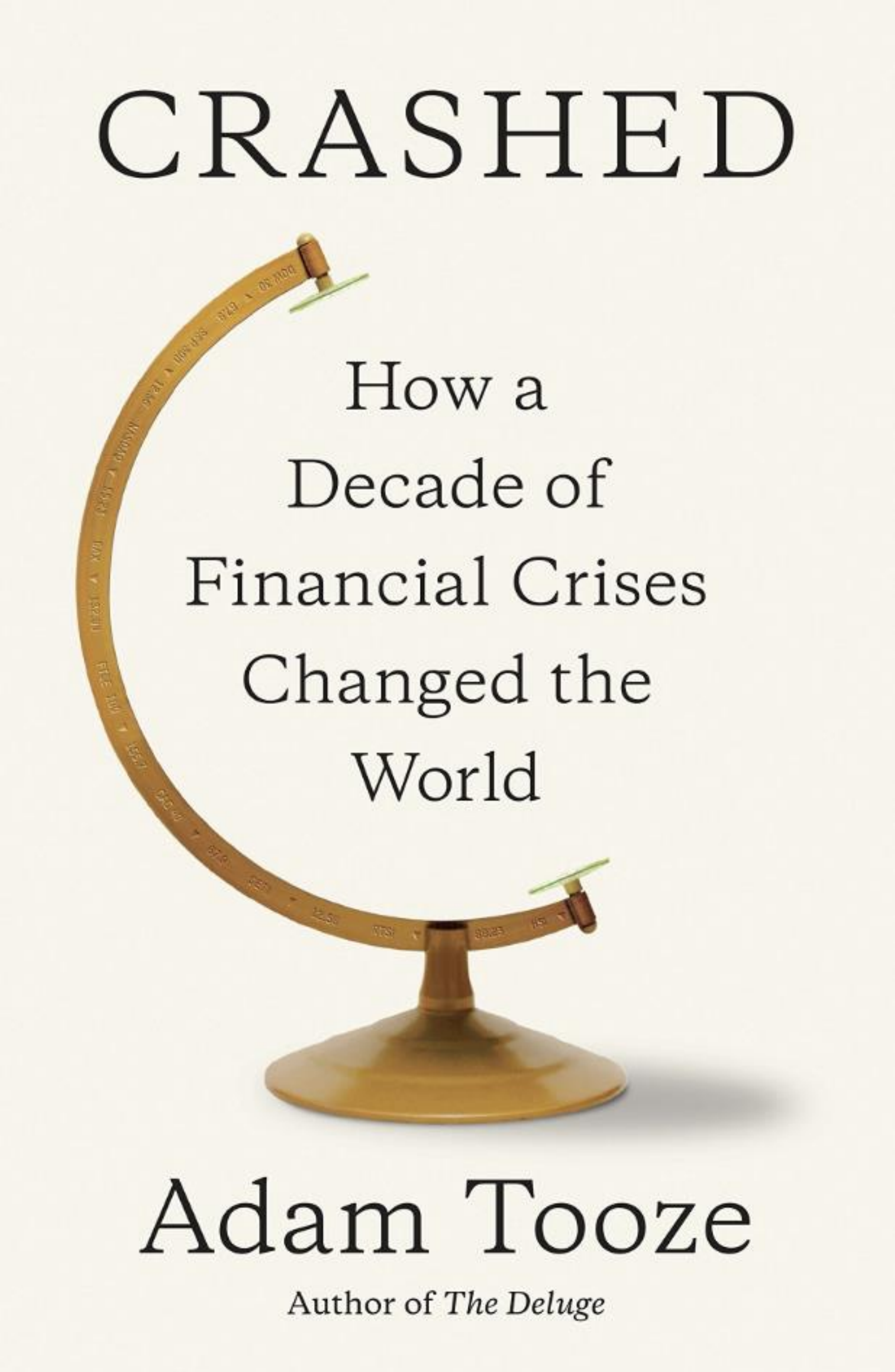


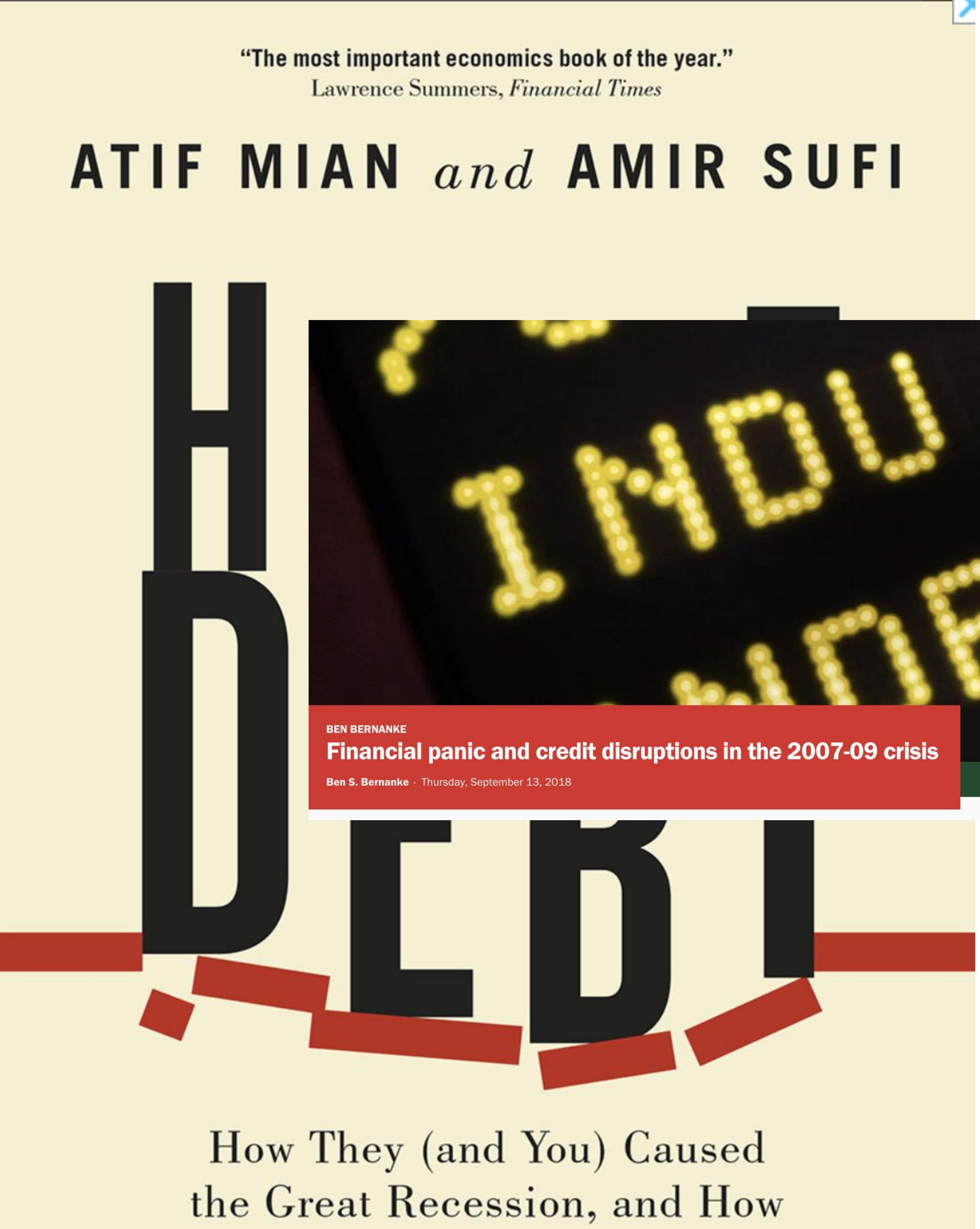
Adam Tooze
Columbia University

Department of History and
European Institute

October 2018

One of the things that is different about doing contemporary history is that the characters in your narrative are alive.

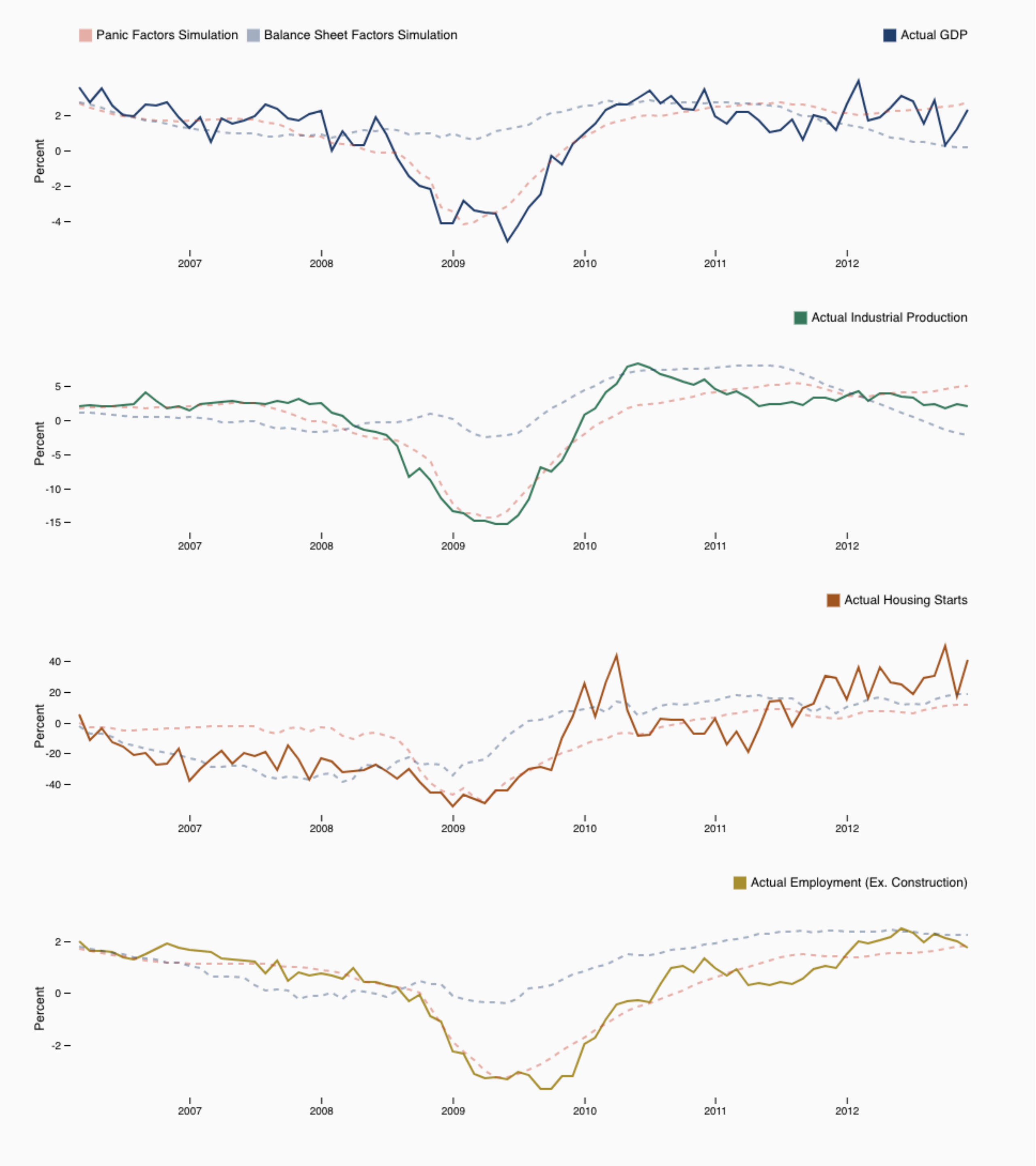
Anniversary has produced a vigorous self-defense by key US policy-makers.



