Lecture 1 (Part 1): Current Accounts and Global Imbalances

PSE – APE Masters Year 1 (M1) – Macro 3

Alex Clymo

PSE

March 23, 2026

Roadmap

This lecture covers the current account and global imbalances — what they are, what they look like, and how to think about them.

Session 1 (today): The basics

- What is the current account and how is it measured?
- The balance of payments and the saving–investment identity
- Why CA deficits are not always a bad thing
- Global imbalances: who owes what to whom?

Session 2 (March 25): Theory and evidence

- The intertemporal theory of the current account
- Twin deficits and Ricardian equivalence
- Project papers: Chinn and Prasad (2003) and Gruber and Kamin (2007)

Textbook chapters: SUW Chapters 1-4 and 8

Motivation: The S–I Lens

What drives the current account? A motivating example.

In 2025, the US imposed large tariffs on imports from China, Canada, and Mexico.

- Stated goal: reduce the US trade deficit
- Initial result: during 2025, the goods deficit *increased* by $25.5bn; the overall current account barely moved
- Why? Because trade deficits are also **macroeconomic** phenomena

Source: Conversable Economist blog

Key insight:

$$CA = S - I$$

To move the CA, you need to change saving or investment. Otherwise tariffs shift *where* the US imports from — not how much it saves or invests.

This lecture: what exactly is the current account, and what drives it?

Balance of Payments Accounting

What is the Balance of Payments?

The balance of payments (BoP) records all transactions between residents of one country and the rest of the world in a given year.

- Every transaction has two sides: a **credit** (+) and a **debit** (−)
- Three main accounts (IMF definition):
  - **Current account (CA):** goods, services, investment income, transfers
  - **Financial account (FA):** purchases and sales of financial assets
  - **Capital account:** small; debt forgiveness, migrants' transfers
- Fundamental identity: $CA + FA +$ Capital account $= 0$

Since Capital account is typically small, we can approximately write $CA = -FA$

Implication: a CA deficit is *always* matched by a net inflow in the financial account

Intuition: If you buy more than you sell (i.e. CA deficit) you must fund it by borrowing or selling assets (financial account transactions)

Components of the current account

The current account itself has three main components:

$$CA = \underbrace{TB}_{\text{trade balance}} + \underbrace{NII}_{\text{net investment income}} + \underbrace{NUT}_{\text{net unilateral transfers}}$$

- **Trade balance (TB):** Exports minus imports
- **Net investment income (NII):** dividends + interest + profits received from abroad minus paid abroad
- **Net unilateral transfers (NUT):** remittances + official aid (positive for recipient countries)

If $CA > 0$ then we say that we have a current account surplus. $CA < 0 \implies$ deficit

Current account: US

The U.S. Current Account in 2020

Item	Billions of dollars	Percentage of GDP
Current Account	-647.2	-3.1
Trade Balance	-681.7	-3.3
Balance on Goods	-915.6	-4.4
Balance on Services	233.9	1.1
Income Balance	181.6	0.9
Net Investment Income	190.9	0.9
Compensation of Employees	-9.3	-0.0
Net Unilateral Transfers	-147.1	-0.7
Private Transfers	-127.1	-0.6
U.S. Government Transfers	-20.0	-0.1

Data Source: Authors' calculations based on data from ITA Tables 1.1 and 5.1. and NIPA Table 1.1.5. of the BEA.

Current account: France

Current Account of France, 2020 and 2021

	Billion USD		Percent of GDP	
	2020	2021	2020	2021
Current Account	−41.4	9.9	−1.6	0.3
Trade Balance	−46.8	−38.4	−1.8	−1.3
Balance on Goods	−65.7	−79.4	−2.5	−2.7
Balance on Services	18.8	41.0	0.7	1.4
Income Balance	55.4	97.1	2.1	3.3
Net Investment Income	25.1	63.7	1.0	2.2
Compensation of Employees	26.9	30.9	1.0	1.0
Net Unilateral Transfers	−50.0	−48.8	−1.9	−1.6
Private Transfers	−13.7	−14.4	−0.5	−0.5
Government Transfers	−36.2	−34.4	−1.4	−1.2

