

# Comments on Stylized Facts of Globalization and World Inflation

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*Remarks for a panel discussion at the International Symposium  
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*The views expressed are my own and do not necessarily reflect official positions of the Federal Reserve System.*

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First, I'd like to thank Governor [Christian] Noyer for the invitation to participate in this conference. The topic could not be more timely, and it is one that is close to my heart. It is a great privilege to discuss this paper by Ken Rogoff.

When I took office as president of the Dallas Fed three years ago, I made it clear that I wanted our signature research issue for the coming years to be the study of the implications of globalization for the conduct of monetary policy in the U.S. To this end, we have created a Globalization and Monetary Policy Institute and have assembled a blue-ribbon advisory board that includes Ken Rogoff among its members.

Let me start by posing a rhetorical question. Should the default framework for thinking about monetary policy in a country like the U.S. or, indeed, in the euro area, be an open economy where capital flows across national borders, goods and services are sourced from the cheapest global suppliers, interest rate movements in one country impact rates in another, and exchange rates factor in firms' pricing and production decisions? Or can we get by thinking in closed-economy terms, where domestic investment is financed with domestic savings, we only consume what we produce, interest rates are determined at home and exchange rates are irrelevant? Nobody who has lived on the planet since the fall of the Berlin Wall and the ascendancy of Deng Xiaoping would likely testify to the validity of the second proposition. Globalization means that we can no longer guide policy by ignoring trade and capital flows or the invisible but nonetheless effective links between countries that have been forged through cyberspace. Yet it appears to me that the default framework for thinking about monetary policy continues to be the closed-economy model.

Now on to Professor Rogoff's paper. Ken's paper starts with a review of some of the salient facts about globalization and segues to a discussion about the seeming resilience of the globalized world economy and the important role that better monetary policy plays in ensuring that resilience. He then proceeds with a discussion of the central role China seems to be playing in the recent acceleration of globalization, assesses its impact on global commodity prices and then wraps up with a very nice discussion of whether the recent subprime crisis is all that different from previous banking crises.

Globalization means different things to different people. To the Chinese peasant it may mean the prospect of an end to poverty and steady improvement in his living standards. To the American or French factory worker it may mean the threat of cheap imports and the potential outsourcing of his or her job. To the environmental activist it may mean the despoliation of the earth's atmosphere as more countries industrialize and pour pollutants into the atmosphere. To the public intellectual it may mean the loss of national identity and the Americanization of culture. There are many important dimensions to globalization, but as a central banker, I am most interested in the *economic* dimensions, namely the greater integration of national economies through increased trade of goods and services, investment, migration, and task allocation. All of these facilitate the dissemination of ideas and technologies that are another key manifestation of globalization and indeed contribute to its spread.

However, it is extraordinarily difficult to get a good handle on just how rapidly the world is globalizing. As Ken notes, there is a lot of hype out there about how many new workers and consumers have become part of the global economy as a result of the demise of communism and the opening of China, India and other economies. The raw numbers in terms of population are huge—we are talking billions with a “b”—but the true extent to which the workers in these countries are, for want of a better word, substitutable for workers in advanced economies is an open question. It is this substitutability that determines how the coming on line of this new labor force will impact the wages of workers in the advanced economies. It would appear that the number of workers in countries like China and India who possess skills comparable to those found among the workforces of the U.S., Europe and other advanced nations is a small subset of the headline numbers.

It is worth reminding the audience that the nominal per capita income of the average Chinese citizen today is, in inflation-adjusted terms, roughly equivalent to that of an American worker in the early 1900s. And yet, for those workers who possess the skills demanded by a modern economy, wages have rapidly approached advanced-economy levels. There are abundant anecdotal reports that the salaries of top programmers in Mumbai are quickly converging to those of their peers in Silicon Valley. Likewise, there is rapid wage growth for managers in China who can work in Western companies. Indeed, just last week the *Financial Times* reported on million-dollar bonuses paid to certain Chinese executives in the financial sector. But the vast majority of the new workers in the global economy at present bring little more than their raw labor and thirst for betterment.

Technological improvements and policy changes have both been important drivers of globalization. The information technology revolution has played an important role in breaking down the barrier between those goods and services that were hitherto thought to be tradable across national borders and those that were not. Services that were long considered to be the quintessential nontradable good are increasingly traded internationally. If you do the numbers, you will find that the U.S. exports a lot more services than it imports, and moving up the value-added chain into more service-oriented sectors is key to the continued competitiveness of the U.S. economy.

By some measures, financial globalization has proceeded even more rapidly than the “real” globalization that is rooted in trade flows. In some sense, this is not too surprising. While innovations in transportation technology—such as the inventions of container shipping and the jumbo jet that Ken mentions in his presentation—have helped reduce the effective geographic distance between countries, making it easier to trade goods, distance in a very fundamental sense still matters for trade. However, the information technology revolution has effectively eliminated the idea of geographic distance in financial and several other service transactions. Financial trades can be executed at any time of the day in any part of the world at the click of a mouse. Architectural renderings can be created thousands of miles from the firm that commissions them. X-rays and CAT scans of patients in Dallas or Paris can be analyzed in Sydney or Delhi while their Texan or French doctors sleep. As long as the earth rotates on its axis and satellite and Internet connections are maintained, technology never sleeps in a globalized world, nor does the production of other goods and services.

