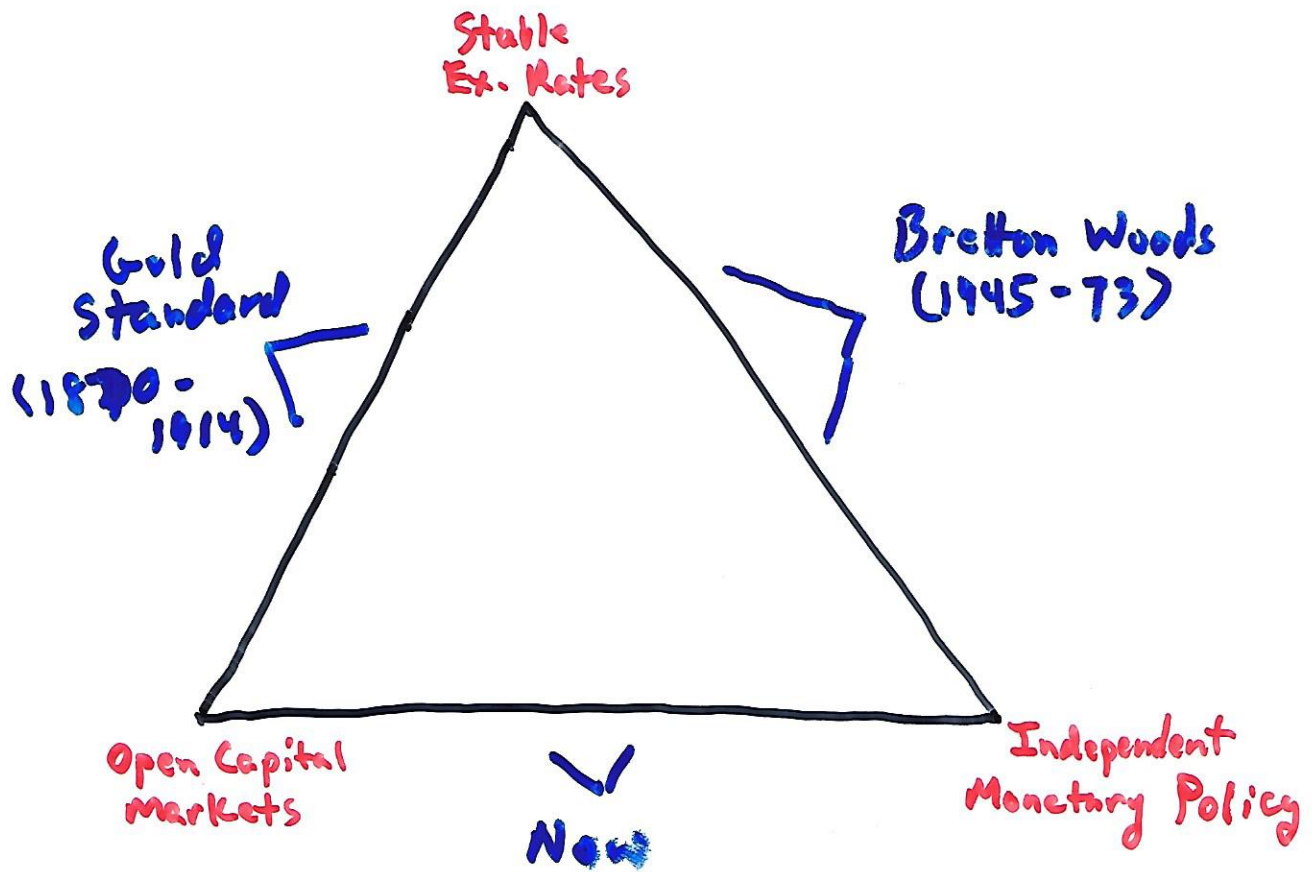


"International Monetary Relations: Taking Finance Seriously"