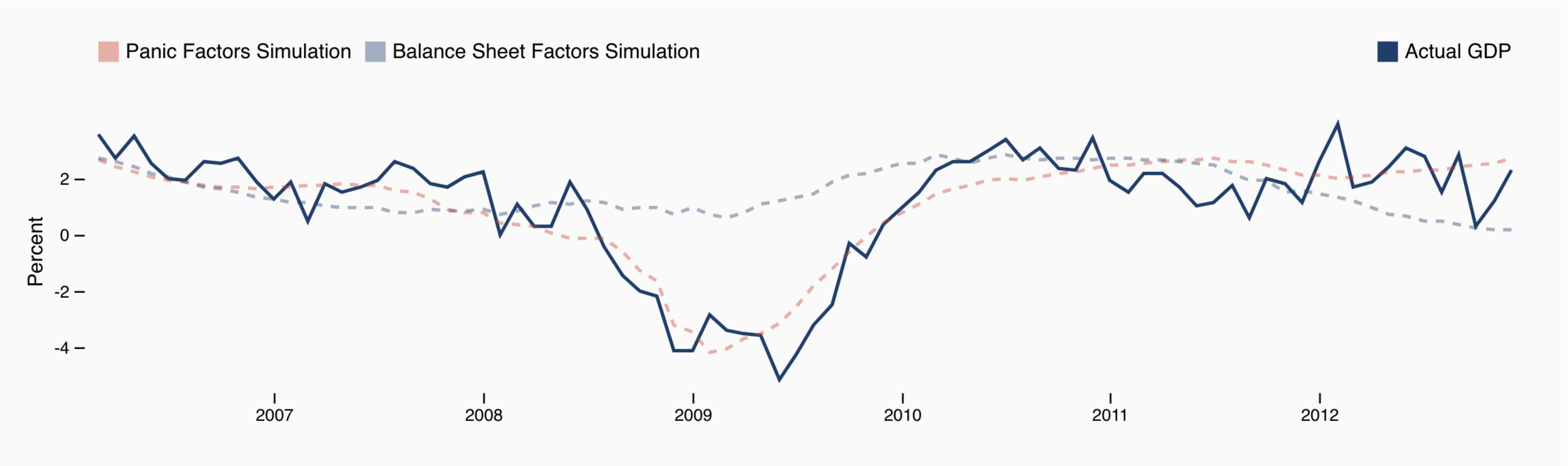
… but also new arguments.

If Mian and Sufi are right -> household balance sheets are the ultimate drivers, then Geithner and Bernanke targeted recovery policy in the wrong place and set the stage for slow recovery and erosion of support for Obama administration, 2010 midterm defeat etc

Bernanke evidence v. Mian and Sufi



https://www.brookings.edu/blog/ben-bernanke/2018/09/13/financial-panic-and-credit-disruptions-in-the-2007-09-crisis/

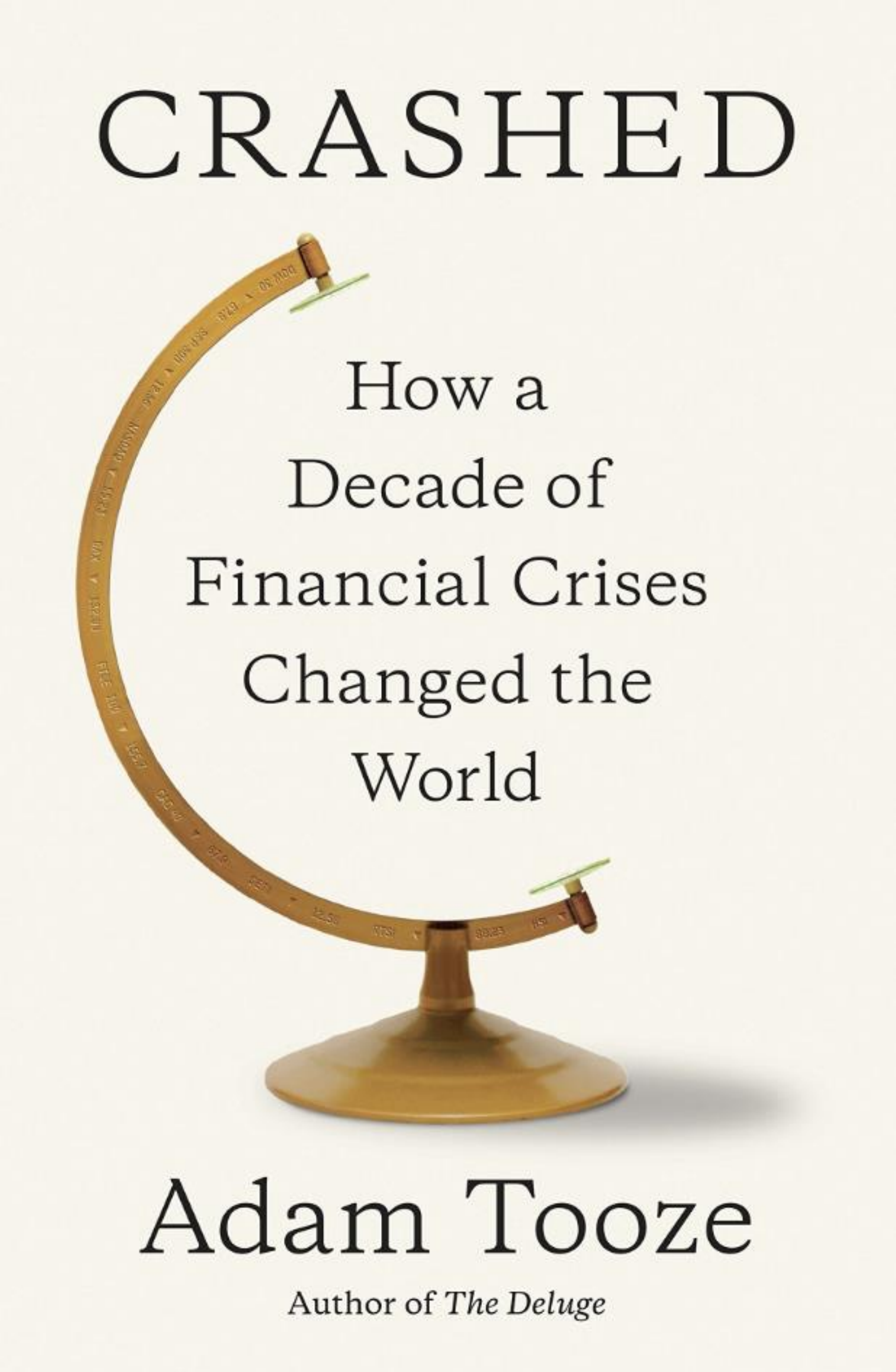


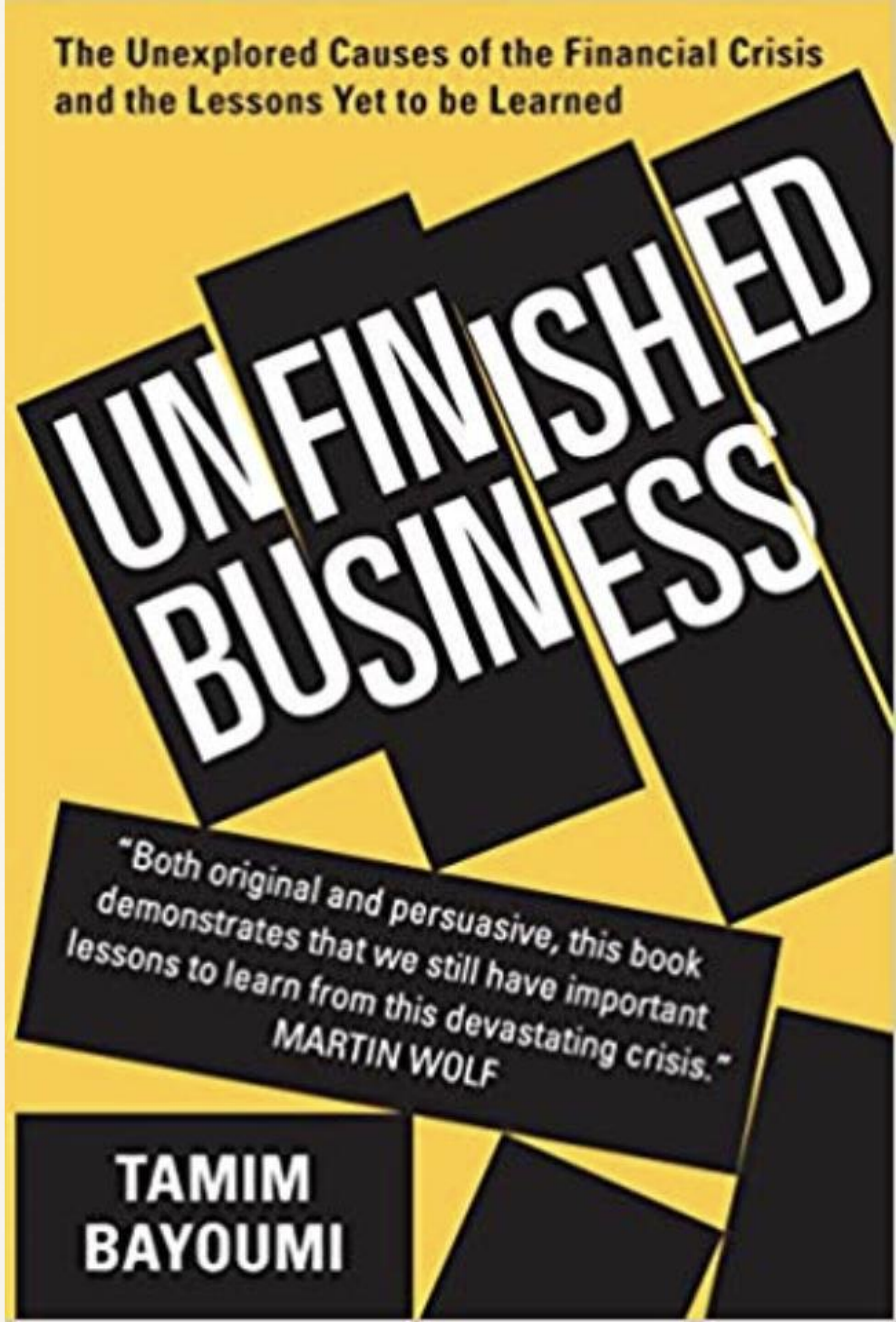
If financial panic is the main driver of the economic recession then Paulson, Bernanke and Geithner’s policies aimed at “saving Wall Street to save Main Street” were justified.

Bernanke’s test of the panic v. balance sheet models is neat.

It is convincing.

In line with …





Focusing on the defensive leaves Bernanke to understate the novelty, radicalism and impact of the crisis:

Bernanke: “September and October of 2008 was the worst financial crisis in global history, including the Great Depression.”