Source: BOP/IIF (IMF)

Current account: More countries

The Current Account of Selected Countries as Percentage of GDP in 2019

Item	ARG	CAN	CHN	DEU	NIC	USA
Current Account	-0.9	-2.1	0.7	7.5	6.0	-2.2
Trade Balance	2.9	-1.6	0.9	5.7	-4.3	-2.7
Income Balance	-4.0	-0.3	-0.3	3.2	-3.7	1.1
Net Investment Income	-4.0	-0.1	-0.3	3.2	-3.7	1.2
Compensation of Employees	-0.0	-0.3	0.0	0.0	0.0	-0.1
Net Unilateral Transfers	0.2	-0.1	0.1	-1.4	14.0	-0.7
Private Transfers	0.0	-0.3	0.1	-0.6	14.0	-0.6
Government Transfers	0.2	0.2	-0.0	-0.8	0.0	-0.1

Notes. The table presents the current account of Argentina, Canada, China, Germany, Nicaragua, and the United States in 2019 expressed as a percentage of GDP. Data Sources: Authors' calculations based on data from World Development Indicators and the IMF's Balance of Payments and International Investment Position Dataset.

Financial account

The financial account records international transactions in financial assets.

- $FA > 0$ when the country is a net capital exporter
  - $FA > 0$: you sell an asset to a foreigner (or borrow from abroad)
  - $FA < 0$: you buy an asset from a foreigner (or lend to abroad)
- BoP identity: $CA = -FA$
  - CA surplus $(CA > 0) \Rightarrow$ country sells more goods than it buys $\Rightarrow$ buy foreign assets $(FA < 0)$
  - CA deficit $(CA < 0) \Rightarrow$ country buys more goods than it sells $\Rightarrow$ sell foreign assets $(FA > 0)$

Implication: a CA deficit is always *financed* by the financial account

A country can only run a CA deficit by selling its assets to foreigners or borrowing from abroad. Is that a good or bad thing? It depends!

Double-entry bookkeeping: examples

Every BoP transaction generates equal and opposite entries. Three examples:

Example 1: France exports perfume to the UK

- Goods: credit (+) | Financial account: debit (−)

Example 2: French citizen receives dividend from General Motors

- Primary income: credit (+) | Financial account: debit (−)

Example 3: France gives development aid to Côte d'Ivoire

- Secondary income: debit (−) | Reserve assets: credit (+)

Key principle: every transaction creates equal and opposite entries $\Rightarrow$ the BoP always "balances" ex-post.

The saving–investment identity

Starting from the national accounts identity and adding net investment income:

$$Y = C + I + G + \underbrace{X - IM}_{TB} \quad \Rightarrow \quad TB = Y - C - I - G$$

Add net investment income $NII = rB_{t-1}$ both sides to get GNP and CA:

$$CA \;=\; GNP - C - I - G \;=\; \underbrace{GNP - C - G}_{S,\ \text{national saving}} - I \;=\; S - I$$

Interpretation:

- CA deficit $\Leftrightarrow$ investment exceeds saving
- Countries running CA deficits *must* either be saving little or investing a lot
- This is an accounting *identity*, not a theory
- To understand *why* saving is low or investment is high, we need a model

The NIIP and the Current Account

From flows to stocks: the NIIP

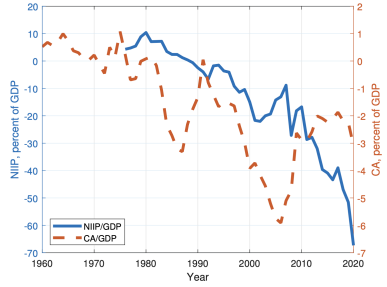
The CA and FA are *flows* (measured over a year); the Net International Investment Position (NIIP) is a *stock* measuring the net wealth of a country.