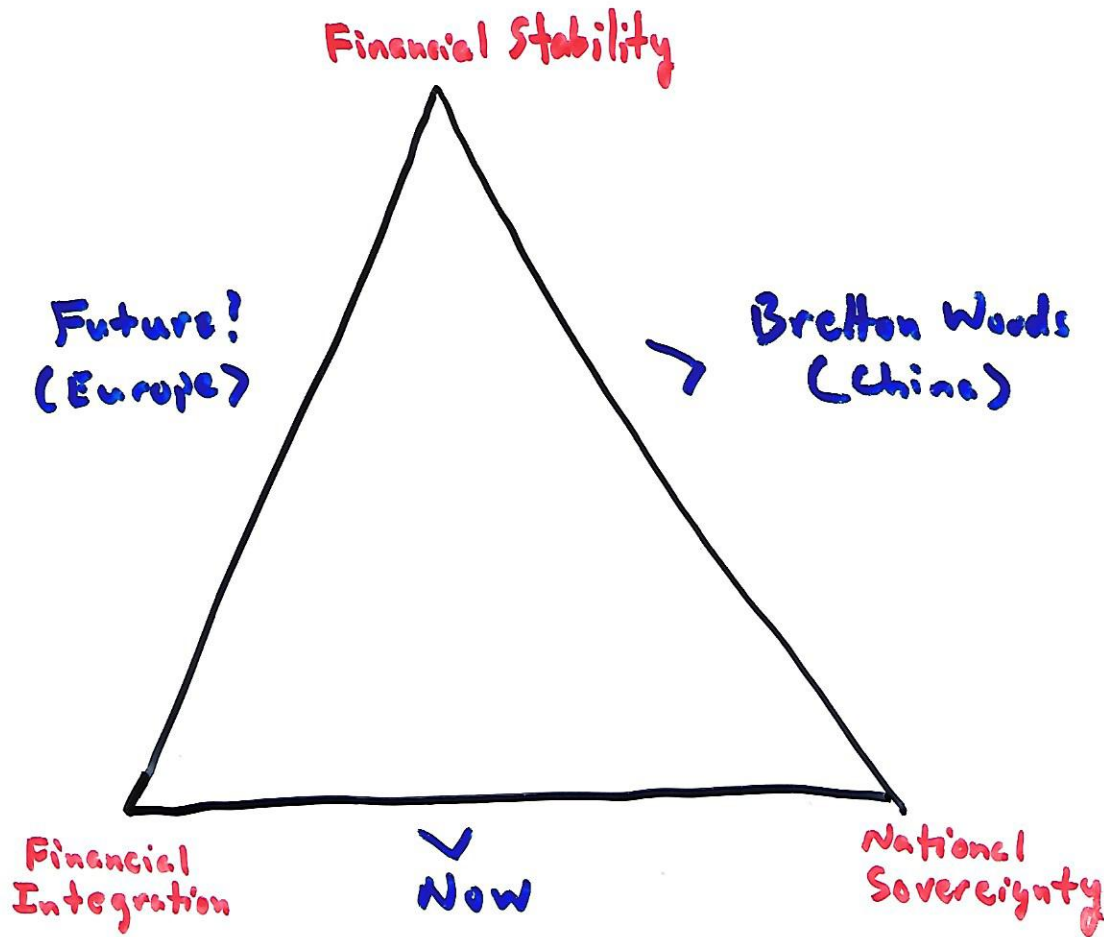
- The recent financial crisis caused macroeconomists to focus more on financial markets and financial frictions.
- The same is true in the arena of international finance.
- Obstfeld + Taylor discuss how financial market developments have influenced 3 classic Intl. Finance questions:
 - 1.) Ex. Rate Regime Choice
 - 2.) External Payments Adjustment
 - 3.) International Liquidity Provision
- They note that the classic "Monetary Trilemma" may need to be modified to a more modern "Financial Trilemma".
- The Monetary Trilemma was better suited to an era of repressed domestic financial markets, where most international capital flows were between Central Banks.