“If we don’t do this we may not have an economy on Monday.” Bernanke to Congress Cttee evening Thursday 18 September 2008

2008 was a radical event:

In the history of the international economy
In the development of policy-orientated economics

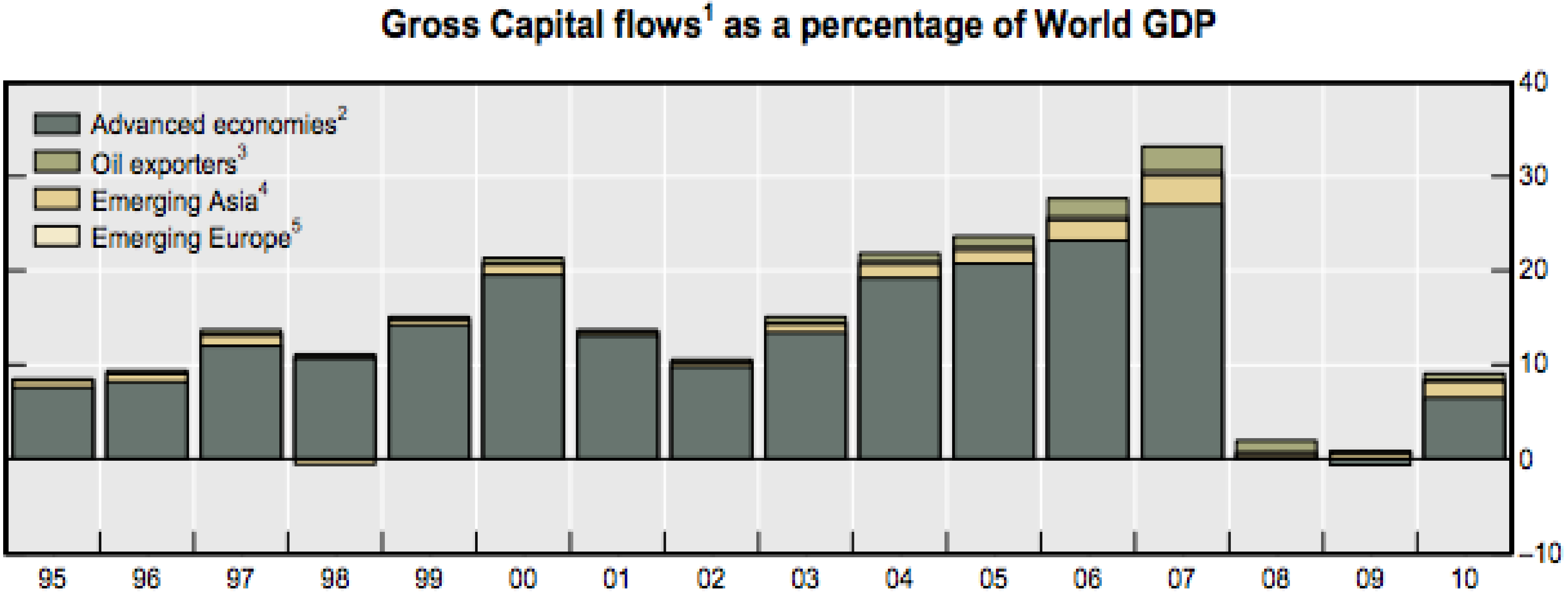
With significant repercussions:
Political
Geopolitical

Countrywide
Bear Stearns
Fannie Mae and Freddie Mac
Lehman
AIG
Merrill Lynch
Washington Mutual
Citigroup

Benelux-France	Dexia
	Fortis
UK	Northern Rock
	Alliance and Leicester
	RBS
	HBOS
Germany	Hypo Real Estate
	Landesbanken
	Dresdner/Commerzbank
Switzerland	UBS
Ireland	Entire banking system
Iceland	Entire banking system
South Korea	Entire banking system
Russia	Entire banking system

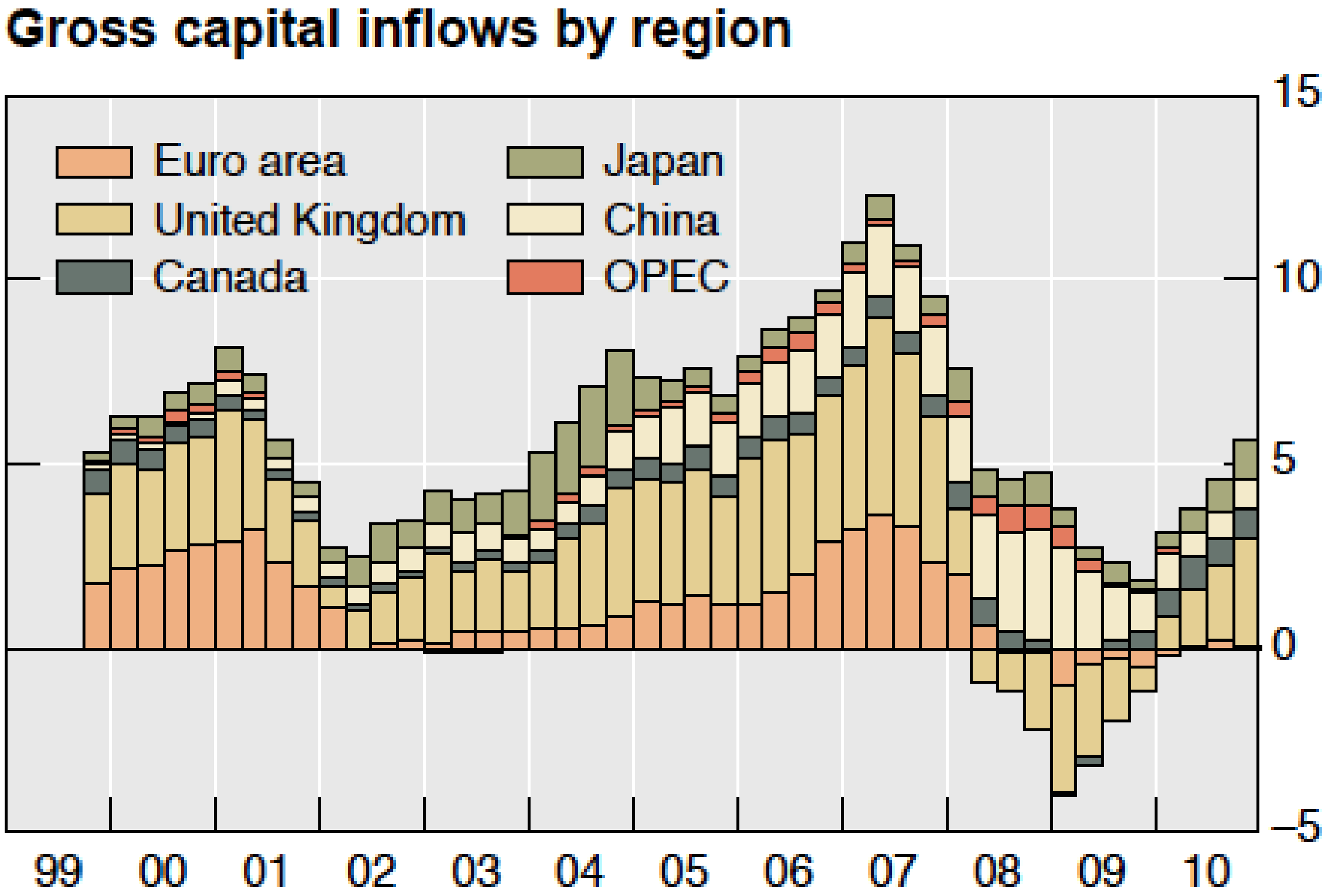
NEVER before have we seen a simultaneous banking crisis of this breadth and depth.

The banking panic was global



Borio & Disyatat Global imbalances and the financial crisis (2011)

US Balance of Payments: Capital Account Purchases/Sales of US assets by Foreigners

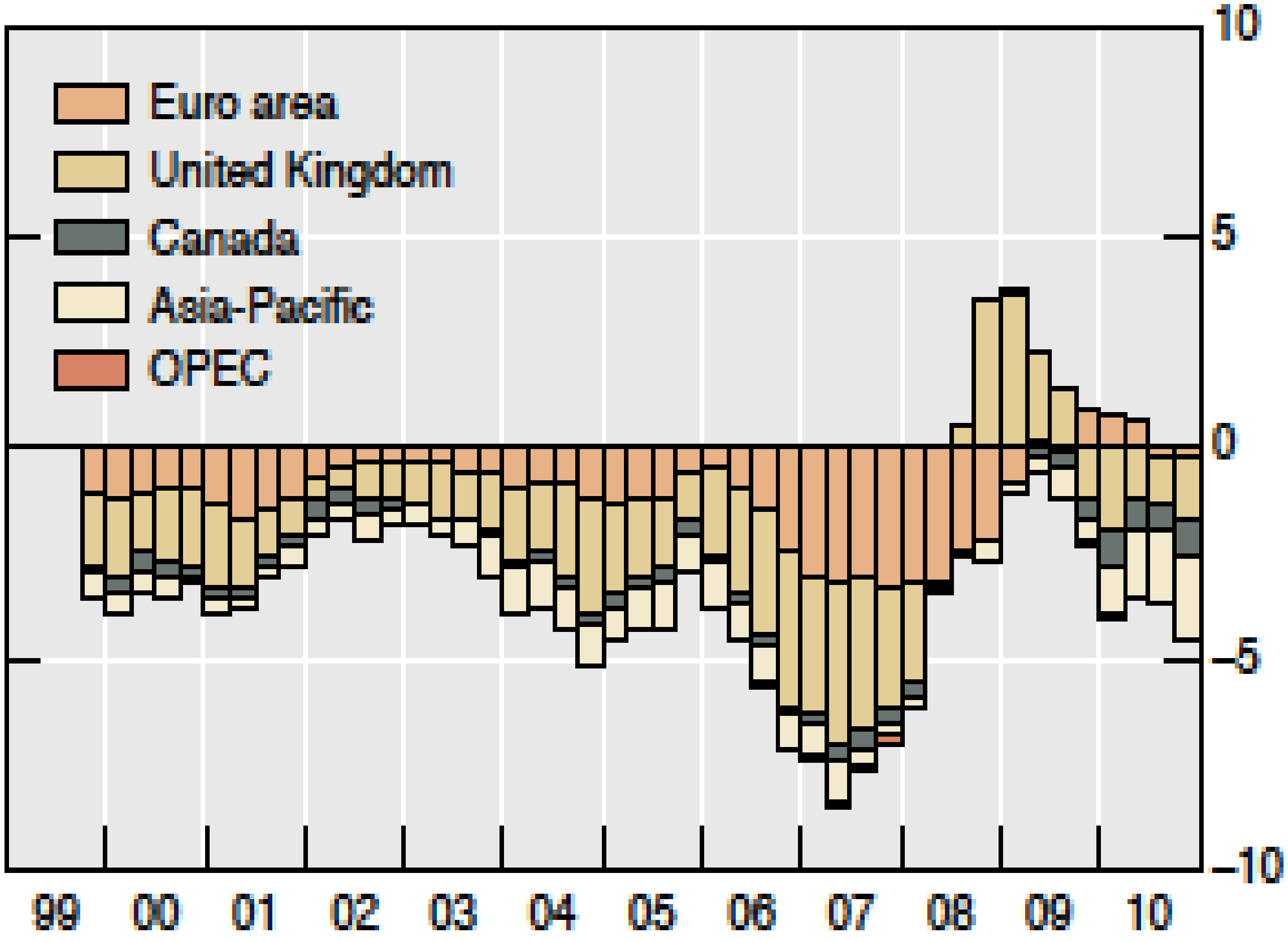


% US GDP

Borio & Disyatat Global imbalances and the financial crisis (2011)