- $NIIP =$ foreign assets (A) $-$ foreign liabilities (L)
- CA > 0 (surplus) $\Rightarrow$ FA < 0 $\Rightarrow$ NIIP increases (accumulate foreign assets)
- CA < 0 (deficit) $\Rightarrow$ FA > 0 $\Rightarrow$ NIIP decreases (accumulate foreign liabilities)

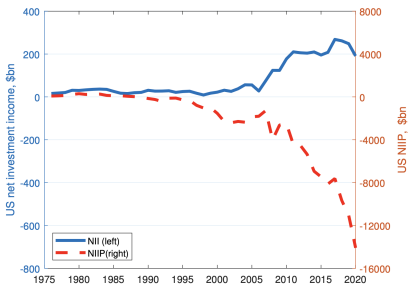
Net interest income (NII)

- Recall this was part of the current account
- This is the total income earned on the country's Net International Investment Position.
- If $NII > 0$ then earning financial income, if $NII < 0$ then paying interest to foreigners

NIIP, CA, and NII: US



Notes. CA, NIIP, and GDP stand for current account, net international investment position, and gross domestic product, respectively. The sample period for CA is 1960 to 2020 and for NIIP 1976 to 2020. Authors' calculations based on data from ITA Table 1.1, IIP Table 1.1, and NIPA Table 1.1.5 of the BEA.



Notes. Authors' calculations based on data from IIP Table 1.1 and ITA Table 1.1 of the BEA.

The US trajectory:

- World's largest creditor in 1980 (NIIP $\approx +10\%$ GDP)
- Persistent CA deficits since 1982 $\Rightarrow$ became net debtor $\approx$ 1989
- NIIP reached approximately -65% of GDP by 2020. US now a net debtor?

Subtlety: Valuation changes $\implies$ NIIP $\neq$ cumulated CA

NIIP does not simply accumulate the current account. Changes come from two sources:

$$\Delta NIIP_t \;=\; CA_t \;+\; \underbrace{\text{valuation changes}}_{\text{exchange rates, asset prices}}$$

The 2002–2007 episode on last slide:

- US accumulated \$3.9 trillion in CA deficits $\Rightarrow$ expected NIIP deterioration: $-\$3.9$tn
- Actual NIIP barely changed: dollar depreciation + foreign equity outperformance generated $\approx \$4$tn in valuation *gains*

Key point: valuation changes can be very large ($\pm 15\%$ of GDP per year for the US after 2003). Cumulating the CA alone gives a misleading picture of the net external position.

See ▸ Appendix: Valuation effects in detail for the full decomposition.

The US' NIIP–NII paradox

A striking feature of recent US data:

- US NIIP is *negative* (a net debtor)
- Yet US net investment income (NII) is *positive* — the US earns more on its foreign assets than foreigners earn on US assets

Two explanations:

- **Return differential:** US assets abroad (FDI, equities) earn higher returns than US liabilities to foreigners (Treasuries, bonds) — composition of portfolios, not mismeasurement
- **"Dark matter" (Hausmann and Sturzenegger, 2007):** US FDI contains unmeasured intangible capital (brands, technology, management expertise) not recorded in official statistics

China shows the mirror image: positive NIIP, negative NII (lends cheap via Treasuries; borrows expensively via FDI). ▸ Full calculation

Why CA Deficits Aren’t Always “Bad”

Three lenses on the current account

The current account can be read three ways — all equivalent, but each highlighting a different aspect:

Trade/accounting lens: $CA = X - M + NII + NUT$

Saving–investment lens: $CA = S - I$

Financial account lens: $CA = -\Delta FA$ (a CA deficit is a capital flow)

The S–I lens is often most useful for asking *why* a deficit occurs and whether it matters:

- High investment in a productive economy? $\Rightarrow$ CA deficit is optimal (East Asia)
- Low saving due to fiscal expansion? $\Rightarrow$ twin deficits concern
- Low saving due to consumption boom? $\Rightarrow$ why is consumption high?
  - "Irresponsible" consumption binge $\Rightarrow$ potential short-term debt vulnerability?
  - Borrowing against expected future high income $\Rightarrow$ could be fine?

CA sustainability: the intertemporal budget constraint

A country cannot run a CA deficit forever if it is a net debtor.

