The world post financial globalization
Overview of the international financial landscape

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Introduction

The financial landscape post “financial globalization in the late 1970s,”:

- Waves of crises.
- **Widening of current account imbalances** (mismatch between saving and investment in a given country) across macro regions and within regions (the euro area), with some correction after the crisis.
- Net positions result from large accumulation of both Gross Foreign Assets and Gross Foreign Liabilities, driven by global banking.
- Steady decline in the world interest rate in real terms.
- Piling up of international reserves by emerging markets and developing economies, especially since the Asian Crisis (1997).
- The US has consolidated its special position in the system (”World banker”, ”Exorbitant privilege”)
- “Original Sin”: only a few countries borrow (issue debt denominated) in own currency in international markets. **Foreign debt is mostly denominated in a foreign currency**, typically dollar, euro, pound, yen.
In the global monetary and financial system emerging after World War II, capital markets were heavily regulated domestically, and strict controls prevented the free circulation of capital across borders. Starting in the 1970s, a process of deregulation of financial markets, and removal of capital controls substantially changed the early architecture. Examples of capital controls:

- Exchange controls that prevent/limit the buying/selling of a national currency.
- Caps on volume for the international sale or purchase of financial assets.
- Transaction taxes, e.g. Tobin tax on currency exchanges.
- Minimum stay requirements.
- Requirements for mandatory approval.
- Limits on the amount of money a private citizen is allowed to remove from the country.
Liberalization: advanced vs developing countries

Looking at rules and legislation, Chinn and Ito quantify the relaxation of controls segmenting the market. The following plots the Chinn-Ito KAOPEN index (Capital Account Openness, measures ease of cross-border financial transactions).
Credit expansion: private sector credit/GDP

Note: in China credit is mostly domestic, little financial openness
AE - advanced economies, EMDC - emerging market and developing countries
2. Share of Countries in Default

During the Napoleonic War. The second runs from the 1820s through the late 1840s, when, at times, nearly half the countries in the world were in default (including all of Latin America). The third episode begins in the early 1870s and lasts for two decades. The fourth episode begins in the Great Depression of the 1930s and extends through the early 1950s, when nearly half of all countries stood in default. The most recent default cycle encompasses the emerging market debt crises of the 1980s and 1990s.

Public debt follows a lengthy and repeated boom-bust cycle; the bust phase involves a markedly higher incidence of sovereign debt crises. Public sector borrowing surges as the crisis nears. In the aggregate, debts continue to rise after default, as arrears accumulate and GDP contracts markedly.

Figure 3 plots the incidence of default shown in Figure 2 from 1824, (when the newly independent Latin American economies first entered the global capital market) through 2010, against an unweighted average debt/GDP ratio for all the countries for which such data are available. Upturns in the debt ratio usually precede the rise in default rates, as the regressions for the world aggregates (shown at the bottom of Figure 3)

Notes: Sample includes all countries, out of a total of 70 listed in Appendix Table A1, that were independent states in the given year. Specifically, the number of countries increases from 19 in 1800 to 32 in 1826, as Latin American colonies gain independence; following World War II, newly independent Asian states swell the number to 58; and in the following decades, as African nation-states are born, the number of sovereigns increases to a total of 70—the full sample.

Sources: Lindert and Morton (1989); James Macdonald (2006); John H.F. Purcell and Jeffrey A. Kaufman (1993); Reinhart, Rogoff, and Miguel A. Savastano (2003); Suter (1992); and Standard and Poor’s (various years).
Good-bye financial repression, hello financial crash
The title of a famous article by Diaz-Alejandro in the early 1980s

Liberalization and deregulation in the late 1970s is followed by the outburst of sovereign (Latin America) debt crisis. The consequences weigh on international capital markets until early 1990s.
Gross Financial Flows
Take off in the mid 1990s, boom in 2003, fall with the crisis

Capital flows start to pick up during the 1990s, and accelerate in the noughties. It collapses in 2007.
3. The emergence of CA imbalances  
Definitions: saving, investment and the current account

From the **national accounting identity**, **GNP** (total income earned by residents of a country) is

\[
GNP = Y + rB = \underbrace{C + I + G}_{\text{demand by domestic residents or ‘absorption’}} + NX + rB
\]

where \(Y\) is GDP or total output, \(C\) is consumption, \(I\) is investment, \(G\) is govt spending, \(NX\) is net exports and \(B\) denotes the stock of net foreign assets at the beginning of a period, and \(r\) the net return a country earns on it (or pays out, if \(B\) is negative)