Offsetting repatriation of funds by US banks

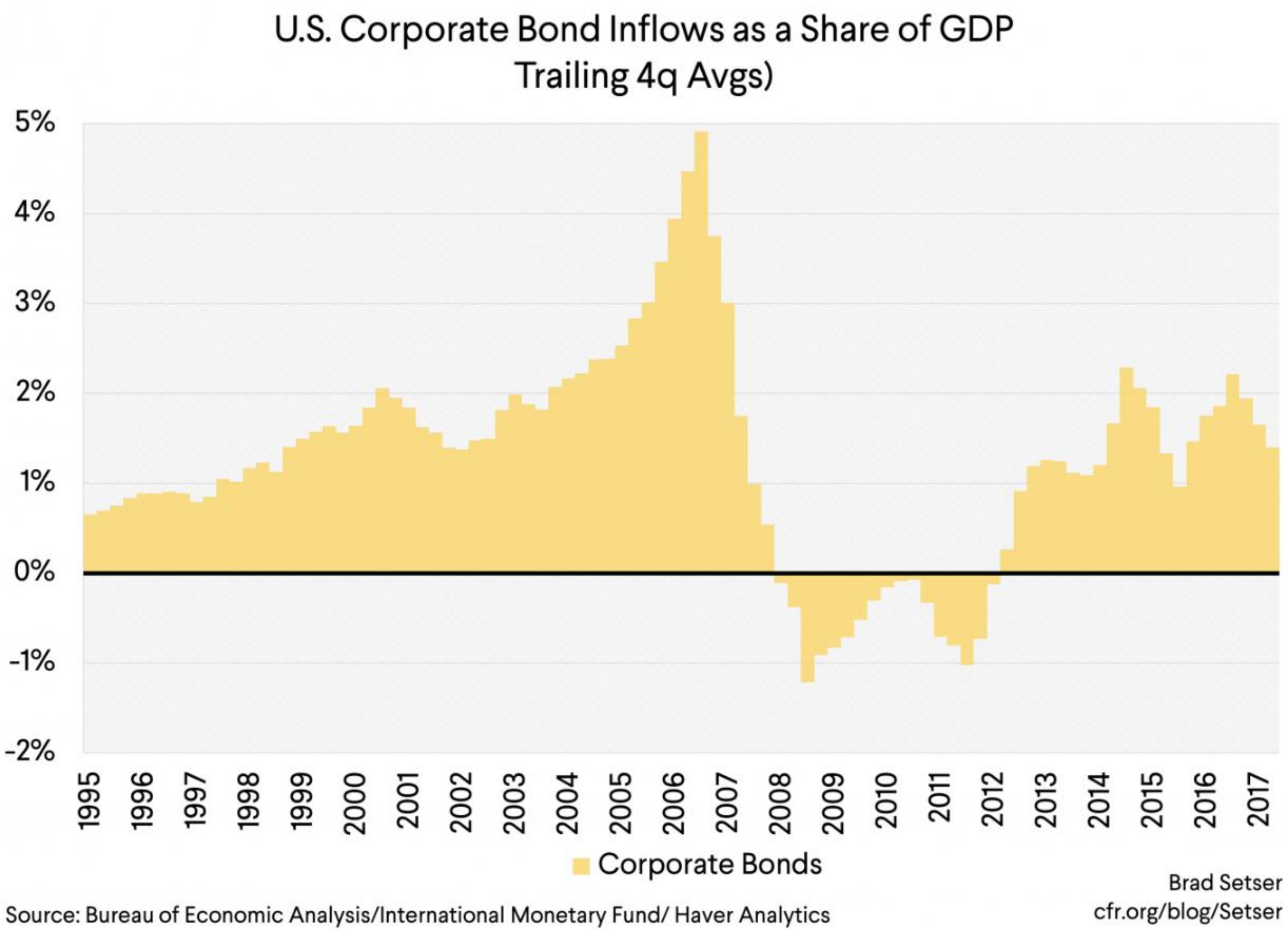
Gross capital outflows by region

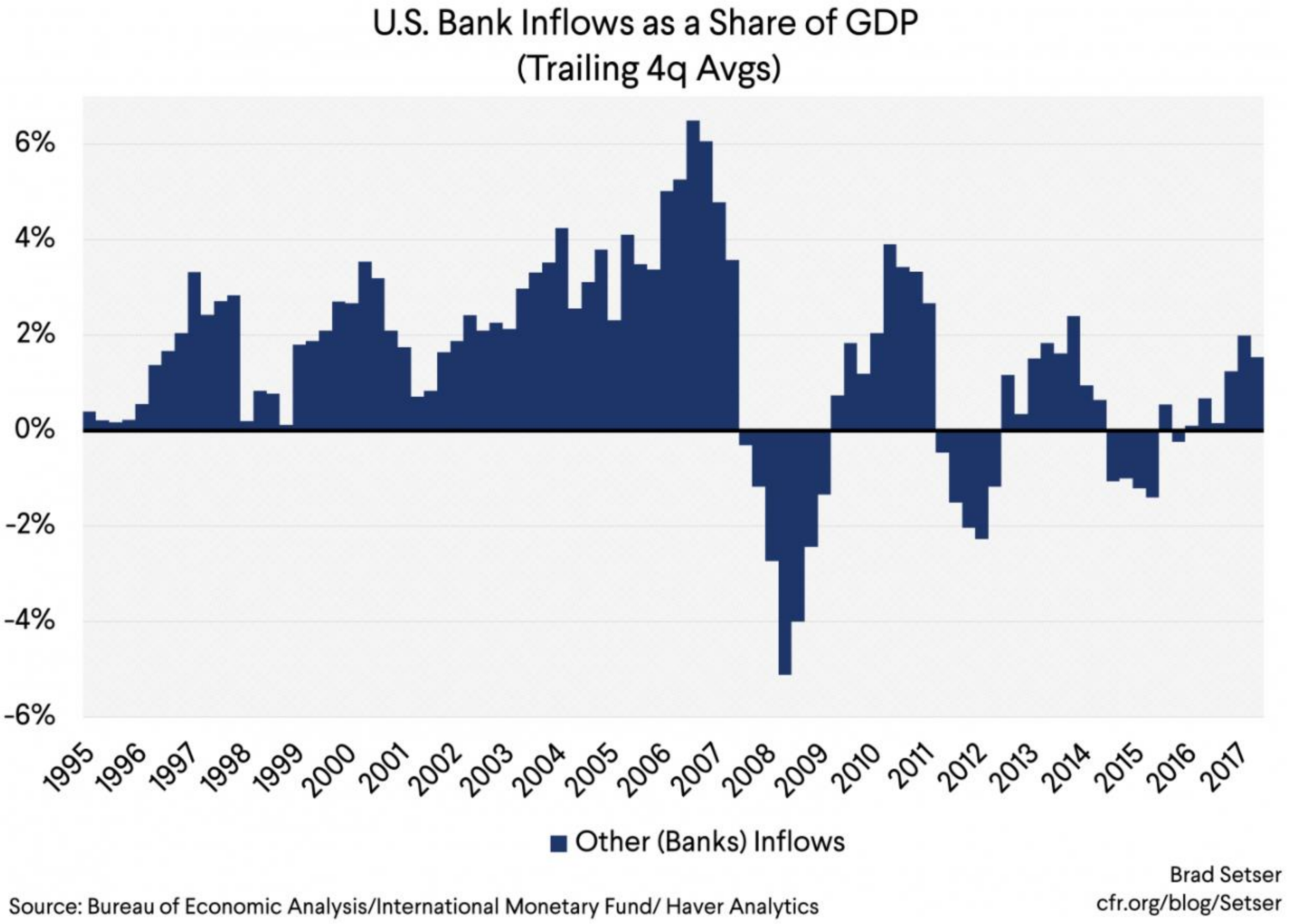


es, foreign assets in US dollar and US liabilities to unaffiliated

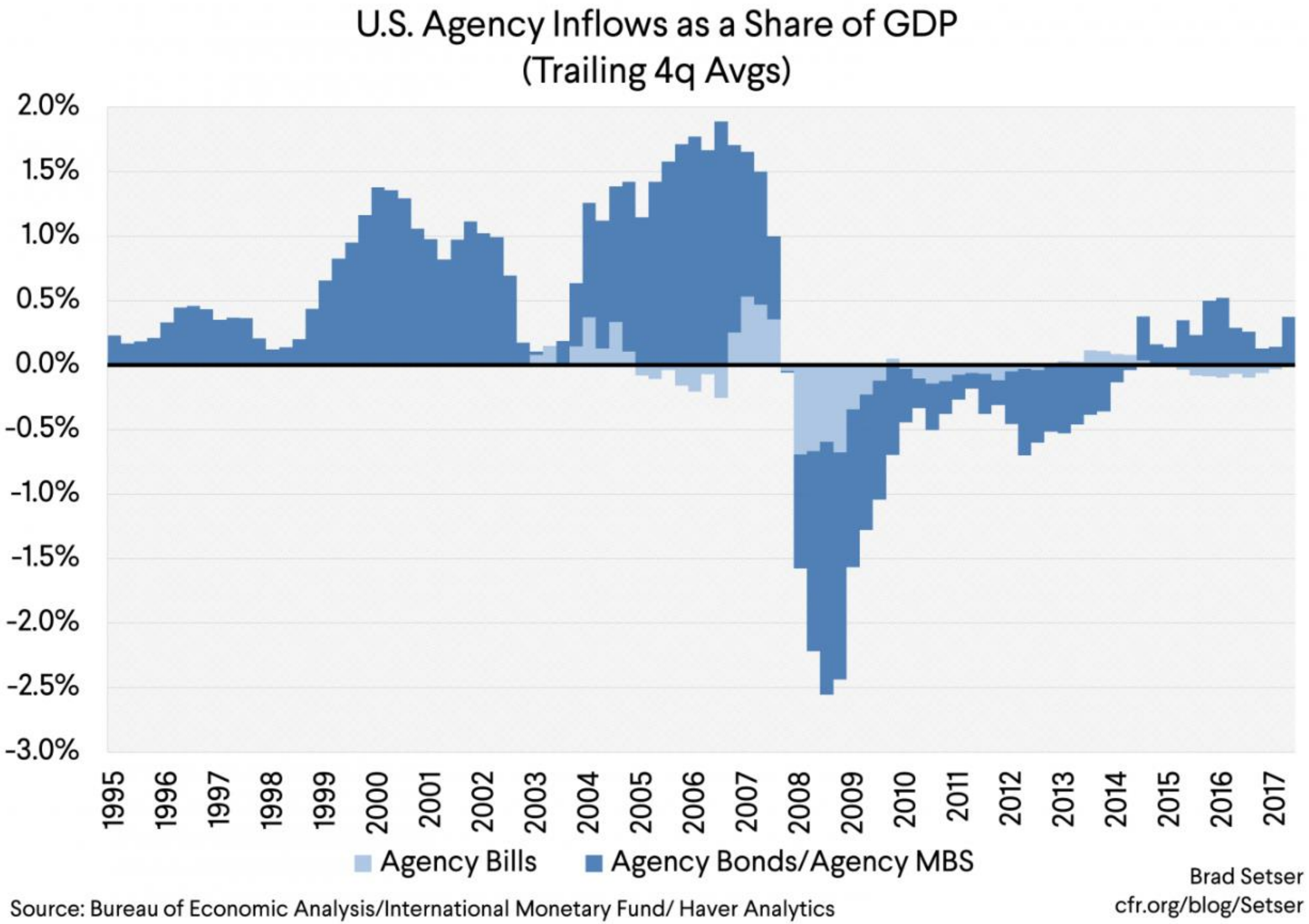
% US GDP

Brad Setser's recent analysis prompted by *Crashed* https://www.cfr.org/blog/three-sudden-stops-and-surge

