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iPhones, iCrises and iTargets: Inflation Targeting is eradicating International Financial Crises in the iPhone era

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In June 2007, the Centre for Economic Policy Research issued my *Are International Financial Crises a Barbarous Relic? Inflation Targeting as a Monetary Vaccine*, as Policy Insight number one. Far more importantly, the first iPhone was released. The iPhone has stood the test of time well; over two billion have been sold, and Apple became the first trillion-dollar company. Inflation targeting has stood up just as well. Almost no one has experienced an international financial crisis on an iPhone, because of inflation targeting; currency crises have been crushed!

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Ground Zero

IN MY 2007 PAPER I WROTE:

"The 1990s were plagued by international financial crises. Countries rich and poor, large and small, saw their currency attacked by speculators and witnessed their fixed exchange rate policies fall into the dust-bin of history. The UK in 1992, Mexico in 1994, Thailand in 1997, Russia in 1998, Brazil in 1999 ...the list is long. Yet since the collapse of Argentina in 2001, the international financial system has been an oasis of stability. Some believe this is merely good luck, and that the bad old days will return. They are wrong. ...

Countries have few choices for their monetary strategy. Historically a large number of countries chose to hitch their monetary policy to a fixed exchange rate – a choice that frequently produced exchange rate crises. In reaction, the past decades have seen many nations experimenting with other strategies – money growth targets, monetary unions and boards, ill-defined or hybrid strategies. Since 1990, however, a new trend has emerged. An increasing number of countries have granted their central banks the independence to pursue a domestic inflation target.

Inflation targeters let their exchange rates float, usually without controls on capital flows and often without intervention. Because the goal of monetary policy is aligned with national interests, inflation targeting seems remarkably durable, especially by way of contrast with the alternatives. No country has ever been forced to abandon an inflation-targeting regime. But the domestic focus of inflation targeting does not seem to have observable international costs. Countries that target inflation experience lower exchange rate volatility and fewer "sudden stops" of capital flows than their counterparts.

As a result of its manifest success, inflation targeting has continued to spread; it now includes a number of developing countries as well as a large chunk of the OECD. The system of domestically-oriented monetary policy with floating exchange rates and capital mobility was not formally planned. It does not have a central role for the United States, gold, or the International Monetary Fund. In short, it is the diametric opposite of the postwar system; Bretton Woods, reversed."

I compared fifteen features of the 1959-1971 Bretton Woods period of fixed exchange rates to those in the modern system of inflation targeting (IT) in a simple table (Table 1)

So, with the benefit of hindsight, is inflation targeting a "monetary vaccine" making international financial crises a barbarous relic? Thirteen more years of data scream: yes!

The Sincerest Form of Flattery.

Inflation targeting has continued to spread. In my 2007 paper I listed 27 countries that had adopted IT. Since then, over twenty more countries have started, ranging from Albania through to Zambia. And some of the entrants are big: India, Japan, Russia, and the United States.[1]

At this point, IT is ubiquitous. It now covers 35 of the 36 OECD members (what about it, Denmark?), and 97.8% of the MSCI Developed Markets Index (perhaps Hong Kong and Singapore have Denmark envy?). Seventeen of the G20 are inflation targeters.[2]

1 Joanna Niedzwiedzinska provides a good recent survey in Inflation Targeting (NBP Working Paper No. 299).
2 Since you asked: Argentina, China, and Saudi Arabia.

Many emerging markets also pursue inflation targeting; of the 26 developing economies in the MSCI Emerging Markets Index, only nine have not yet begun to target inflation.[3] The countries that conspicuously attempted to fix their exchange rate in the 1990s – and paid the price when their regimes collapsed – have all jumped: the UK, Sweden, Mexico, Thailand, Indonesia, Korea, Russia, Brazil, and Turkey now target inflation.