Two-period version:

$$(1+r)B_0 \;=\; -TB_1 - \frac{TB_2}{1+r}$$

- Net debtors must eventually run trade *surpluses* to service their debt.
- **The US case:** net debtor since $\approx$ 1989 and has not yet been forced to adjust. Extraordinary role of the dollar and safe-haven status.
- If investors only care about ratios to GDP (CA/GDP, NIIP/GDP, Debt/GDP, ...) then with high enough GDP growth and low enough interest rate, can you run a CA deficit forever?
- We derive the full intertemporal budget constraint rigorously in the next session.

Global Imbalances

What are global imbalances?

Somewhat vague, but the term refers to large, persistent current account surpluses and deficits in a few systemically important economies.

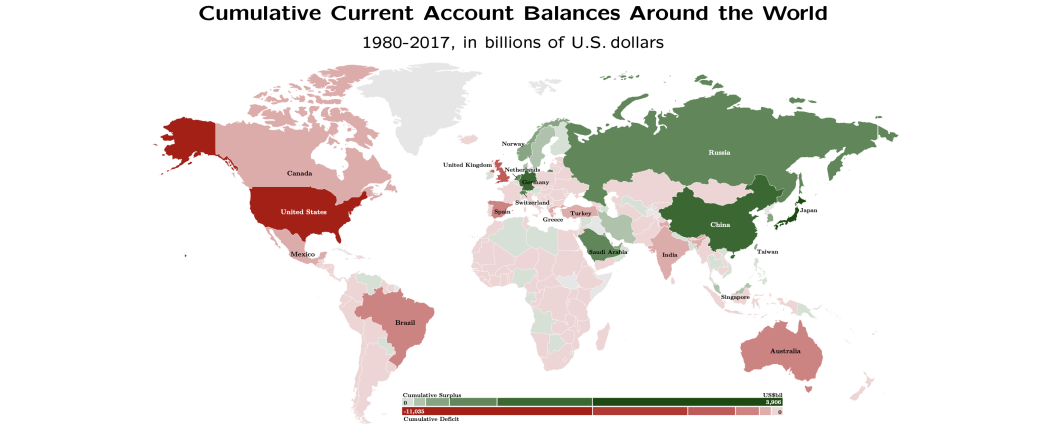
Is "imbalance" a loaded term? Potentially...

- **Neutral reading:** purely descriptive — very large and persistent CA positions
- **Policy reading:** external positions that "reflect distortions or entail risks for the global economy" (Bracke et al., 2010)

Should we worry? Not automatically...

- From the S–I lens, $CA < 0$ just means $S < I$ — which can be optimal (high-return investment, consumption smoothing)
- The US deficit may be structural: the *price* of supplying the world's safe asset
- Concern arises when imbalances reflect distortions (financial repression, fiscal excess) or pose adjustment risks (sudden stops, disorderly exchange rate moves)