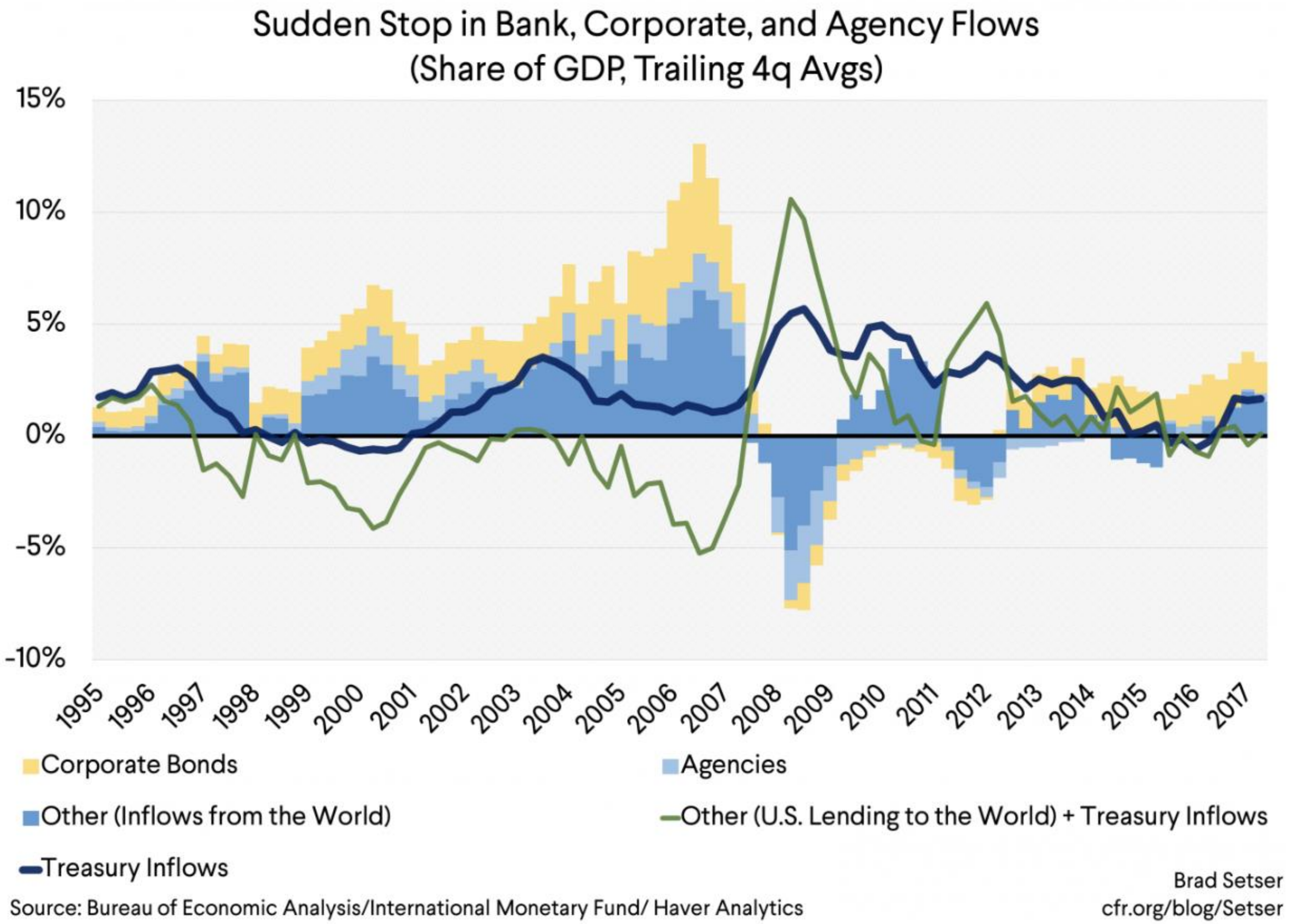


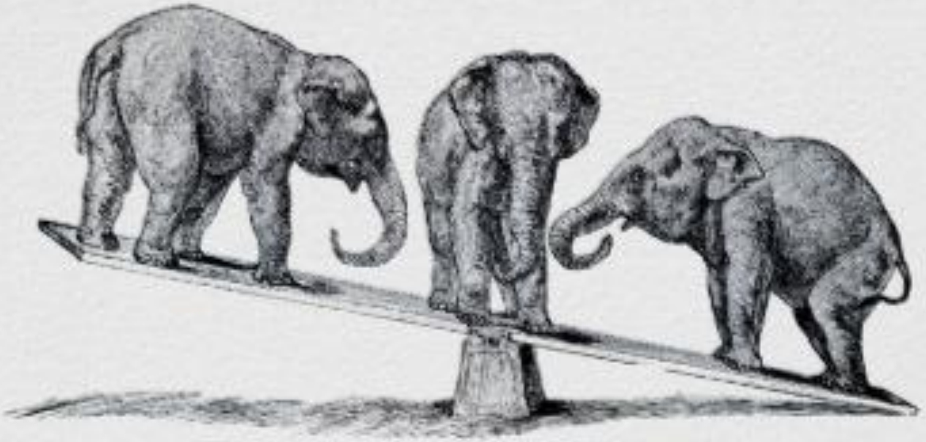


"Take a four quarter average to smooth out some of the lumps and I think private inflows into U.S. debt swung from a peak inflow of 10 percent of GDP to an outflow of 5 percent of GDP (one note: I assume that all Treasury and Agency purchases are official). That's the kind of swing that you see in the most brutal emerging market crises. Or in the euro area back when it was on the edge of breaking apart." Brad Setser 2018


U.S. Agency Inflows as a Share of GDP
(Trailing 4q Avgs)
2.0%
1.5%
1.0%
0.5%
0.0%
-0.5%
-1.0%
-1.5%
-2.0%
-2.5%
-3.0%
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Agency Bills
Agency Bonds/Agency MBS
Source: Bureau of Economic Analysis/International Monetary Fund/ Haver Analytics
Brad Setser
cfr.org/blog/Setser

Share

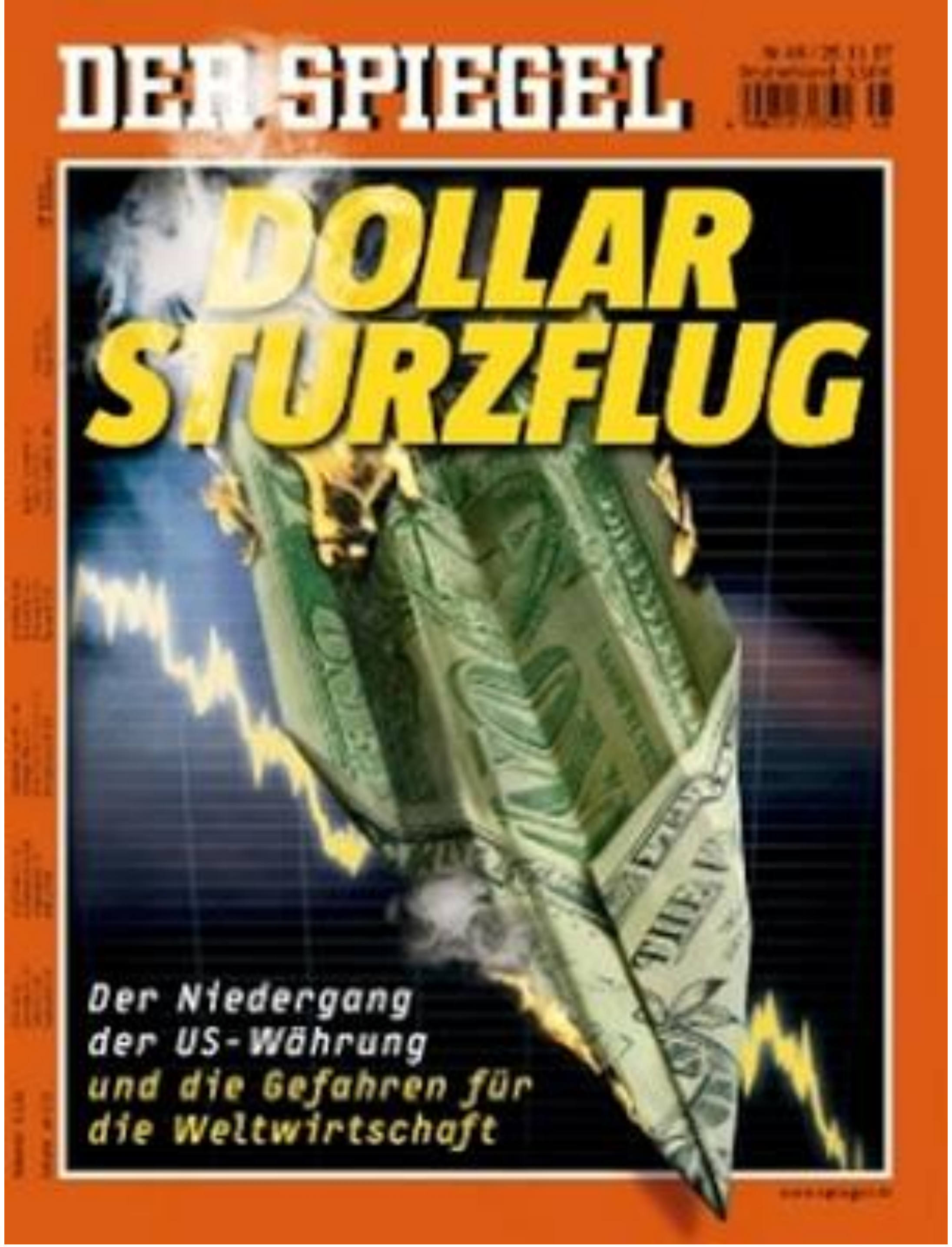

Sudden Stop in Bank, Corporate, and Agency Flows
(Share of GDP, Trailing 4q Avgs)
15%
10%
5%
0%
-5%
-10%
1995
1996
1997
1998
1999
2000
2001
2002
2003
2004
2005
2006
2007
2008
2009
2010
2011
2012
2013
2014
2015
2016
2017
Corporate Bonds
Agencies
Other (Inflows from the World)
Other (U.S. Lending to the World) + Treasury Inflows
Treasury Inflows
Source: Bureau of Economic Analysis/International Monetary Fund/ Haver Analytics
Brad Setser
cfr.org/blog/Setser