Table 1 Features of International Monetary Systems

		Bretton Woods	Inflation Targeting
1	Regime Durability	Low	High
2	Exchange Rate Regime	Fixed	Floating
3	Focus of Monetary Policy	Partly/Wholly International	Wholly Domestic
4	Intermediate Target	Exchange Rate	None/Inflation Forecast
5	Capital Mobility	Controlled	Relatively unrestricted
6	Current Account Imbalance Capacity	Limited	High
7	System Design	Planned	Unplanned
8	International Cooperation	Necessary	Not required
9	Role of IMF	Key in principle	Small
10	Role of Gold	Key in principle	Negligible
11	Role of US as Centre Country	Key in practice	Small
12	Key Members	Large, Northern	OECD/LDCs, often small
13	Central Banks	Dependent, Unaccountable	Independent, Accountable
14	Transparency	Low	High
15	Alignment with Academics	Low	High

Central banking is a conservative profession that prides itself on being hidebound. Yet IT has swept the sceptics away; its triumph is portrayed in Figure 1. At this point, IT is practised in over sixty countries which collectively produce two-thirds of global output.

Argentina is the exception that proves the rule; it is the only country to crash out of inflation targeting in duress. After an unsuccessful foray lasting just two years from its formal announcement, in October 2018 Argentina switched from IT to a monetary base target, coincident with (yet) an(other) IMF programme. In his excellent survey of the (most recent) Argentine crisis, Federico Sturzenegger – the governor of the central bank at the time – argues that IT was adopted because of its mainstream appeal and seemed to be successful in its first year of operation. However, the government grew arrogant and *raised* the inflation target in December 2017, undermining the independence of the central bank; everything unravelled quickly as monetary

3 The outliers are Argentina, China, Egypt, Malaysia, Pakistan, Qatar, Saudi Arabia, Taiwan and UAE.

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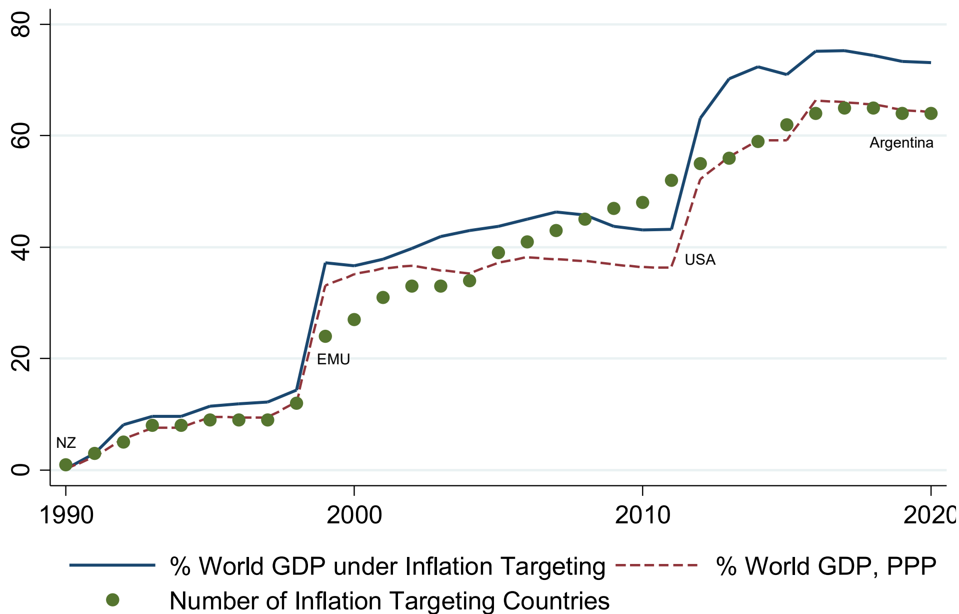
credibility was lost immediately before a period of negative shocks. This seems more a self-inflicted fiscal wound than a monetary failure.[4]

Figure 1 The conquest of Inflation Targeting



IT is not only commonplace; its commonality is also noteworthy. No other substantive area of economic policy has such uniformity across countries. Almost all inflation targeters have similar inflation mandates and targets, floating exchange rates, accessible inflation forecasts, independent central banks, and significant accountability. Can one say the same of policy on taxation? Debt management? Procurement? Housing? Labour markets? Anti-trust?

Who's Afraid of the Big Bad International Financial Crisis?