Globalization is not new. Some of the key technical innovations that make today's globalization possible are a half century old or older. But it is perhaps worth emphasizing that much of the globalization that occurred in the immediate post-World War II period was simply getting us back to where we were on the eve of World War I. As is well known, by the early 1970s, trade flows had gotten back to where they were in 1913, but other key dimensions of globalization, capital flows and migration, were still well below their pre-World War I levels. Indeed, the reversal of globalization in the interwar period is something we should never forget and serves as a reminder that we cannot take a liberal international economic order for granted.

Writing shortly after the end of World War I, John Maynard Keynes commented on how thoroughly "internationalized" (his expression) the world was in 1913. It is worth repeating what he said: "The inhabitant of London could order by telephone, sipping his morning tea in bed, the various products of the whole earth, in such quantity as he might see fit, and reasonably expect their early delivery upon his door-step; ...[and] at the same moment and by the same means adventure his wealth in the natural resources and new enterprises of any quarter of the world, and share, without exertion or even trouble, in their prospective fruits and advantages; or he could decide to couple the security of his fortunes with the good faith of the townspeople of any substantial municipality in any continent that fancy or information might recommend. He could secure forthwith, if he wished it, cheap and comfortable means of transit to any country or climate without passport or other formality, could dispatch his servant to the neighboring office of a bank for such supply of the precious metals as might seem convenient, and could then proceed abroad to foreign quarters, without knowledge of their religion, language, or customs, bearing coined wealth upon his person, and would consider himself greatly aggrieved and much surprised at the least interference." Most important of all, this average inhabitant of London "...regarded this state of affairs as normal, certain, and permanent, except in the direction of further improvement, and any deviation from it as aberrant, scandalous, and avoidable."

That rather bucolic description of globalization as it once was practiced was penned by Keynes in *The Economic Consequences of the Peace* in 1919. It seems unlikely that the unique set of circumstances that led to the collapse of globalization between the great wars of the twentieth century will ever be repeated, but newer twenty-first century challenges could just as easily impede the progress of globalization.

Taking a very long-term perspective on globalization, looking at it from the perspective of centuries and not just decades, also teaches us something about the role of the monetary standard in promoting international economic integration. The nominal stability associated with the gold standard played an important role in fostering globalization in the nineteenth century. The transition to a fiat standard created some challenges for central bankers, but in recent years central bankers have come to a better understanding of how they need to conduct monetary policy under a fiat standard and have done a good job at delivering price stability. Ken is right: High inflation is much rarer now, with only two countries experiencing what might be considered very high or hyperinflations. This greater nominal stability is a key factor underlying the surge of globalization over the past decade and a half and remains vital to continued progress.

But how resilient are the new monetary frameworks? Is the adoption of formal or informal inflation targeting the key to central bank successes in recent years, or have they been the beneficiaries of a dollop of good luck in the form of higher productivity growth? Better monetary

policy helped make greater globalization and faster productivity growth possible, but globalization and faster productivity growth also made the jobs of central bankers easier. The more challenging circumstances that have developed over the recent past—as the tailwinds that ensued from the addition of new workers to the production side of global output have morphed into headwinds of demand for scarce resources—will serve to stress-test the new monetary policy frameworks in ways they have not been tested before.

No discussion of globalization would be complete without some mention of China's extraordinary growth over the past decade. The raw numbers are staggering, from the rapid urbanization of its population to the extraordinary increases in output year after year and the voracious demand for raw materials as it becomes the workshop of the world. Ken asks what would happen to the favorable inflation and productivity environment if internal stresses in Chinese society were to cause the authorities to slow down or even reverse some of the recent market reforms. There can be little doubt that the Chinese authorities face a gargantuan task in managing the transition of the economy to a free-market system. Recent strains have manifested themselves in higher inflation, and the ability of the authorities to control that inflation is clearly hindered by the exchange-rate regime. Greater exchange-rate flexibility will enhance the ability of the People's Bank of China to deliver price stability, the surest contribution any central bank can make to improvements in living standards over the long term.

Globalization does matter for inflation, but not in the ways that are often suggested in the media. The most common fallacy is, of course, the confusion of relative price with price level changes, the idea that a flood of cheap imports from China must of necessity lower the price level and the inflation rate. The channels whereby globalization affects inflation are much more subtle and not always necessarily benign. Furthermore, I believe that different dimensions of globalization affect the dynamics of inflation in fundamentally different ways.