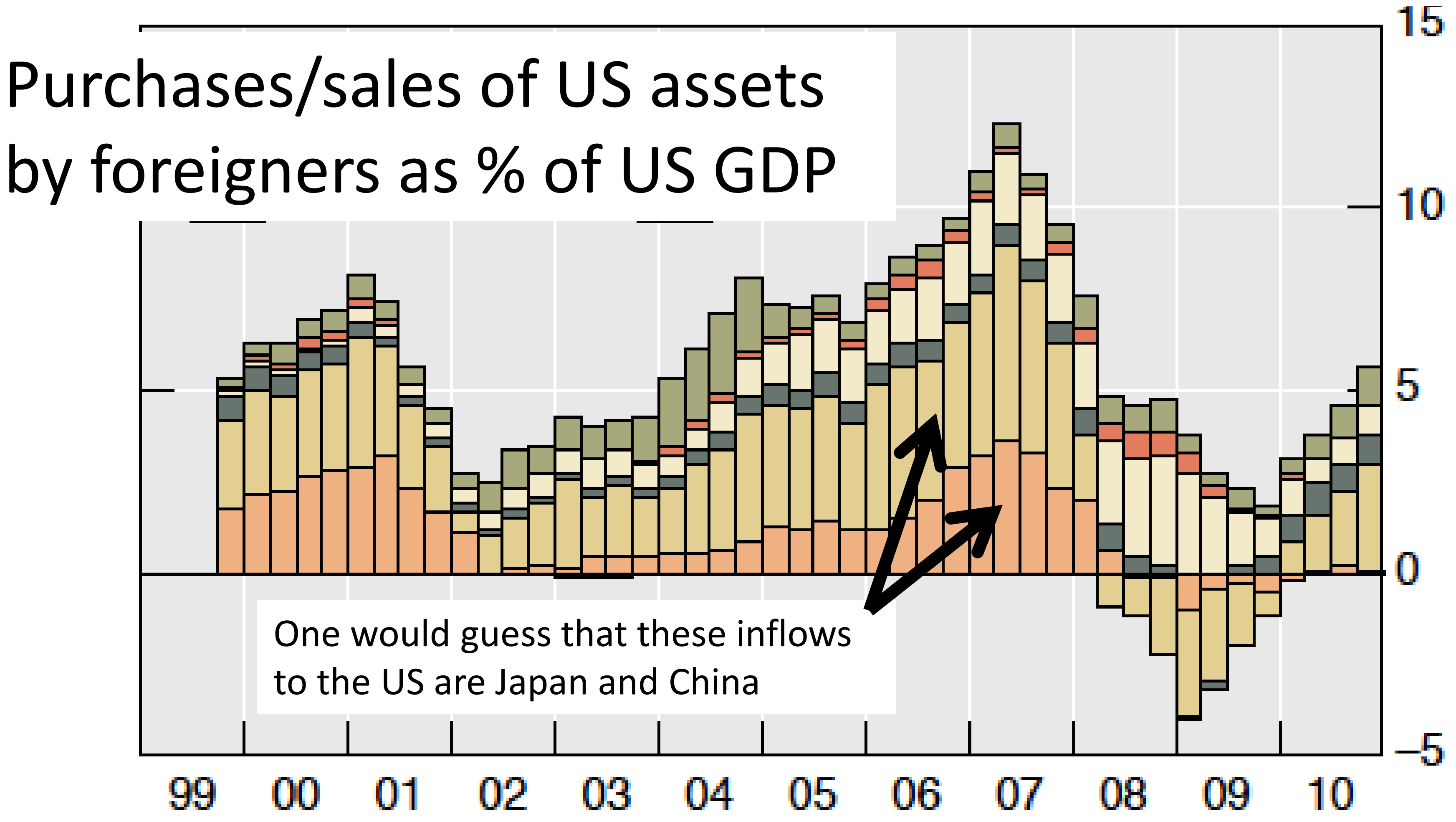
It was conceptually confusing because it is not the balance of payments crisis that was anticipated.

Before the crisis American strategists had imagined that there would be a geoeconomic stand off with China.

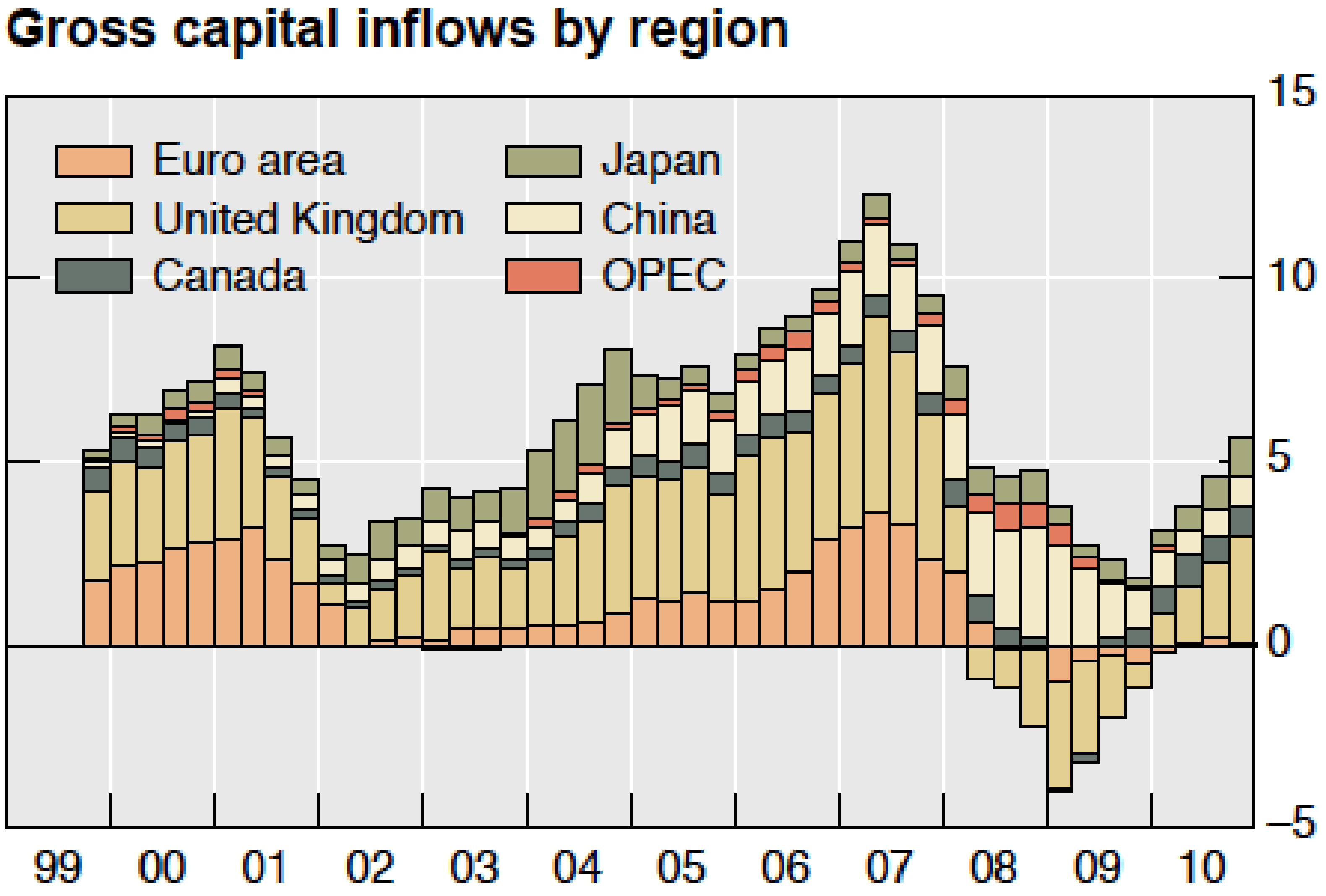

INSIDE THIS WEEK: A 14-PAGE SPECIAL REPORT ON BUSINESS IN JAPAN
The Economist
The City of London's tumble
A fake election in Russia
Australia's new team
India's mobile-phone wars
Germs and genes
The panic about the dollar


DER SPIEGEL
DOLLAR STURZFLUG
Der Niedergang der US-Währung und die Gefahren für die Weltwirtschaft

We know America attracts a huge volume of foreign capital and we know “on net” a lot of it comes from Asia = Bernanke’s “savings glut hypothesis”.



SOURCES OF CAPITAL INFLOW TO THE US



Borio & Disyatat Global imbalances and the financial crisis (2011)

Prior to the crisis, the macroeconomic models used by central banks and forecasters—including the Fed's workhorse model—provided little guidance on how to think about the economic effects of credit-market disruptions. Fed staff and policymakers accordingly under-predicted the depth and duration of the recession. For example, in October 2008, when the financial panic was at its most intense, the Fed staff predicted that unemployment would peak at a little above 7 percent; in reality, it would reach 10 percent by the fall of 2009. Other forecasters also underestimated the impact of the crisis. As I discuss in my paper, the crisis significantly changed economists' views on the importance of credit factors in the economy at large, and during the past decade, much interesting new research has documented the importance of those factors and shown how to incorporate them into macroeconomic forecasting and analysis. But there is still much progress to be made.

Bernanke 2018

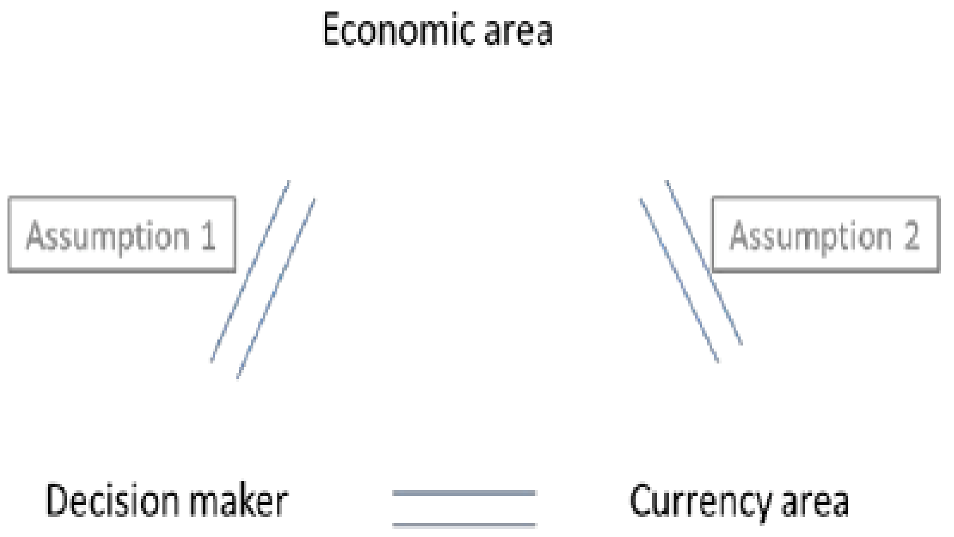
“An understanding of the credit crunch requires us to transcend the commonsense idea that changes in the so-called real economy drive outcomes in a supposed financial superstructure. Making this ‘epistemological break’ is not easy. One reason why so few economists saw a crisis coming, or failed to grasp its scale even after it had hit, was that their models had assumed both that financial systems ‘work’, in the sense of efficiently aiding the operations of the real economy, and that financial trends themselves are of secondary significance. …. Breaking with the orthodoxy that it was ‘real economy’ actors that caused the crisis carries a political price: it means that blame can no longer be pinned on mortgage borrowers for the credit crunch, on the Chinese for the commodities bubble … Yet it may allow us to understand otherwise inexplicable features of the crisis …. We will thus take as our starting point the need to explore the structural transformation of the American financial system over the past twenty-five years. I will argue that a New Wall Street System has emerged in the us during this period, producing new actors, new practices and new dynamics. The resulting financial structure-cum-agents has been the driving force behind the present crisis.”