Before IT, the regional waves of international financial crises were a perennial plague (though appreciated by those of us who studied them). The onset of IT has made such crises an area of only academic (meaning no) interest. The number of countries experiencing a "currency crash" is plotted in Figure 2 for the last four decades. While there are a couple easily identifiable recent clusters like the Global Financial Crisis (GFC) of 2008-09, the trend is clearly downward.[5]

As the number of international financial crises has fallen, interest in crises has correspondingly waned. Figure 3 uses the full span of Google Trends data to demonstrate the decline in Google searches for both "International Financial Crisis" and "Currency Crisis".[6]

4 In "Macri's Macro" (BPEA 2019) Sturzenegger writes "… the sustained weakness in fiscal policy forced the change in inflation targets, undermining the credibility of the whole program … it is difficult not to point to fiscal policy as the main responsible [sic] of the collapse of the program."

5 This is defined, using Frankel-Rose (1996) as an annual depreciation of at least 25% which is also at least a 10% increase in the depreciation rate. High-inflaters are included; none of the five 2018 crashes (Angola, Argentina, Sudan, Turkey, and Venezuela) had inflation below 15%.

6 More details available at https://trends.google.com/trends/ .

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Figure 2 Currency Crashes Worldwide

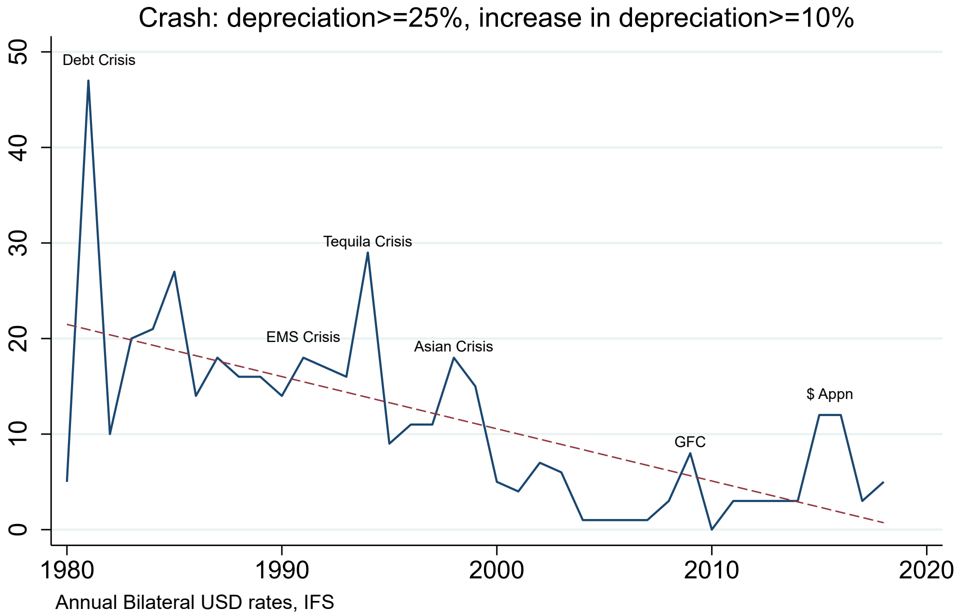
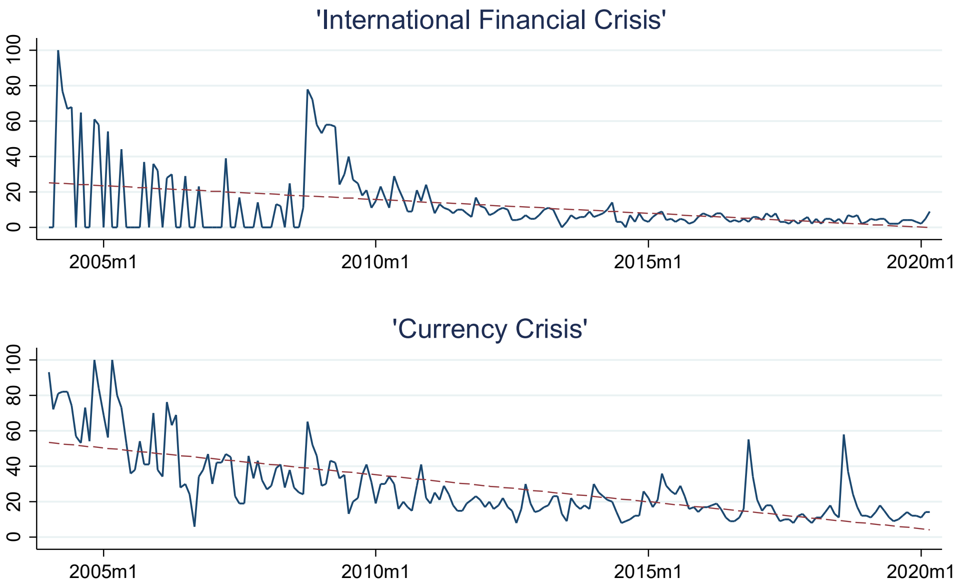