Monetary Trilemma



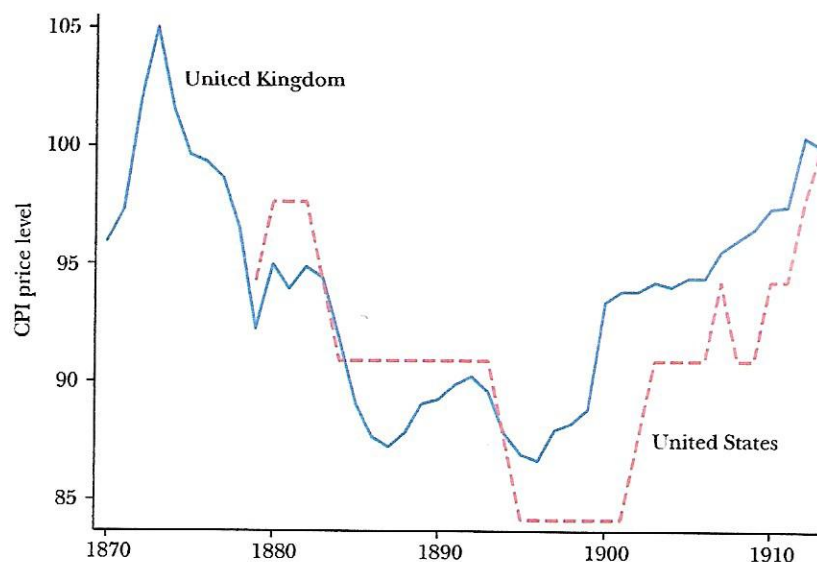
- Rey (2013) argues that flexible ex. rates do not guarantee independent monetary policies. Foreign financial shocks still affect your economy.
- Hence, the bottom edge of the triangle is unattainable. It's really a dilemma:
 - a.) Open Capital Markets
 - or
 - b.) Independent Monetary Policy

Financial Trilemma



- "Global Banks are Global in Life, but National in Death"
- Mervyn King
- Domestic Financial Regulation + Financial Integration \Rightarrow Regulatory Arbitrage
 \Rightarrow Financial Instability
- Instability arises because CBs are supposed to be "lenders of last resort"
- Macroprudential Policies are now regarded as an important part of Monetary Policy.

Figure 1
Price Levels under the Gold Standard, United Kingdom 1870–1913 and United States 1870–1913



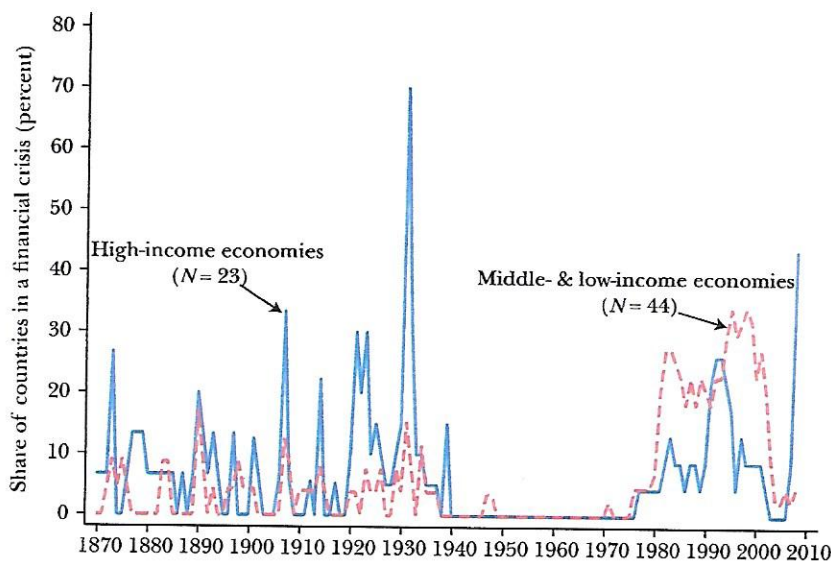
Source: Data from Jordà, Schularick, and Taylor (forthcoming) Macrofinancial Database.

opprobrium, as they were widely perceived to have failed. The underlying premise of the 1944 Bretton Woods conference was that neither the classical gold standard nor the successor arrangements during the interwar period had worked well.