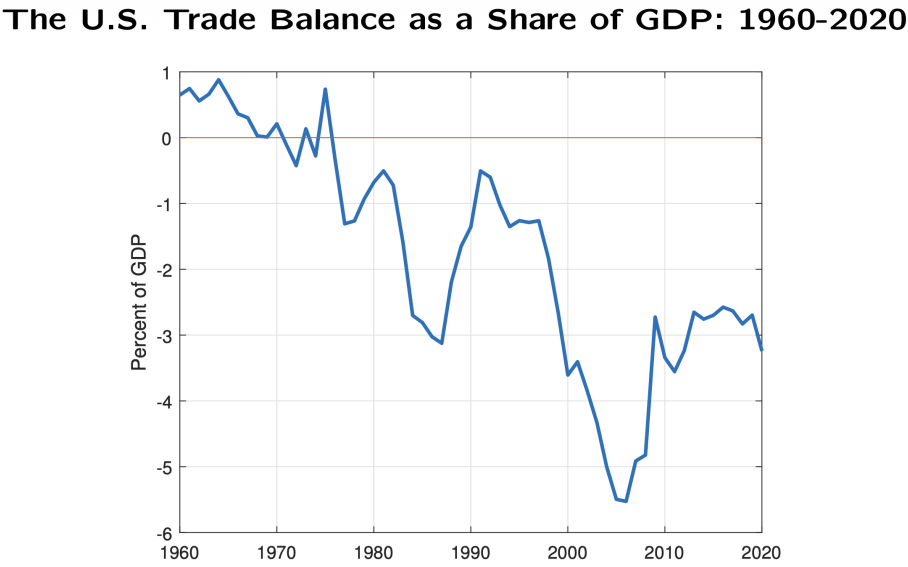
Global imbalances: the big picture



Notes. The map shows for each country the sum of current account balances in billions of U.S. dollars between 1980 and 2017. The data source is Philip R. Lane and Gian Maria Milesi-Ferretti (2017), "International Financial Integration in the Aftermath of the Global Financial Crisis," IMF Working Paper 17/115. Data for former Soviet Union countries start in 1992. Countries for which no data are available appear in gray. Country names are displayed for the countries with the top 10 largest cumulated current account surpluses and deficits.

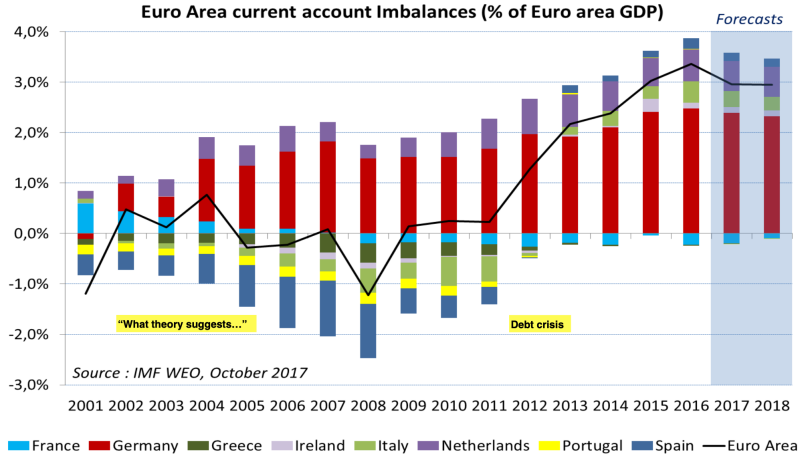
- US: persistently large deficit (3–6% GDP)
- China: surged to $\approx$ 10% GDP by 2007, then gradually narrowed
- Germany: persistently large surplus (5–8% GDP); intra-eurozone imbalances also important
- Oil exporters: large surpluses during high oil price episodes

The US current account: a long-run perspective



Data Source: BEA, bea.gov. TB data: ITA Table 1.1. GDP data: NIPA Table 1.1.5.

CA during Euro area transition and crisis



Blanchard and Giavazzi (2002): CA deficits in eurozone periphery were exactly what theory predicted — poorer countries with better growth prospects should attract capital... Until the crisis.

Global imbalances: post-GFC evolution

Post-GFC adjustment — partial and uneven:

- US deficit narrowed from $\approx 6\%$ to 2–3% GDP
- Chinese surplus narrowed from $\approx 10\%$ to 1–2% GDP
- But German surplus *widened* to $\approx 8\%$ GDP

Pattern shift: from US–China imbalance to US–Germany imbalance.

Within the eurozone, the periphery (Spain, Greece, Portugal) ran large pre-crisis deficits and were forced to adjust sharply after 2010. Germany's surplus persisted.

The IMF External Sector Report monitors CA "norms" and REER misalignments annually.

Why Do Global Imbalances Arise?

Why do global imbalances arise?

Standard theory predicts capital should flow from rich to poor countries: the marginal product of capital is higher where capital is scarce.

In practice: capital often flows *uphill* — from emerging Asia to the United States. Why?

A range of factors can help explain the observed pattern. These are *not* mutually exclusive, and the 2000s imbalances reflected a conjunction of forces:

- Savings glut (Bernanke, 2005)
- Demand for safe assets (Caballero et al., 2008)
- Institutional quality and financial development (Lucas paradox)
- Twin deficits
- Productivity differentials

The savings glut (Bernanke, 2005)

After the 1997–98 Asian crisis, emerging Asia dramatically increased saving:

- Reduced domestic investment (post-crisis deleveraging)
- Ran fiscal surpluses
- Accumulated large foreign exchange reserves

These savings needed somewhere to go $\Rightarrow$ flowed to the US, the most liquid and deep financial market.