Figure 3 Crises? What crises? Worldwide Google searches by query



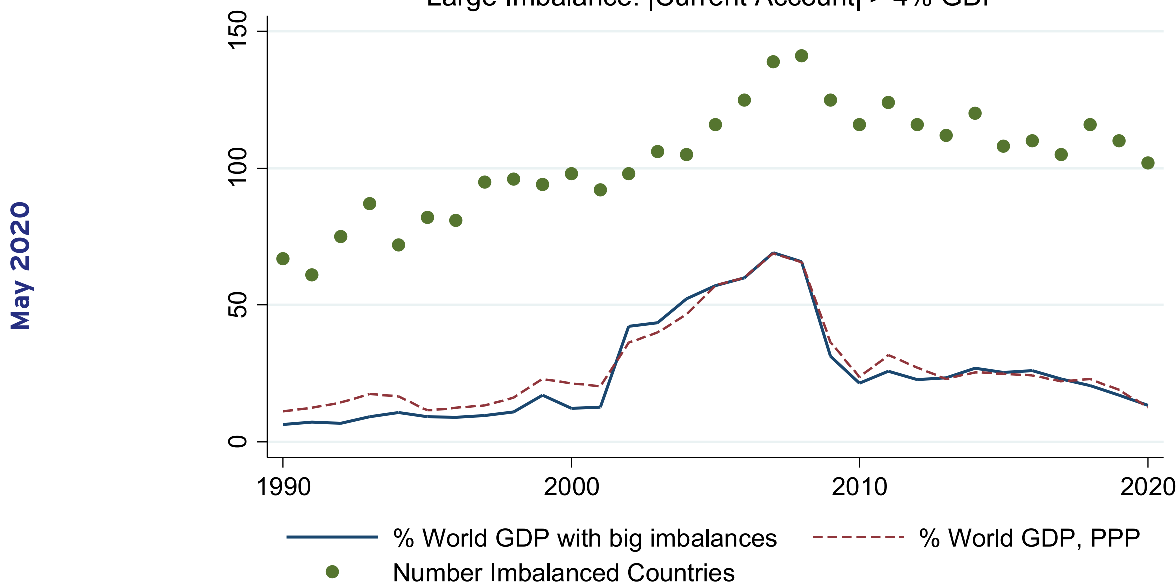
So, the international financial system has become more stable in the critical sense that there are a declining number of currency crashes. Yet as a system, it has simultaneously shown considerable and rising capacity to accommodate imbalances of savings and investment. Figure 4 plots large current account imbalances, defined as a surplus/ deficit greater than four percent of GDP. Global imbalances were abnormally higher around the GFC, when both China and the United States experienced high current account imbalances. Still, over the last thirty years, the number of countries experiencing large imbalances has risen (to over a hundred), as has their importance (they account for over a fifth of global output).[7]

7 By way of contrast, the American current account deficit in 1971Q2, which precipitated the end of the Bretton Woods period, was $409 million, around 0.14% of GDP.

The Bad Old Days: The Darwinian Logic of Duration

Probably the most attractive and remarkable feature of IT is its durability. When I wrote in 2007, few inflation targeters had been sorely tested. Now they have. While countries experienced the GFC differently, it is noteworthy that no inflation targeter changed its monetary regime. The same is true of the Euro Crisis, and the ongoing COVID-19 pandemic.[8] In no case has there (yet) been any widespread outbreak of capital controls, either absolute or when compared to protectionism on goods.