- The **trade balance** is the difference between domestic production and ‘absorption’ (≡ domestic consumption)

\[
NX = Y - (C + I + G)
\]
According to the national accounts, the current account (CA) is the difference between GNP and absorption—or national saving and investment:

\[ CA = NX + rB = Y + rB - (C + I + G) \]

\[ CA = Y + rB - C - G - I = S - I \]

Let \( T \) denote net taxes, and split net foreign assets \( B \) into a private and a public sector component:

\[ CA = (Y + rB^{PRIVATE} - C - T) + (rB^{PUBLIC} + T - G) - I \]

\[ = S_{private} + S_{public} - I \]

Given private saving and investment, government dis-saving (a budget deficit) worsen the CA.
Current Account Imbalances

A widening US deficit

Current Account in % of World GDP

# Current Account Imbalances

## Largest CAs

Largest CA (IMF World Economic Outlook 2014 Table 4.1)

<table>
<thead>
<tr>
<th>Year</th>
<th>Deficit countries:</th>
<th>Surplus countries:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>bill. US $</td>
<td>% GDP</td>
</tr>
<tr>
<td>2006</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>United States</td>
<td>-807</td>
</tr>
<tr>
<td></td>
<td>Spain</td>
<td>-111</td>
</tr>
<tr>
<td></td>
<td>United Kingdom</td>
<td>-71</td>
</tr>
<tr>
<td></td>
<td>Australia</td>
<td>-45</td>
</tr>
<tr>
<td></td>
<td>Turkey</td>
<td>-32</td>
</tr>
<tr>
<td>2013</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>China</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td>Germany</td>
<td>182</td>
</tr>
<tr>
<td></td>
<td>Japan</td>
<td>175</td>
</tr>
</tbody>
</table>
4. A sustained fall in the (safe) interest rate

A secular decline?

Since the 1990s, the interest rate in nominal and real terms has been steadily declining, especially among advanced countries.

Source: Kings & Low, 2014, Consensus Economics, IMF, DataStream and Authors’ calculations
However, the return to capital has not declined (the figure is for the US).

**Real Returns to U.S. Capital**

- Business (pre-tax)
- Business (after-tax)
- All (pre-tax)
- All (after-tax)

Last observation is 2014:Q2.

SOURCE: Gomme, Ravikumar and Rupert; Bureau of Economic Analysis; Bureau of Labor Statistics; Standard and Poor’s; National Bureau of Economic Research.

NOTE: Average return lines represent the average return from 1947 to 2014:Q2 (the last observation).
5. Global Imbalances: Net Foreign Asset

- Domestic saving can finance either domestic investment $I$ (increasing *domestic capital*) or the acquisition of foreign assets (increasing *foreign wealth*).
  So $CA > 0$ ($S > I$) means that a country is accumulating **net foreign wealth**.

- Let $B_t$ denote the stock of net foreign wealth of a country at a point in time $t$. The CA is the change in net foreign wealth between $t$ and $t + 1$:

$$B_{t+1} - B_t = CA_t = Y_t + r_t B_t - (C_t + I_t + G_t)$$

- Here is some evidence on the largest negative and positive net foreign wealth positions $B'$s.
Largest net “debtor” \((B < 0)\) and “creditor” \((B > 0)\) countries

(IMF Weo 2014, table 4.2)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th></th>
<th>2013</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deficit countries:</strong></td>
<td>bill. US $</td>
<td>% GDP</td>
<td>bill. US $</td>
<td>% GDP</td>
</tr>
<tr>
<td>United States</td>
<td>-1,973</td>
<td>14.2</td>
<td>-5,698</td>
<td>34.0</td>
</tr>
<tr>
<td>Spain</td>
<td>-862</td>
<td>69.7</td>
<td>-1,400</td>
<td>103.1</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>-762</td>
<td>30.6</td>
<td>-750</td>
<td>33.4</td>
</tr>
<tr>
<td><strong>Surplus countries:</strong></td>
<td>bill. US $</td>
<td>% GDP</td>
<td>bill. US $</td>
<td>% GDP</td>
</tr>
<tr>
<td>Japan</td>
<td>1,793</td>
<td>41.2</td>
<td>3,058</td>
<td>62.4</td>
</tr>
<tr>
<td>Germany</td>
<td>782</td>
<td>26.9</td>
<td>1,686</td>
<td>17.8</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>535</td>
<td>276.4</td>
<td>1,586</td>
<td>46.2</td>
</tr>
</tbody>
</table>
The joint growth of Gross Foreign Assets/Liabilities

Gross positions: definitions and accounting

- $B$ is the difference between gross foreign assets $FA$ and gross foreign liabilities $FL$, i.e.,

$$B_t = FA_t - FL_t$$

Think of $FA$ and $FL$ as ‘the total value of national portfolios’ of equities, debt, bank loans, derivatives etc..