Peter Gowan “Crisis in the Heartland” *New Left Review* 55 2009

The “right Minskyians” at the BIS describe the resulting reorientation of international macrofinance as “breaking with the assumption of the triple coincidence”.

National economy and its agencies of government

Corporations



Source: Avdjiev S, R McCauley and H S Shin (2015): “Breaking free of the triple coincidence in international finance”, BIS Working Papers , no 524, October.

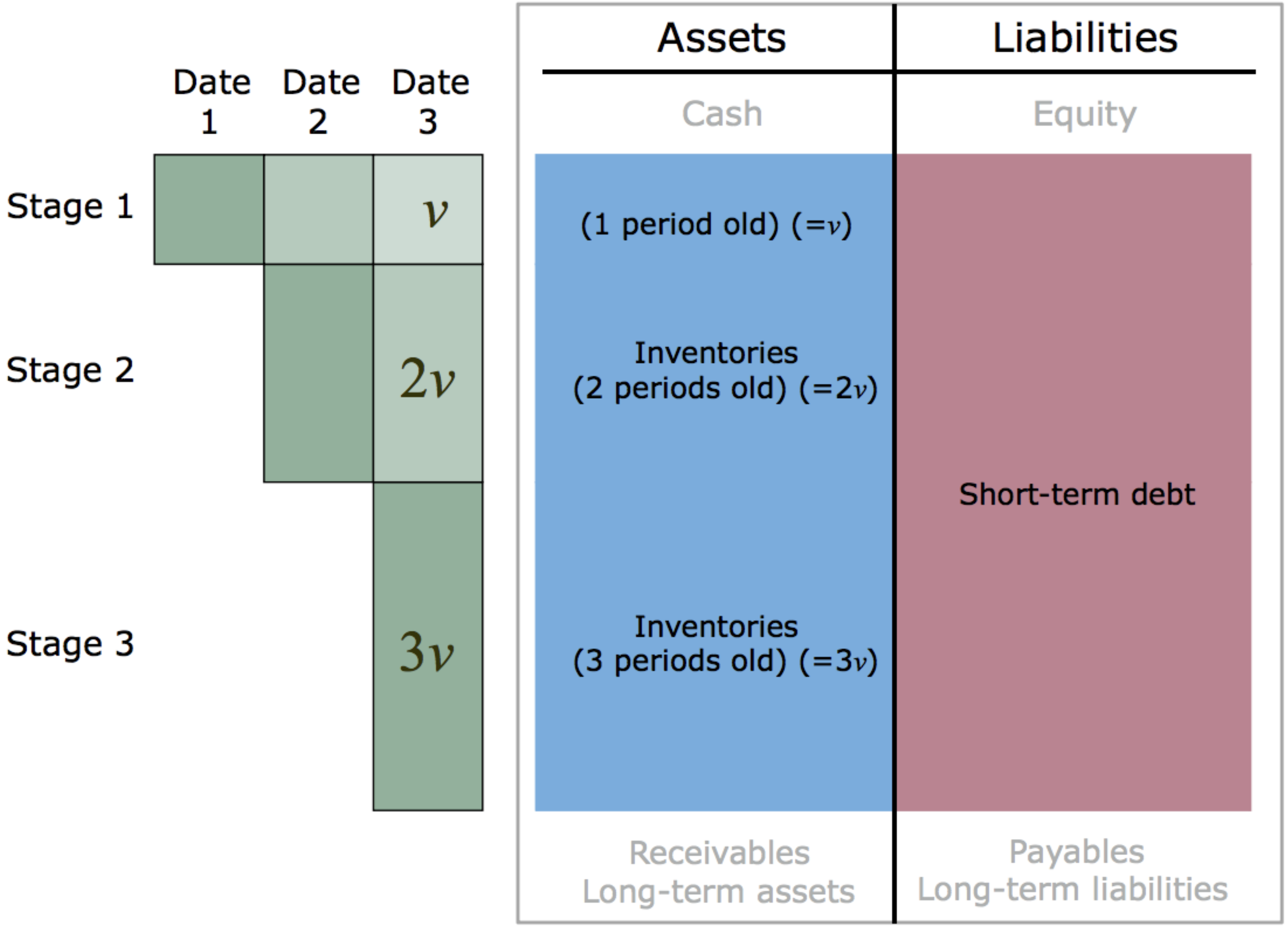
"By its nature, the task of building a general equilibrium approach that departs from the triple coincidence faces modeling difficulties. General equilibrium models deal with GDP components and hence start with the GDP area as the unit of analysis. However, financial flows and balance sheets often do not map neatly on to the traditional macro variables that are measured within the GDP boundary. …

Take the concrete instance of a US branch of a global European bank that borrows dollars from a US money market fund, and then lends dollars to an Asian firm through its Hong Kong branch. The bank may be headquartered in London, Paris or Frankfurt, but the liabilities on its balance sheet are in New York and the assets on its balance sheet are in Hong Kong SAR. No obvious mapping relates this bank's balance sheet to a GDP area or to GDP components within the GDP area.

In spite of the conceptual difficulties, some progress can be made in developing an analytical framework that transcends the triple coincidence if the task is limited to delineating the decision-makers through their consolidated balance sheets, irrespective of where the balance sheets lie in GDP space. … Once behavioural features are projected on to the consolidated balance sheets, and provided that such frameworks are limited to addressing global conditions rather than individual country GDP components, useful lessons can be gleaned on key macroeconomic questions."

Source: Avdjiev S, R McCauley and H S Shin (2015): "Breaking free of the triple coincidence in international finance", BIS Working Papers , no 524, October.

Sounds a bit like the commodity chain/value chain literature in international trade economics ...



GVC of four links needs funding of $4v + 3v + 2v + v$.
Funding need grows rapidly – at rate of **square** of length of GVC.

Real globalisation and financial globalisation

We cannot draw a sharp distinction between the two

- Real globalisation entails substantial financial globalisation
- But the global financial system is subject to procyclicality and excesses, like the domestic financial system
  - Durable benefits of globalisation reaped through a more resilient global financial system
  - Importance of international cooperation towards resilience is undiminished
- Need to transcend "islands" view of global economy to that of the matrix of balance sheets

is undiminished

1

- Need to transcend "islands" view of global economy to that of the matrix of balance sheets

The global economy reconceived, not as underpinning of “international community” …

or ”circular flow”

Or “division of labour”

but as a matrix of corporate balance sheets.

What are the politics?

Why stop at the global economy, why not the national economy too?

Changing Market Structures and Implications for Monetary Policy

Materials for this year's symposium, during which participants discuss economic issues, implications and policy options, will be posted as they are available. Times listed on the agenda are Mountain Standard Time. To learn more about the symposium's history read In Late August.

Thursday, August 23, 2018

6 p.m.	**Opening Reception and Dinner**
Host:	**Esther L. George** President and Chief Executive Officer Federal Reserve Bank of Kansas City

Global “macroprudentialism”

There is a practical/political shift in the form of the Basel 3 governance regime.

30 banks with balance sheets the size of 40 % of global gdp are at the heart of a new regime of “financial stability” governance.

They are officially recognized as “globally systemically important”.

http://www.fsb.org/wp-content/uploads/2016-list-of-global-systemically-important-banks-G-SIBs.pdf

G-SIBs as of November 2016[9] allocated to buckets corresponding to required levels of additional capital buffers

Bucket[10]	G-SIBs in alphabetical order within each bucket
5 (3.5%)	(Empty)
4 (2.5%)	Citigroup JP Morgan Chase
3 (2.0%)	Bank of America BNP Paribas Deutsche Bank HSBC
2 (1.5%)	Barclays Credit Suisse Goldman Sachs Industrial and Commercial Bank of China Limited Mitsubishi UFJ FG Wells Fargo
1 (1.0%)	Agricultural Bank of China Bank of China Bank of New York Mellon China Construction Bank Groupe BPCE Groupe Crédit Agricole ING Bank Mizuho FG Morgan Stanley Nordea Royal Bank of Scotland Santander Société Générale Standard Chartered State Street Sumitomo Mitsui FG UBS Unicredit Group

Table 9. Haircuts on Repo Agreements (percent)

(Source: IMF Global Financial Stability Report, October 2008)

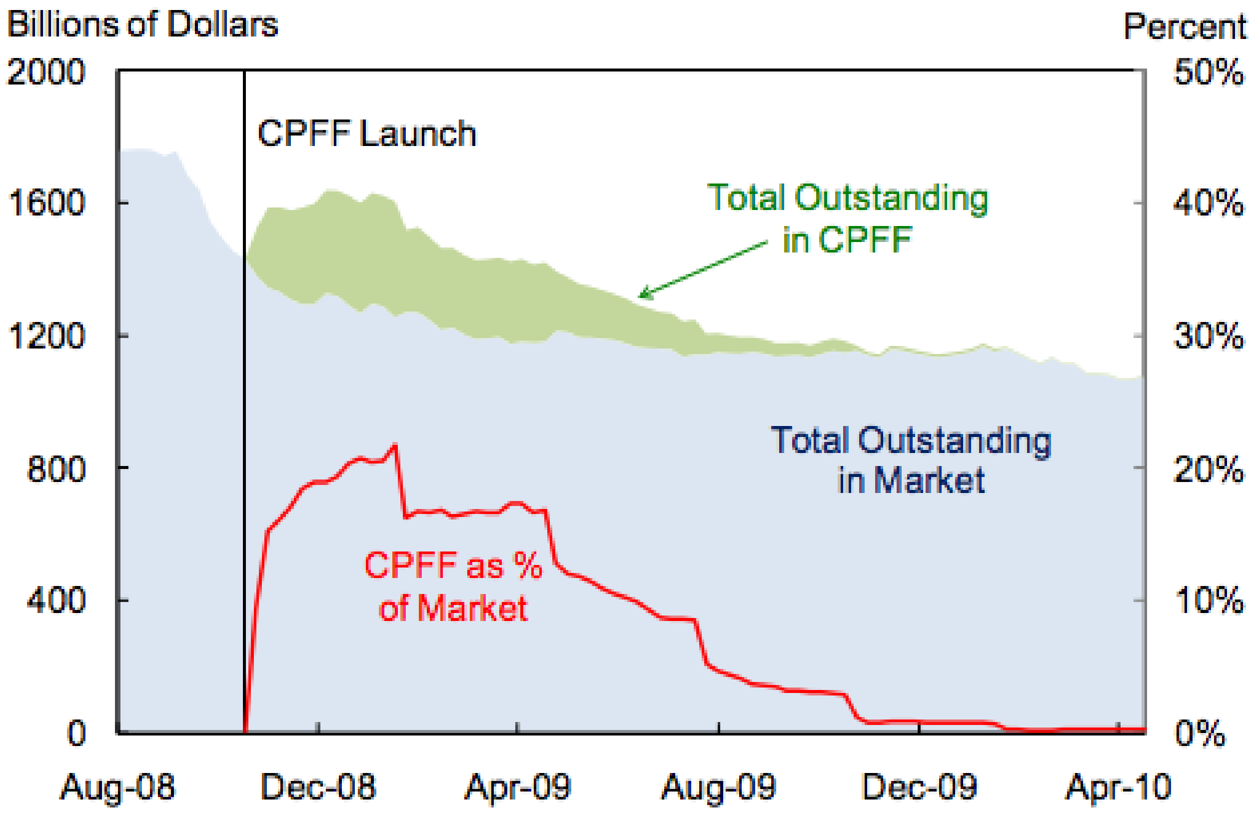
Securities	April-07	August-08
U.S. treasuries	0.25	3
Investment-grade bonds	0–3	8–12
High-yield bonds	10–15	25–40
Equities	15	20
Senior leveraged loans	10–12	15–20
Mezzanine leveraged loans	18–25	35+
Prime MBS	2–4	10–20
ABS	3–5	50–60

https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr382.pdf

Fed wasn’t just doing traditional discount window lender of last resort.