- US was a "passive" recipient; the Bush fiscal expansion amplified the domestic saving shortfall
- **Prediction:** world real interest rates should fall — consistent with the data (low real rates throughout the 2000s)

Gruber and Kamin (2007) provide formal evidence that the 1997–98 crisis was the proximate cause of Asian surpluses. More in Session 2.

Demand for safe assets (Caballero et al., 2008)

Emerging markets cannot supply safe financial assets at scale.

Caballero et al. (2008) only the US can supply safe assets at scale (Treasuries). Global demand for safety $\Rightarrow$ persistent capital inflows to the US even at low yields.

- US CA deficit is the *price* of providing the global reserve asset
- **Predictions:**
  - US borrows at very low cost ("exorbitant privilege")
  - Dollar *appreciates* in risk-off episodes (flight to safety)
- Both predictions are consistent with the data

Implication: the US CA deficit may be structural and persistent — not necessarily a sign of imbalance.

Other factors: twin deficits, productivity, institutions

Lucas (1990) paradox / institutional quality:

- Rich countries have better institutions, property rights, and financial systems $\Rightarrow$ higher risk-adjusted returns $\Rightarrow$ capital flows to the US

Twin deficits:

- US fiscal deficits (Reagan 1980s, Bush 2000s) reduced national saving $\Rightarrow$ CA deficits
- Empirical link is present but less than one-for-one (Ricardian equivalence partially offsets)

Productivity differentials:

- Higher US TFP growth raised expected returns $\Rightarrow$ attracted capital $\Rightarrow$ CA deficit reflects *good* news

Feldstein and Horioka (1980) puzzle: Details

- In theory, saving and investment are uncorrelated across countries; in practice, highly correlated (≈ 0.6–0.8)

Summary

A whistlestop tour of the main definitions, jargon, and ideas to get us set up

The S–I lens tells us *what* the current account is, but it does not tell us *why* saving and investment are what they are.

An overview of CA and "Global Imbalance" data around the world

Session 2: the intertemporal approach to the current account gives us a theory.

- Why do households save at all? Consumption smoothing over time.
- How does the CA respond to temporary vs. permanent income shocks?
- When do fiscal deficits spill over into CA deficits?

Then: project papers Chinn and Prasad (2003) and Gruber and Kamin (2007) test which determinants matter empirically — and what the standard model still cannot explain.

References I

- Bernanke, Ben S (2005). *The Global Saving Glut and the U.S. Current Account Deficit –March 10, 2005*. Tech. rep. (Visited on 03/20/2026).
- Blanchard, Olivier and Francesco Giavazzi (2002). "Current Account Deficits in the Euro Area: The End of the Feldstein-Horioka Puzzle?" In: *Brookings Papers on Economic Activity* 2002.2, pp. 147–186. ISSN: 0007-2303. JSTOR: 1209205. (Visited on 03/20/2026).
- Bracke, Thierry et al. (2010). "A Framework for Assessing Global Imbalances". In: *The World Economy* 33.9, pp. 1140–1174. ISSN: 1467-9701. DOI: 10.1111/j.1467-9701.2010.01266.x. (Visited on 03/20/2026).
- Caballero, Ricardo J., Emmanuel Farhi, and Pierre-Olivier Gourinchas (Mar. 2008). "An Equilibrium Model of "Global Imbalances" and Low Interest Rates". In: *American Economic Review* 98.1, pp. 358–393. ISSN: 0002-8282. DOI: 10.1257/aer.98.1.358. (Visited on 03/20/2026).