- The rate of growth of the gross stock of $FA$ and $FL$ can be (and has been) much larger than the changes in the net positions $B$.

$$B_{t+1} - B_t = (FA_{t+1} - FA_t) - (FL_{t+1} - FL_t)$$

For the UK, for instance, the scale of $FA$ is actually 4 to 5 times GDP. For the US, it’s the size of GDP.
The joint growth of Gross Foreign Assets/Liabilities
US external wealth

US $\mathcal{FA}$ and $\mathcal{FL}$: gross positions and composition (ratio GDP, 1=100 percent)
Valuation effects and return on foreign wealth \( r_B \)

Definitions

The return on net foreign assets results from:

1. **Income** paid by real and financial assets (coupon from bonds, interest payments from bills and deposits, distributed profits and dividends from firms etc.), into and out of the country;

2. **Capital gains and losses**, including valuation effects due to exchange rate movements — if, say, the pound depreciates, the value in pounds of a bond denominated in euros rises.

In the national accounts, returns are measured by recording **income payments**. But with a large stock of \( \mathcal{F}A \) and FL outstanding, **capital gains and losses** are potentially much larger than income payments\(^1\).

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\(^1\) Some institutions and academics have produced estimates of the CA adjusted for changes in asset prices and the exchange rate. For a dataset, see Lane and Milesi-Ferretti “External wealth of nations”.
The following table reports recent estimates from the 2014 IMF’s World Economic Outlook.

<table>
<thead>
<tr>
<th>Country</th>
<th>CA national statistics</th>
<th>Valuation effects</th>
<th>Growth adjustment</th>
<th>Change in net foreign assets</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>−21.2</td>
<td>−2.4</td>
<td>2.5</td>
<td>−19.7</td>
</tr>
<tr>
<td>Spain</td>
<td>−34.3</td>
<td>−6.7</td>
<td>2.4</td>
<td>−33.7</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>−11.3</td>
<td>−9.6</td>
<td>16.1</td>
<td>−4.8</td>
</tr>
<tr>
<td>Japan</td>
<td>18.9</td>
<td>1.0</td>
<td>2.5</td>
<td>24.7</td>
</tr>
<tr>
<td>China</td>
<td>20.9</td>
<td>7.4</td>
<td>10.4</td>
<td>0.8</td>
</tr>
<tr>
<td>Germany</td>
<td>42.5</td>
<td>−25.1</td>
<td>−4.0</td>
<td>19.2</td>
</tr>
</tbody>
</table>

In percent, sources IMF Weo 2014, Table 4.3. The figures in the column do not add necessarily add up reflecting (a) errors and omissions in the balance of payments and (b) differences in the source of information used to calculate stocks and flows.
Financial globalization has consolidated the special status of the US in the international monetary and financial system.

- A large share of the FL of the US consists of short-term asset (bills and bonds), mostly denominated in dollars, which are widely circulated and used for international payments.
- On the FA side, the US purchases long-term assets (equities —direct investment— and bonds), mostly denominated in foreign currency.

**The US as banker of the world**
The US as a country engages in a ‘maturity-currency’ transformation: it borrows by issuing short-term dollar denominated (monetary) assets, lends by buying long-term foreign-currency denominated assets.
The US ‘exorbitant privilege’
Three key benefits

1. The returns are generally higher for long-term assets than short-term ones. The different maturity of the US $FA$ and $FL$ favours the US.

2. A further benefit stems from the fact the US short-term bills and bonds are widely circulated as means to settle international payments: investors and traders are willing to pay a liquidity premium to acquire them. Thus, the US can thus borrow at particularly favorable conditions.

3. Other things equal, a dollar depreciation tends to increase the value of external assets owned by the US, improving the US net foreign position independently of the effects of the dollar depreciation on the US net exports.
Historical records show that the US has long been earning a much higher return on its assets, than it pays on its liabilities—an ‘exorbitant privilege’ according to a French finance minister in the 1960. Here are some calculations by Gourinchas et al. 2011

<table>
<thead>
<tr>
<th>Year Range</th>
<th>Return on US Foreign Assets</th>
<th>Return on US Foreign Liabilities</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1952 – 1972</td>
<td>4.71</td>
<td>3.46</td>
<td>1.25</td>
</tr>
<tr>
<td>1973 – 2009</td>
<td>5.02</td>
<td>3.40</td>
<td>1.62</td>
</tr>
</tbody>
</table>

A different, complementary view of the US:

Recent literature points out that the US provides ‘insurance against global catastrophic risk’ — when the global crisis hit, investing in US assets remained quite attractive (even if the crisis originated there). When buying assets issued by the US, international investors are willing to pay a premium for safety.
Supplying the reserve currency of the world indeed seems to confer an ‘exorbitant privilege’. Here is some tentative evidence showing the decline in the ‘privilege’ enjoyed by the UK when the pound became progressively marginalized in the international monetary and financial system.