“The Federal Reserve’s balance sheet expansion can thus be viewed as an **emergency replacement** of lost private sector balance sheet capacity by the public sector” (Adrian and Shin)

Figure 8: Total Commercial Paper Outstanding



Source: Federal Reserve Board of Governors

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Take the concrete instance of a US branch of a global European bank that borrows dollars from a US money market fund, and then lends dollars to an Asian firm through its Hong Kong branch. The bank may be headquartered in London, Paris or Frankfurt, but the liabilities on its balance sheet are in New York and the assets on its balance sheet are in Hong Kong SAR. No obvious mapping relates this bank's balance sheet to a GDP area or to GDP components within the GDP area.
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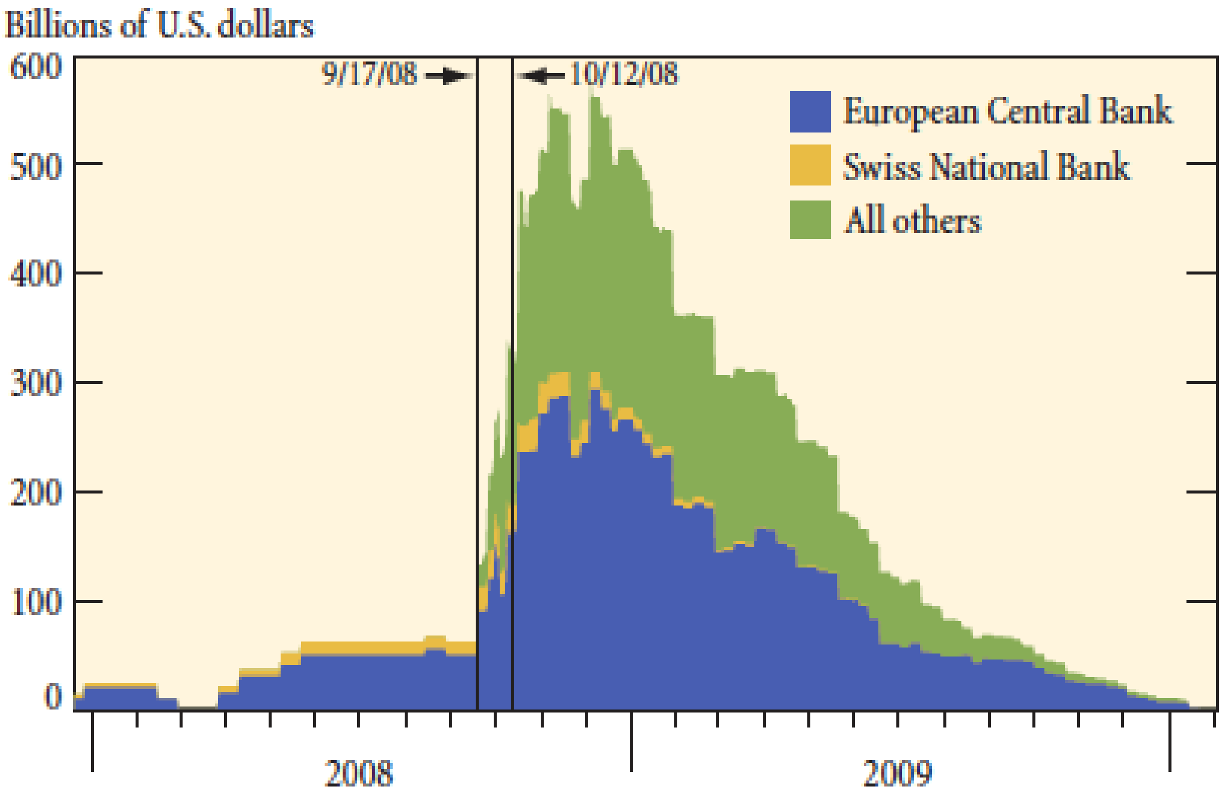
Source: Avdjiev S, R McCauley and H S Shin (2015): "Breaking free of the triple coincidence in international finance", BIS Working Papers , no 524, October.

When it did do lender of last resort it was on an unprecedented scale:

in bn $	Commercial Paper Funding Facility 3 month ABCP/CP	Term Auction Facility Bn$/month	Single Tranche Open Market Operations Bn$/month	Term Securities Lending Facility Bn$/month	Primary Dealer Credit Facility overnight
Bank of America	15	487	40	87	716
Citigroup	33	195	8	297	1,757
Citigroup (London)					263
Wells Fargo		304			
Wachovia		224			
Jp Morgan Chase		171	3	60	
State Street		79			
Bank of NY Mellon		0			
Goldman			53	186	434
Goldman (London)					156
Lehman			31	87	83
Merrill Lynch			12	154	1,487
Merrill Lynch (London)					594
Morgan Stanley	4		41	101	1,364
Morgan Stanley (London)					548
Bear Stearns				2	960
Barclays	39	313	67	159	410
RBS	39	153	70	250	
HBOS		262	66		
Credit Suisse		0	259	225	
UBS	72	94	57	109	35
Deutsche Bank		115	101	239	
Commerzbank	4	119			
Dresdner	9	171	5		
Depfa		52			
BNP		63	97	35	66
Societ Generale		217			
Dexia	54	132			
Fortis	39	108			
Total	737	6,180	855	2,006	8,951
total large	253	3,259	910	2,006	
total non-American	201	1,799	656	1,017	2,072
% non-American	79	55	72	51	23

Source: Fed

Foreign Exchange Swap Line Amounts Outstanding, by Foreign Central Bank

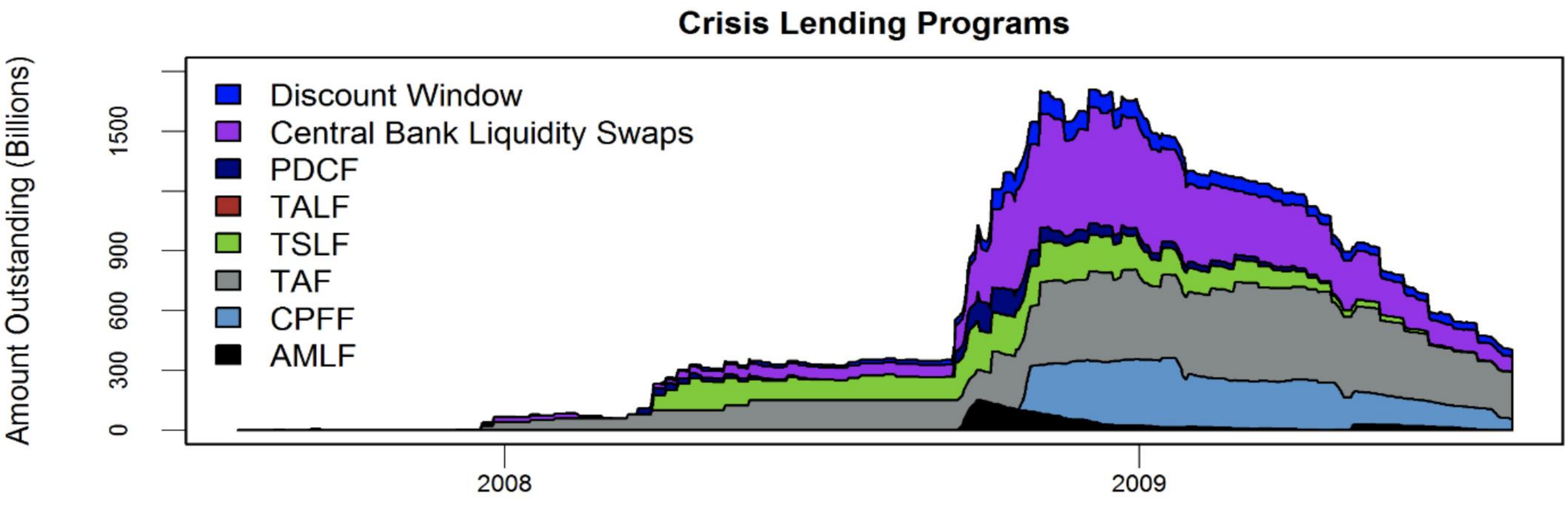


Source: Authors' calculations, based on data from Bloomberg L.P. and foreign central banks.

Fed central bank liquidity swap lines:

$ bn	Raw swap amount	Standardized to 28-day swap
ECB	8,011	2,527
Bank of Japan	387	727
Bank of England	919	311
Swiss National Bank	466	244
Sveriges Riksbank	67	202
Bank of Korea	41	124
Reserve Bank of Australia	53	122
Danmarks Nationalbank	73	95
Norges Bank	30	68
Bank of Mexico	10	30
Source: Federal Reserve		

Over the period 2007-2009: Federal reserve loaned the ECB equivalent of $ 2.5 trillion for a month in exchange for an equivalent amount of euro at an agreed and fixed exchange rate.
This dollar liquidity was then provided to Eurozone banks.



Source: Bernanke 2018

Yes it was a financial shock
Yes financial sector was missing from macro models, but that is not all.

Crisis forces us to reconsider relationship between:

Real and monetary economy

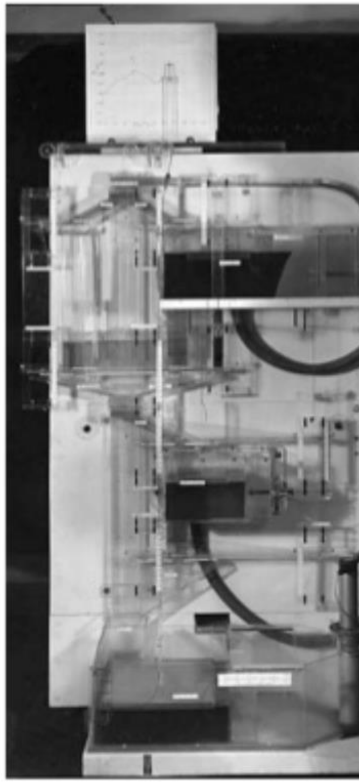
National and international

Macro and Micro

Geography of globalization

Where power lies in the dollar based global financial system.

Circular flows: Neoclassical



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  - Importance of international cooperation towards resilience is undiminished

1

- Need to transcend "islands" view of global economy to that of the matrix of balance sheets

A history of 2008 and its aftermath captures a moment in a paradigm shift.