + VAL(t) + OTH(t)$
- $VAL(t) = VAL_ER(t) + VAL_AP(t)$
- The change in the net international investment position (B) is given by the sum of net financial transactions (FA), valuation effects (VAL), and other changes (OTH).
- Valuation effects are changes in the value of the net IIP which arise from exchange rate fluctuations (VAL_ER) and asset price changes (VAL_AP).
- “Other changes” capture changes in NIIP due to other factors (changes in residence of companies, changes in the coverage of surveys measuring assets and liabilities etc).

How do valuation changes work?

- **Exchange rates.** If a country has assets in FX and liabilities in domestic currency, an appreciation worsens the external position and a depreciation improves it. More generally, the impact of exchange rate changes depends on the sign of the net position in FX.
- **Asset prices.** Rising **domestic** asset prices tend to worsen the net IIP (because nonresidents hold some of these assets and they increase in value). Conversely, rising **foreign** asset prices tend to improve the net IIP.

Key identities (III)

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$$\square b_t - b_{t-1} = bgs_t + \frac{r_t^L - g_t}{1 + g_t} b_{t-1} + \frac{r_t^A - r_t^L}{1 + g_t} a_{t-1} + e_t$$

$$\square b_t = a_t - l_t$$

The change in b , the ratio of the net IIP to GDP is driven by:

1. The balance on trade and transfers (bgs)
2. The difference between the real rate of return on liabilities r_t^L and the growth rate g_t
3. The rate of return differential between external assets (A) and liabilities (L) ($r_t^A - r_t^L$)
4. Other factors (capital account, errors and omissions, other IIP changes)

Key identities (III, contd)

- Rates of return are given by
 - yields (which are recorded as “primary income” in the current account)
 - Valuation gains / losses VAL(t)
- If the rates of return on assets and liabilities are equal (r^*), we have an expression virtually identical to the standard debt accumulation equation

$$\square b_t - b_{t-1} = bgs_t + \frac{r_t^* - g_t}{1 + g_t} b_{t-1} + e_t$$