The table below reports the difference between returns on $\mathcal{FA}$ and $\mathcal{FL}$ according to a less conservative estimate than reported above (see Gourinchas et al. 2007), also for a different period excluding the onset of the global crisis.

<table>
<thead>
<tr>
<th></th>
<th>1952-1972</th>
<th>1973-2005</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return on UK $\mathcal{FA}$-return on $\mathcal{FL}$</td>
<td>3.51</td>
<td>0.79</td>
</tr>
</tbody>
</table>

Despite being an international financial centre, the UK no longer gains high differential returns on its net foreign assets.
While losing ground to the US as a supplier of international reserve currency, the UK has nonetheless fully retained the ability to issue liabilities denominated in its own currency at low costs. UK government, and resident firms and households can borrow relatively cheaply in pounds. This privilege is shared by most advanced economies.

By contrast, emerging-markets and developing economies typically borrow by issuing debt instruments denominated in a (foreign) currency with international status—dollar, euro, pound, and yen. If and when they try to borrow by issuing instruments denominated in own currency on a non-negligible scale, market charge them (prohibitively) high interest rates.

Eichengreen and Hausmann label this phenomenon the ‘Original Sin’ (OS) affecting all developing countries, regardless of their geographical location. In some cases, close to 100 percent of foreign borrowing, and a large share of borrowing in domestic markets, is in foreign currency (see also Eichengreen and Panizza).
The ‘original sin’: Consequences

While the causes of the OS are heavily debated, its key consequence is apparent: if FL are denominated in foreign currency, a nominal devaluation of the domestic currency implies that the value of debt in domestic currency correspondingly rises. This is a negative ‘valuation effect’, that vastly reduces the benefits from exchange rate flexibility.

- When the exchange rate depreciates, banks, firms and households that operate in domestic currency will all experience an increase in the burden of their foreign-currency debt relative to their incomes. Banks will go either bankrupt, or will be forced to cut down on lending; firms will find it difficult to obtain credit; households will be forced to save more, hence cut down spending.

- Any potential output and employment gain in competitiveness from exchange rate depreciation may be outweighed by these balance-sheet effects.

- Note: a form of OS also affects the members of the euro area. If a country tries to restore competitiveness by lowering its prices, the burden of its euro-denominated debt will correspondingly be higher.
8. International reserves accumulation

Definitions

The Balance of Payments (BP) records all economic transactions between domestic and foreign residents:

\[
\text{Current Account (CA) + Capital Account} = \text{Financial Account (FinAc)} + (\text{Net Errors and Omissions})
\]

- Portfolio movements are recorded in the \( \text{FinAc} \) (‘Capital Account’ records special transactions such as debt forgiveness, acquisition of copyrights etc. and is generally small). See e.g. Chapter 13 of Krugman-Obstfeld-Melitz *International Economics*, XIX edition.

- The purchase and sale of foreign reserves by domestic monetary authorities (Central Bank and Treasury) are part of the FinAc, but highlighted in a separate account, the Official Settlement Transactions:

\[
\text{FinAc} = \text{‘non reserve’ FinAc} + \text{Official Settlement Transaction (OST)}
\]
No capital mobility: When the country runs a trade/CA deficit, monetary authorities need to finance it using their own reserves (gold and internationally accepted assets) or borrowed reserves, obtained from foreign central banks and/or international institutions.

Free capital mobility: Inflows and outflows of private capital are the main driver of the FinAc. What matters for the balance of payment is not the CA, but the “external financing need” of a country—defined as the sum of the current account deficit, and the value of outstanding liabilities coming to maturity in that period.

- If the external financing need is matched by private capital inflows, there is no need for changes in OST balance.
- A Balance of Payment deficit (requiring the use of official reserves) arises to the extent that international investors are not willing to refinance the country to the full extent of its external financial need.
- Historical experience suggests that international capital flows can be quite volatile, and countries may experience a ‘sudden stop’ in external financing. A large stock of reserves is accumulated as an insurance against ‘sudden stops’.
The table below reports Holding of International Reserves by Emerging and Developing Economies (EDE). Note the size of reserves relative to international short-term debt obligations.