Let's start with trade. The availability of cheap imports from China and other countries does have a direct and indirect impact on domestic prices and inflation. There has been a significant amount of work in recent years trying to document the size of this effect. The estimates vary, but they are generally significant. But the mechanism whereby the price changes are realized is subtle. Yes, there is a direct effect through the availability of cheaper imports. When those cheaper imports are *inputs* into the production process, we know they directly lower prices at home. The price effect is not just relative, but absolute. But that will be offset to some extent as consumers use their enhanced purchasing power to buy more of other products, putting upward pressure on prices. The threat of competition also has an effect on the pricing decisions of domestic firms, both for firms producing products that are close substitutes for the imported goods and for firms that use those imports as inputs. Cheaper imports will also have an impact on the wage demands of workers who consume those goods. Of course, the effect is not all in one direction, as Ken notes in his paper. The downside of the rapid growth in production in low-wage countries is the upward pressure that this growth has put on commodity prices worldwide. Faster growth in incomes is having a significant effect on global food prices, although some of the recent increases have been driven by policy changes encouraging the production of biofuels and supply-side developments as well.

The thirst of the emerging-market economies for raw materials and the relative inefficiency with which they use these raw materials has propelled industrial commodity prices to record levels. The fact that these increases have been persistent and not quickly reversed has raised tough

questions about traditional measures of core inflation and made it increasingly difficult for central bankers to separate signal from noise in the inflation data. We in Dallas look at not just the traditional measure of core inflation that simply excludes food and energy prices, but also a trimmed mean measure that we think gives a better sense of where trends may be headed. While an improvement on the traditional measure, it too has some shortcomings, and I believe that over the long term, the price stability that matters most to the people who pay our salaries, since they do eat and they do drive, is stability of a comprehensive measure of prices.

Globalization of labor markets also matters for inflation dynamics. Now, one of the key differences between the current era of globalization and the one that preceded WWI has to do with the greater restrictions on international movement of labor. We don't see the same mass movements of people as characterized the late nineteenth and early twentieth century, and with more countries providing social safety nets, and the equivalent of "virtual immigration" through cyberspace, we are unlikely to see such mass migrations ever again. Nevertheless, for some countries, recent movements of workers have been quantitatively large enough to affect prices. The recent expansion of the European Union and the freeing of labor mobility has clearly made a difference to wage and price dynamics in Europe. Whether this is a one-off effect associated with a permanent reallocation of labor from low-wage to high-wage countries or a longer-term development whereby workers are more willing to move in search of job opportunities in response to the business cycle, it is too early to say.

The third key dimension of globalization—that of capital markets—also matters for inflation, but in a way that fundamentally differs from trade flows and migration. Greater international capital mobility seems to have a disciplining effect on policymakers worldwide by making it costly to engage in reckless fiscal or monetary policies. But again, I think there is two-way causation. Sounder monetary policy in more countries has contributed to the willingness of investors to venture abroad, but the ease with which capital can take flight has also made it more costly for central banks to deviate from the new orthodoxy of price stability.

The fourth dimension is the least understood. That is the global assignment of tasks through nontraditional channels. The U.S. is a high-value-added, services-driven economy; services represent over 80 percent of our economy. The growth of service sector trade, particularly through fiber optic cable and satellite connections, poses significant measurement issues. It is not as if we can just go down to the docks and count containers coming and going to quantify the impact of service sector trade. And what implication does the increasing trade in tasks with cheap labor pools around the globe pose for pricing of services and, in turn, for inflation?

Ken's final point has to do with the skepticism of some academics about the implications of globalization for monetary policy. He cites a recent important paper by Michael Woodford as a representative example, so let me conclude with two observations related to that paper. First, I think there is an element of talking at cross purposes in some of the exchanges that have taken place on what globalization may or may not mean for monetary policy. I am in substantive agreement with Woodford that globalization does not undermine the ability of the Fed, or any other central bank for that matter, to control inflation over an appropriate time horizon, but it does challenge us—you might say it disciplines us—to conduct monetary policy more prudently. In today's world, where investors can move their funds instantly from one currency to another to avoid depreciation, the price central bankers pay for high inflation is much higher than in the past. Understanding this, you can see why I am a steadfast inflation-fighting owl.

Globalization also should make us change the way we interpret some of the indicators that have traditionally played such an important role in monetary policy deliberations. Globalization indeed warrants the examination of a broader array of data in arriving at monetary policy decisions. For example, understanding global capacity utilization in an industry may be more useful than equivalent measures of domestic capacity. Second, the elegance of Woodford's exposition notwithstanding, we are still some way from having a consensus model of how the domestic and international economy works. Enormous progress has been made in recent decades, due in no small part to the work of scholars like Ken Rogoff and Michael Woodford, but a lot more remains to be done, and we are spending an enormous amount of time doing it at the Federal Reserve Bank of Dallas. At times of rapid structural change, it is important to keep an open mind and challenge old assumptions and paradigms, within a framework of disciplined, evidence-based scientific inquiry.