Historical Context: The Gold Standard

Under the pre-1914 gold standard, the monetary trilemma was resolved in favor of exchange stability and freedom of foreign transactions. While these features did tend to promote an expansion of trade and international lending, the system severely limited the role monetary policy could potentially play in macroeconomic stabilization. Short-term interest rates in different countries tracked each other relatively closely (Obstfeld, Shambaugh, and Taylor 2005). At the same time, longer-term inflation trends were shared across countries and tied to supply and demand forces in the global gold market. Thus, price levels under the gold standard sometimes underwent long periods of decline or increase as shown in Figure 1, generally falling from about 1880 to 1895 in the face of limited gold supplies, then rising through 1914 in response to gold discoveries in the Yukon and South Africa. These long swings in prices could cause tensions, both economic and political, and countries had to cope with unanticipated redistributions between paper debtors and creditors. Notably, the stability of banks and the financial system was not assured by gold convertibility of currency, as evidenced by the 19th century history of banking

Figure 2
Financial Crises, 1870–Present



Source: Data from Qian, Reinhart, and Rogoff (2011).

crises both in the United States (Jalil 2015) and elsewhere.¹ Figure 2 shows the pattern of financial crises affecting advanced economies since 1870.

Around the same time as the Panic of 1873, to focus on one prominent episode of financial crisis, Bagehot's (1873) *Lombard Street* famously laid out the Bank of England's role as the financial markets' *lender of last resort* (although this role had been described earlier by Thornton in his 1802 masterpiece, *An Enquiry into the Nature and Effects of the Paper Credit of Great Britain*). Bagehot's advice was that a central bank during a financial panic should lend freely against good collateral. But how could the central bank increase the money supply in this way while simultaneously maintaining its currency's parity with gold? When confronted with both a banking and a currency crisis, Bagehot (1873) viewed maintaining the gold standard as the priority: "We must look first to the foreign drain, and raise the rate of interest as high as may be necessary. Unless you stop the foreign export you cannot allay the domestic alarm" (pp. 27–28). Bagehot's argument amounted to the assertion that monetary policy could be deployed to stem a banking panic independent of the exchange-rate constraint, which might be true in certain special circumstances, but more broadly serves to illustrate how some resolutions of the monetary trilemma could simultaneously exacerbate financial instability.² In another episode, in 1907

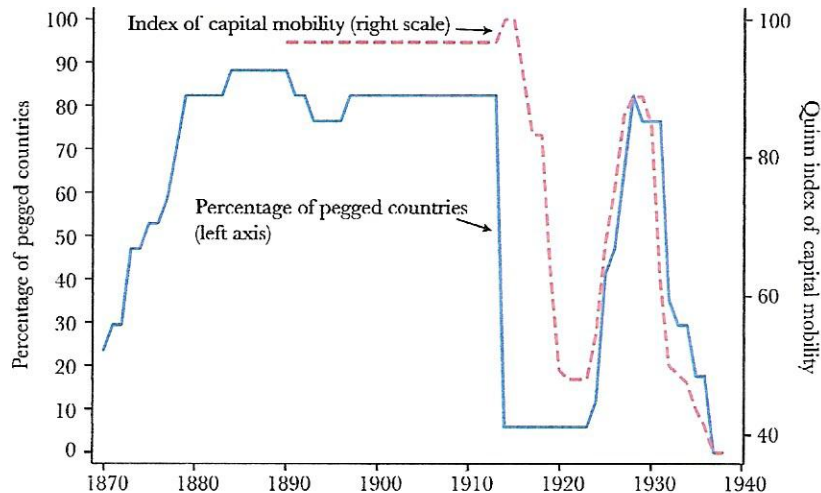
¹For overviews of the macroeconomics of the pre-World War I gold standard, useful starting points are Cooper (1982), Bordo and Schwartz (1984), and Eichengreen (2008, chap. 2).