<table>
<thead>
<tr>
<th></th>
<th>2000</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Month of imports</td>
<td>6.2</td>
<td>16.3</td>
</tr>
<tr>
<td>Percent of GDP</td>
<td>11.3</td>
<td>28.7</td>
</tr>
<tr>
<td>Percent of gross capital formation</td>
<td>47/1</td>
<td>89.1</td>
</tr>
<tr>
<td>Percent of international liabilities</td>
<td>23.1</td>
<td>40.1</td>
</tr>
<tr>
<td>Percent of short-term debt</td>
<td>229.5</td>
<td>556.5</td>
</tr>
</tbody>
</table>

International reserves accumulation

Facts

![Graph showing official reserves accumulation over time. The graph displays data from 1995 to 2016 for All Other EMs, Mainland China, and Advanced Economies. The graph highlights the Asian Financial Crisis in 1997. Source: COFER.](image-url)
International reserves accumulation

Facts

World - Allocated Reserves by Currency for 2017Q2

- U.S. dollars
- Euros
- Pounds sterling
- Canadian dollars
- Australian dollars
- Swiss francs

Chinese renminbi
Japanese yen
Other currencies
9. Globalization and the rise of cross-border banking

Gross Foreign Assets/Liabilities among intermediaries

Much of gross $\mathcal{FA}$ and $\mathcal{FL}$ are between banks, or involve a bank as counterparty.
Globalization and the rise of cross-border banking

Traditional vs international/cross-border banking

The process of financial liberalization and deregulation that went hand-in-hand from the 1980s up to the global crisis coincided with a strong expansion of banking across borders by new types of financial intermediaries, with profound effects on the financial system. To appreciate these effects, we start by considering a stylized model of the difference between “Traditional Banks”, and “International and Global Banks”. Their balance sheet looks, respectively, like this:
Globalization and the rise of cross-border banking

Traditional vs international/cross-border banking

- **Traditional Banks (commercial, local) (on the left)** collect funds mostly through deposits. They invest mostly in government bonds. They make loans, especially in the form of mortgages.

- **International and Global Banks** collect a large share of funds in the whole-sale markets, borrowing from other financial intermediaries short term. Invest a large share of assets in tradable instruments and loan funds to other intermediaries.

- In the whole-sale market, they engage in ‘secured’ and ‘unsecured’ transactions. The former mostly consists of ‘repo’—repurchase agreement, by which the lender receive securities for collateral as a protection against the default of the borrower.

<table>
<thead>
<tr>
<th>Assets</th>
<th>Liabilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trading assets</td>
<td>Short positions</td>
</tr>
<tr>
<td>Reverse repos</td>
<td>Repos</td>
</tr>
<tr>
<td>Other assets</td>
<td>Long term debt</td>
</tr>
<tr>
<td></td>
<td>Shareholder equity</td>
</tr>
</tbody>
</table>
Global banks raise funding abroad through foreign affiliates (FDI) and invest the capital in the same foreign market. International banks extend cross-border loans to foreign firms funded by domestic deposits (arms-length export). Banks may also conduct foreign sourcing, raising funding abroad for domestic investment (Niepmann 2012). Global banks raise funds in foreign markets and lends to foreign markets: the ratio of foreign liabilities to foreign assets is typically close to one. International banks raise capital domestically and lend abroad: the same ratio is close to zero. By this metric, the 25 (large) BIS reporting banks are global (Niepmann 2015):
Globalization and the rise of cross-border banking

Currency composition of assets/liabilities

Of the BIS reporting banks, we know the currency of denomination of assets and liabilities. Mostly dollar and euro:

![Graph showing currency composition of assets/liabilities over time](image)

Figure 21. Foreign currency claims and liabilities of BIS reporting banks (Source: BIS Locational statistics 5A)
Globalization and the rise of cross-border banking

Securitization

International banks’ activity is fed by local banks. An important instance: before the crisis, these banks securitized loans (mortgages), i.e., they sliced loans in tranches of different risk characteristics that were packaged as tradable securities. Only a small portions of the original loans (usually the riskier portions) remained on the balance sheet of the intermediary that originated them.

During the boom of the global banking, new types of financial intermediaries started to provide essentially the same services of (commercial) banks, while operating outside the oversight and rules of regulators; regulated banks also started to engage in unregulated activities. Collectively, this gave raise to a large ‘shadow banking system,’ exacerbating issues in opacity and asymmetries (lack of) information.


Executive office of the President of the United States (2015) Long-term Interest Rates: a Survey


International Monetary Fund World Economic Outlook Various issues.

* International Monetary Fund (2016) Strengthening the International Monetary System—A stocktaking, March