References II

- Chinn, Menzie D and Eswar S Prasad (Jan. 2003). “Medium-Term Determinants of Current Accounts in Industrial and Developing Countries: An Empirical Exploration”. In: *Journal of International Economics* 59.1, pp. 47–76. ISSN: 0022-1996. DOI: 10.1016/S0022-1996(02)00089-2. (Visited on 03/04/2026).
- Feldstein, Martin and Charles Horioka (1980). “Domestic Saving and International Capital Flows”. In: *The Economic Journal* 90.358, pp. 314–329. ISSN: 0013-0133. DOI: 10.2307/2231790. JSTOR: 2231790. (Visited on 03/20/2026).
- Gruber, Joseph W. and Steven B. Kamin (June 2007). “Explaining the Global Pattern of Current Account Imbalances”. In: *Journal of International Money and Finance*. Financial Globalization and Integration 26.4, pp. 500–522. ISSN: 0261-5606. DOI: 10.1016/j.jimonfin.2007.03.003. (Visited on 03/04/2026).
- Hausmann, Ricardo and Federico Sturzenegger (July 2007). “The Missing Dark Matter in the Wealth of Nations and Its Implications for Global Imbalances”. In: *Economic Policy* 22.51, pp. 470–518. ISSN: 0266-4658. DOI: 10.1111/j.1468-0327.2007.00182.x. (Visited on 03/20/2026).

References III

- Lucas, Robert E. (1990). “Why Doesn’t Capital Flow from Rich to Poor Countries?” In: *The American Economic Review* 80.2, pp. 92–96. ISSN: 0002-8282. JSTOR: 2006549. (Visited on 03/20/2026).
- Schmitt-Grohé, Stephanie, Martín Uribe, and Michael Woodford (2022). *International Macroeconomics: A Modern Approach*. Princeton, New Jersey: Princeton University Press. ISBN: 978-0-691-17064-0.

Appendix

Valuation effects: the 2002–2007 episode in detail

The US accumulated $3.9 trillion in CA deficits between 2002 and 2007 — yet the NIIP barely deteriorated. How?

Source 1 — Dollar depreciation:

- Dollar depreciated $\approx 20\%$ between 2002 and 2007
- US-owned foreign assets (denominated in foreign currencies) *gained* value in dollar terms
- US liabilities (mostly dollar-denominated) unchanged $\Rightarrow$ large positive valuation effect

Source 2 — Equity market outperformance:

- Foreign equity markets returned 190% cumulative vs. 90% in the US
- US net equity position improved dramatically (from $0.04tn to $3tn)

Post-GFC reversal: US stocks outperformed foreign $\Rightarrow$ US net equity position deteriorated $\Rightarrow$ large valuation losses since 2011.

Dark matter: the Hausmann and Sturzenegger (2007) calculation

How can the US earn positive net investment income despite being a net debtor?

The "dark matter" hypothesis (Hausmann and Sturzenegger, 2007):

- Observed NIIP in 2020: $-\$11.1$ trillion
- But NII $> 0 \Rightarrow$ if $NII = r \times$ True NIIP and $r = 5\%$: True NIIP $= +\$3.8$ trillion
- Dark matter $= +3.8 - (-11.1) = \$14.9$ trillion
- Interpretation: US FDI contains unmeasured intangible capital (brands, technology, management expertise)

Alternative: the return differential hypothesis

- US earns ≈ 2–3% premium on its foreign equity vs. what foreigners earn on US bonds
- No measurement error — just the composition of portfolios (US exports safe assets, imports risky ones)

China's flipped NIIP–NII paradox

China shows the mirror image of the US:

- China has a *positive* NIIP (large cumulative surpluses)
- Yet China's net investment income is *negative*

Why? China saves in low-return safe assets (US Treasuries), while its foreign liabilities are high-return FDI.

China *lends cheap, borrows dear* — the mirror image of the US.

Implication: the NIIP–NII paradox is not unique to the US — it is a structural feature of the global division between safe-asset suppliers and safe-asset demanders.

The Feldstein and Horioka (1980) puzzle

Schmitt-Grohé et al. (2022) reviews this classic puzzle.

Theory: in a world of perfect capital mobility, saving and investment should be uncorrelated across countries (each country invests wherever the return is highest).

Data: saving and investment rates are highly correlated across countries (≈ 0.6–0.8 in cross-section).

Interpretations:

- Capital mobility is imperfect (home bias, frictions)
- Current account adjustment is slow (NIIP changes gradually)
- Some saving–investment co-movement is structural (demography affects both)

The puzzle has weakened with financial globalisation but has not disappeared.