²See Laidler (2003) on the contrasting views of Bagehot and Thornton regarding the relative importance of internal versus external stability.

The Interwar Years

- Two phases
 - a.) Attempts to restore Gold Standard (1920-30)
Unfortunately, parities were misaligned. This led to,
 - b.) Global imbalances, speculation
- Result - Suspicious about private capital flows
- The Depression led to increased domestic financial market regulations:
 - 1.) Glass-Steagall
 - 2.) FDIC
 - 3.) Reg. Q

Figure 3
Pegging to Gold and Capital Mobility, 1870–1938



Source: Data from Jordà, Schularick, and Taylor (forthcoming) Macrofinancial Database; Quinn, Schindler, and Toyoda (2011).

the Bank of England, alarmed by gold outflows that financed overheating financial markets in the United States, abruptly hiked its target interest rate, helping to set off the devastating panic of 1907.

Though the 1873 and 1907 episodes are among the better-known ones, they are merely two of the many severe systemic banking crises and accompanying severe recessions, sometimes occurring at once in several countries, that punctuated the gold standard era. Indeed, the panic of 1873, which afflicted Europe as well as North America, helped inspire the founding of the German Reichsbank in 1876, while the US panic of 1907, against the backdrop of periodic liquidity tensions in the US banking system, led to the founding of the US Federal Reserve.

Historical Context: The Interwar Period

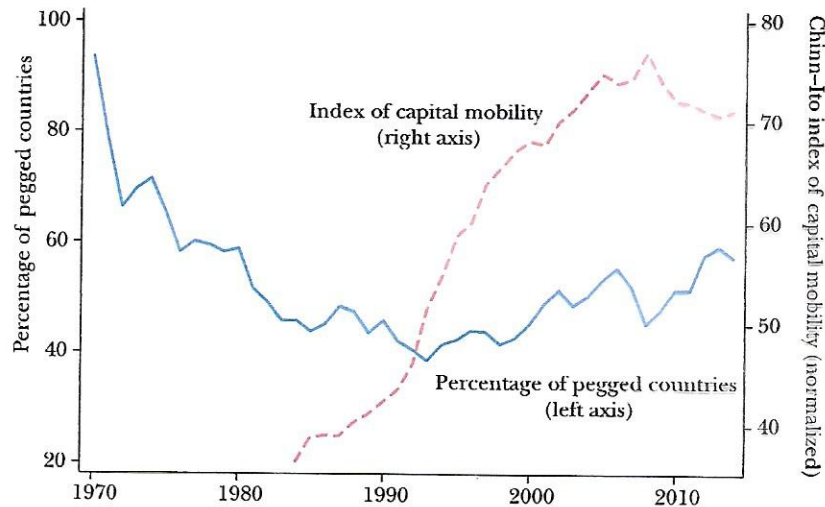
World War I surpassed previous wars not only in its scope and destructiveness, but also in the extent to which economic relationships between nations broke down. That breakdown was in part a result of direct government actions, including widespread suspension of the gold standard and, significantly, pervasive official control over external payments, a huge contrast to the previous era's *laissez faire*. Looking back, Keynes, who had served in the UK Treasury during the war, said, "Complete control was so much against the spirit of the age, that I doubt it ever occurred to any of us that it was possible" (as cited in Obstfeld and Taylor 2004, p. 146). Governments had opened Pandora's box.

Figure 3 illustrates the pattern that followed. The 1920s saw various attempts by governments to remove exchange control and return to gold: only about 10 percent

Bretton Woods (1945-73)

- The BW system was highly asymmetric. The U.S. was dominant.
- Countries pegged their currencies to the \$, and the U.S. was supposed to peg \$ to Gold (\$35 ounce).
- The \$ became the intl. reserve asset.
- Ultimately, foreign Central Banks lost confidence in the ability to exchange \$ for Gold, and the system collapsed in the early 1970s.
- After BW, intl. capital mobility increased & more countries adopted flexible exchange rates
- Recent evidence suggests this process has stopped, or even reversed.