Figure 4 Global capacity for current account imbalances



Durability is not only a laudable feature of a monetary framework, it is unusual. The gold-exchange "Bretton Woods" era began with current account convertibility in 1958, patched over the "Nixon Shock" of August 1971 with the Smithsonian Agreement of December 1971 and effectively ended with floating in March 1973; fifteen years is a generous estimate of its lifespan.[9] Going further back, monetary policy during the heyday of the classical gold standard system between 1880 and 1914 has been famously covered by Bloomfield; this 34 year span is similar to the 30 years of IT.[10] Bloomfield's third sentence is full of admiration: "Only a trifling number of countries were forced off the gold standard, once adopted, and devaluations of gold currencies were highly exceptional." Clearly there were more crises during the gold standard than the ignominious but solo exit of Argentina from IT; Bloomfield states (p15), "A number of countries also dropped out of the "club" during the course of the period, such as Argentina (1885), Portugal (1890), Italy (1891), Chile (1898), Bulgaria (1899), and Mexico (1910) …."

8 The origins of the GFC lay mostly in domestic excesses like housing bubbles, sparked by domestic flashpoints like the collapse of Lehman Brothers. The Euro crisis was a mixture of sovereign debt and banking crisis, precipitated by the GFC and exacerbated by the fact that some EMU members (like Greece) should have never been admitted. And the COVID-19 began as a truly exogenous global supply shock. All produced serious stress for the underlying monetary frameworks … and IT has survived.

9 Among many other references, https://www.federalreservehistory.org/essays/bretton_woods_launched or https://www.nber.org/papers/w4033 .

10 Arthur I Bloomfield (1959) "Monetary Policy under the International Gold Standard: 1880-1914" Federal Reserve Bank of New York.

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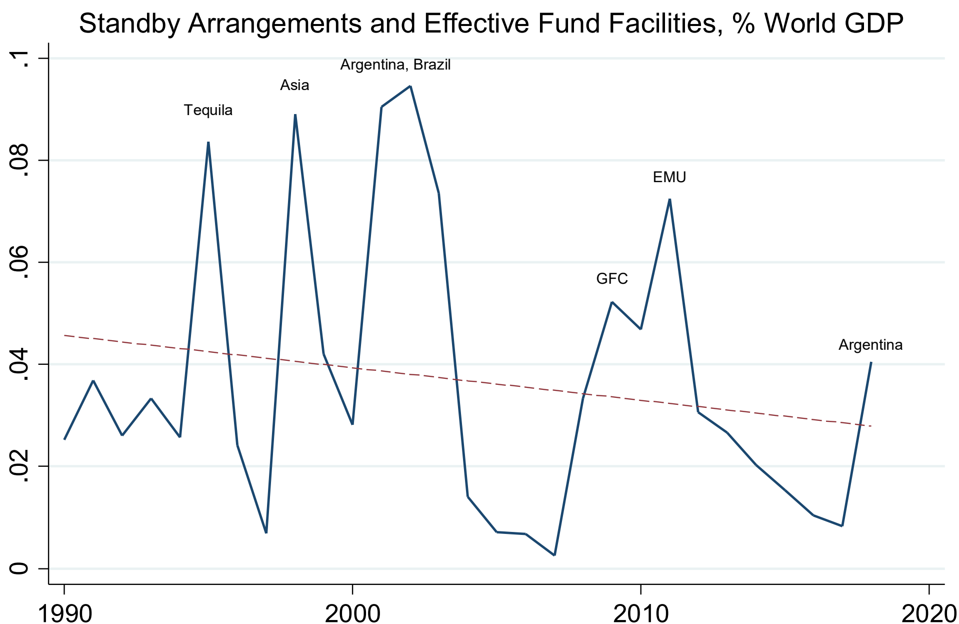
Meanwhile, back at HQ

Financial stability – by which I mean stability of the domestic financial system – is NOT guaranteed by IT. Banking, housing, sovereign debt, and security market crises continue through the era of IT; witness the GFC and Euro crises. Other shocks hit too; I write this in the midst of the COVID-19 pandemic. So, inflation targeting does *not* guarantee a placid macroeconomy. Nevertheless, it is remarkable that none of these crises have threatened the underlying monetary policy framework of inflation targeting (at least yet). And again, it is worth stressing that IT countries experiencing severe economic and non-economic stresses have not experienced international financial crises.

The IMF remains the firefighter of the international financial scene. As some of the crises it is tasked to handle slowly diminish (with the advance of IT), so has the Fund's role; Figure 5 plots the use of IMF credit as a percentage of global GDP. Of course, not all crises are currency crises; the IMF will have plenty of business for the foreseeable future.

But if the IMF is the firefighter, the US remains the indispensable country. In my earlier piece, I missed the special role of the United States. The US currently issues safe assets in the form of US treasuries, and in bad times provides foreign access via swap lines to dollars, facilitating and coordinating an international policy response to global crises such as the GFC and the COVID-19 pandemic.

Figure 5 Use of IMF Credit



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It Takes an Idea to Beat IT

Even if inflation targeting is a monetary vaccine, international financial crises will continue. There are 'anti-vaxxers' (my president is one, sometimes). But since vaccines tend to work, over time there will be fewer crises … and fewer anti-vaxxers.

IT continues to be tweaked. It has become more flexible (to account explicitly for the business cycle), and more tuned to financial stability. Before the COVID-19 pandemic, there seemed to be a drift to handling the deflationary pressures experienced since the GFC. But even minor shifts (such as a shift to price-level targeting along a positively sloped line to allow for above-average inflation after bad shocks) proved unpopular; major changes seem anathema. Nominal income targeting hasn't been adopted by any country and few target money growth.

It is hard to imagine that COVID-19 will shift countries away from IT. For one thing, few trusted frameworks will be discarded during a period of such uncertainty, when the public craves stability. For another, stable inflation expectations are likely to help the fiscal authorities handle the enormous increase in public sector liabilities coming from pandemic relief. The extraordinary nature of the pandemic has temporarily created the circumstances for experiments like helicopter money and mass monetisation, but these are likely to be facilitated by a stable long-run framework of IT. Historically, inflation has often followed the large increases in government debt associated with war; but even if inflation targets are raised, it is hard to imagine the inflation targeting framework being discarded.

Inflation targeting is one of the few games in town. Indeed, it's the *only* game in town if you're not a small country willing to endure the rigors of a fixed exchange rate (Denmark, Hong Kong, Bulgaria, …). Its durability and resilience could just mean that no one has proposed a better monetary framework than inflation targeting simply because *there isn't one.*

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Andrew K Rose is Dean of the National University of Singapore Business School. Prior to that he was the B.T. Rocca Jr Professor of International Business in the Economic Analysis and Policy Group, Haas School of Business at the University of California, Berkeley. He is a Research Associate of the National Bureau of Economic Research, a CEPR Research Fellow, and a Senior Research Fellow of the Asian Bureau of Finance and Economic Research. He received his PhD from the Massachusetts Institute of Technology, his MPhil from Nuffield College, University of Oxford, and his BA from Trinity College, University of Toronto.

Rose has published over one hundred and fifty papers, including eighty articles in refereed economics journals, among them the *American Economic Review*, the *Quarterly Journal of Economics*, the *Review of Economic Studies*, and the *Journal of Finance*. His research addresses issues in international trade, finance, and macroeconomics, and has received more than 30,000 citations. His teaching is in the areas of international macroeconomics; he has won two teaching awards.

Rose was the Managing Editor of the *Journal of International Economics* from 1995 through 2001, and was the founding Director of the Clausen Center for International Business and Policy at Haas and the Risk Management Institute at the National University of Singapore. He has organised over forty-five academic conferences.

Rose is interested in the theory and practice of economic policy, and most of his work is applied and driven by "real world" international phenomena. He has worked on five continents and at a number of international economic agencies, including: the International Monetary Fund, the World Bank, and the Asian Development Bank. He has also worked at a number of national agencies, including: the US Department of Treasury, HM Treasury (UK), the Canadian Department of Finance; and the central banks of: Australia, Canada, Europe, Hong Kong, Israel, Japan, Netherlands, New Zealand, Singapore, Spain, and the United States. He has visited a number of other universities, including Princeton, Stockholm,Tel Aviv, INSEAD, London School of Economics, and the European University Institute.

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