Figure 4
Fixed Exchange Rates and Capital Mobility, 1970–Present



Notes: Data from Shambaugh (2004) coding and Chinn and Ito (2006) database.

exchange rates emerged as a stopgap measure in the face of continuing speculative attacks. What was at the time intended as a temporary retreat has now lasted more than four decades.

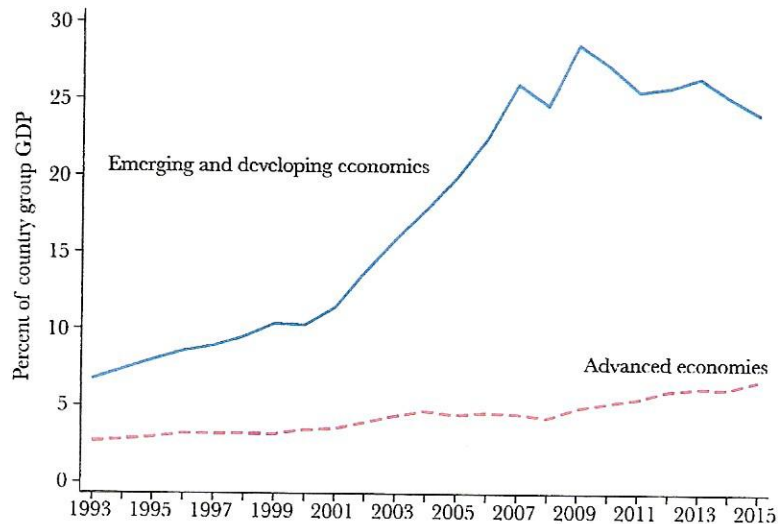
Floating Exchange Rates: Monetary Independence and Financial Instability

The monetary trilemma implies that, with the imperative of exchange rate stability gone, countries in the 1970s could orient monetary policy toward domestic goals while still allowing additional freedom of capital movements across borders. In the decades since 1973, both exchange-rate flexibility and capital mobility have increased, but the process has not been smooth or consistent around the world. The United States financial account was already reasonably unrestricted at the start of the 1970s. European countries like Germany and Switzerland had imposed some inflow capital controls earlier, but could now dismantle them, whereas other European countries and Japan retained heavier controls through the late 1970s (Britain) or even up to the late 1980s (Bakker 1996; Abdelal 2007). As shown in Figure 4, the share of countries with pegged exchange rates fell dramatically from about 90 percent in 1970 to about 40 percent by the 1980s. But since then, the share of countries with pegged currencies has crept up over time to more than half. Conversely, the level of capital mobility was still relatively low in the mid-1980s, but then rose dramatically into the early 2000s, before leveling off and even declining during the last decade or so.

A Surprise

- Most economists predicted that the collapse of BW and the advent of flexible ex. rates would mean that foreign reserve holdings would decrease.
- In fact, they have increased.
- This largely reflects 3 factors:
 - 1.) "Fear of Floating"
 - 2.) Explosion of Gross Capital Flows
 - 3.) Precautionary Demand.

Figure 6
Stocks of International Reserves, 1993–2015



Sources: IMF International Financial Statistics database for reserve data (which include gold valued using national methods); IMF World Economic Outlook database for GDP data.

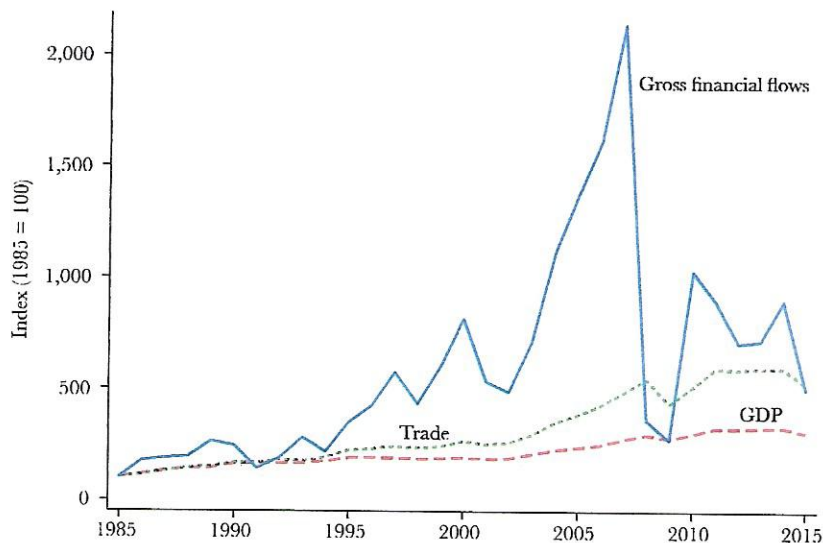
Note: The “advanced” group excludes Hong Kong, South Korea, Singapore, and Taiwan but includes the Czech Republic, Estonia, Slovenia, and the Slovak Republic.

market economies, larger balance-sheet liabilities, some denominated in foreign currencies and at short term, imply a greater risk of capital-flow reversal: not only might financing for a current account deficit disappear in a sudden stop, but foreign creditors could also call for the repayment of gross liabilities. In addition, domestic investors might seek to rebalance portfolios towards foreign assets, via capital flight towards perceived safe havens. The magnitudes of these gross flows can greatly exceed those of net flows, and these risks increase the utility of foreign exchange reserves to help domestic financial institutions as well as importers make payments abroad, while minimizing the risks of possible spillovers to domestic banks (Obstfeld, Shambaugh, and Taylor 2010).

Such risks are not limited to emerging and developing economies. Banks worldwide fund themselves with borrowing in key advanced-economy currencies, notably the US dollar, which continues to play a pivotal international role long after the Bretton Woods system’s demise.⁹ During the global financial crisis, for example, European banks found it difficult to roll over short-term US dollar credits, and faced the prospect of having to liquidate dollar-denominated assets in fire sale conditions. Ad hoc swap lines, through which the Federal Reserve lent dollars, and with which

⁹A prescient meditation on the centrality of the US dollar, still relevant 50 years later, is Kindleberger (1967).

Figure 5

Evolution of Real Gross Capital Flows Compared with Output and Trade, 1985–2015

Source: IMF World Economic Outlook and International Financial Statistics databases.

Notes: Indices are calculated from data in real US dollars (deflated using US GDP deflator). Global trade is defined as the average of global exports and imports of goods and services. Gross global financial flows are defined as the sum of direct investment, portfolio investment, and other investments. Values are obtained by averaging inflows and outflows to account for measurement error.

policies in the wake of the financial crisis, some emerging markets, while having loosened the rigidity of their exchange rates after the Asian crisis, still found that lower global interest rates and capital inflows were making it harder for them to maintain financial and price stability. The central macroeconomic challenges of exchange rate regime choice, external payments adjustment, and international liquidity have clearly remained over time, although they have manifested themselves in different forms given the evolution of financial markets.

How Should Exchange Rates Be Determined?

A number of countries have continued to use some form of pegged exchange rates, as shown earlier in Figure 4. However, the monetary trilemma, coupled with widespread financial integration, has made it much harder—or even impossible, for most countries—to maintain completely firm currency pegs, given the imperatives of domestically oriented monetary policy. At the national level, as we have seen, floating exchange rates clearly cannot provide insulation against all global financial or real shocks. But floating still does facilitate some measure of domestic insulation, and policymakers can provide additional shock absorbers by deploying effective financial and macroprudential policies, by adopting sound fiscal and structural policies, and even by using measures to limit capital flow in some circumstances.