Monetary Policymaking in a Globalized World

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My much-admired but spelling-impaired namesake, Stanley Fischer of the Bank of Israel, likes to remind audiences that there are *three* kinds of economists: those who can count and those who can't. I am an M.B.A. and a former hedge fund manager, not a professionally trained economist. I rather like to count, particularly when the math is denominated in pounds or dollars, euros or yen, or even Mexican pesos or Canadian loonies. And yet, surrounded as I am today by an audience of the kind of hardball counters and financiers I used to be, I am going to speak about something less tangible, less measurable and of considerably less immediate profit potential. I want to talk about how globalization impacts the economy and particularly the framing of monetary policy in the United States.

Globalization has become one of today's hot-button words. We've all developed a feel for what it is. Critics, particularly on the other side of the Channel, decry it for sullying national cultures and thwarting the independence of nations. Economists and thoughtful popular writers like Thomas Friedman use it to describe more felicitous aspects of the integration of the world economy. Businesswomen and men know it simply as an opportunity to enhance their resource base, lower the cost of goods sold, drive productivity and achieve new levels of efficiency in their endless pursuit of profit. And financiers consider it a vehicle for expanding opportunities to both mitigate risk and enhance returns.

In the broadest sense, globalization is like an economic ecosystem in which political and geographic boundaries no longer confine potential. Globalization promotes the movement of goods, services, workers, tasks, ideas and capital to wherever they are most highly valued and can work together most efficiently, flexibly and securely.

We tend to take globalization for granted at the operating level of the economic ecosystem. However, globalization poses many puzzles for macroeconomic theorists to solve, particularly as it impacts the making of monetary policy.

A year ago this November 3, I had the honor of delivering the Manshel Lecture in American Foreign Policy at Harvard University. I preached about our need to update both the theory and practice of incorporating the inputs of an economically integrated, cyber-enhanced world into the analytical and judgmental tool kit used by the Fed's monetary policy practitioners. Initially, my message was somewhat offensive to economic traditionalists. It rudely challenged the doxology that traces all econometric blessings to Phillips curves and domestic output gaps, and it questioned the liturgy of NAIRU and other tenets long considered gospel in the temples of American monetary policy. I posited that the standard GDP calculation—$C + I + G + Net\ Exports$—fails to fully capture the gearing of the U.S. economy in a globalized world. And I suggested that simply relying on exchange rates to mitigate the de- or dis- or inflationary impulses that result from globalization provides false comfort about a central bank's independence from foreign influences.

At first, that sermon failed to move the congregation. But one brave soul was listening, and that was Janet Henry. Janet and her colleagues at HSBC read that lecture, thought about it and wrote

a fine piece called "Gap-ology and Globalisation: Measuring the Global Output Gap." Agnostically but respectfully, it raised some penetrating questions about the new gospel. Janet, you will be happy to know that your thoughtful essay led others to the chapel, if only to peek inside. You may remember that at Harvard, I mentioned that anybody who googled the pairing "globalization and monetary policy" would have gotten only 39 hits. If you did so this morning, you would have gotten 8,850. So we are gathering momentum, however slowly.

Today, I plan to use your questions as a point of departure to ask still more questions. In doing so, I hope to illustrate how far we central bankers have yet to travel to become more effective monetary policymakers in today's world. Before I get started, however, I must issue my usual disclaimer that I speak only for the view from the Federal Reserve Bank of Dallas, not for the Federal Open Market Committee or for any of the other Bank presidents and governors on the committee. My words are my own.

I expressed little original thinking on that pleasant evening at Harvard last fall. At the suggestion of my respected colleague at the Dallas Fed, the brilliant economist Michael Cox, I simply took my cue from one of the great minds of modern times, Joseph Schumpeter. The work of Schumpeter, a Harvard economics professor in the 1930s and 1940s, provided the essential framework for my initial efforts to understand the impact of globalization on the U.S. economy and its policy implications. In *Capitalism, Socialism, and Democracy*, Schumpeter outlined the idea of creative destruction: In a free enterprise system, our economic structures are constantly revolutionizing themselves from within, as new technologies, processes, ideas and markets rise and destroy the old.

To illustrate his point, Schumpeter used the example of the railroads in his seminal work, *Business Cycles*. Basically, his point was that as railroads reached new regions, they upset all the economic dynamics of physical location, costs and production functions that had existed in the area before, and he concluded that, as a result, "hardly any 'ways of doing things' which [had] been optimal before remain so afterward." That bears repeating: Hardly any of the dynamics of location, cost and production functions that had been optimal before remained so afterward. You know this viscerally here in England: Your forebears launched the Industrial Revolution and invented the locomotive, one of the most creatively destructive forces—short of Margaret Thatcher—that the world has ever known. You have lived with capitalism's constant change longer than any other people. Creative destruction is part of your national DNA, just as it is part of ours in the United States.

We struggle to understand how globalization's structural changes alter the rules of thumb we look to as central bankers. China and India and the Internet and all the manifestations of globalization are collectively a Shumpeterian locomotive writ large. As instruments of creative destruction, globalization and the "net" influence business decisions, expand our productive capacities, increase competition, reconfigure the assignment of tasks and their execution, and influence the prices of labor, goods, services and capital. All of these forces, of course, ripple through the economy and change the economic landscape, so they should be of keen interest to central bankers. It is one thing, however, to theorize that globalization has significant consequences for the conduct of monetary policy—that is the easy part. It is quite another to know what the consequences are, how they work and how to measure them.

In U.S. monetary policymaking circles, we work with cost calculations, assumptions about production functions and formulae for policy optimization that were developed before the world economic map was redrawn by the entry of new players and new technologies that changed our "ways of doing things." Consequently, the majority of the economic indicators we use to develop monetary policy today only look within our own borders. We measure domestic wages and incomes, domestic capacity utilization, domestic prices and domestic industrial activity. Where we do look beyond our border, we focus narrowly on foreign activity's impact on our economy through trade and current account balances and relative currency values.

What about global wages, global capacity utilization and global industrial activity? What about the reconfiguration of assignments and tasks within businesses that take place in cyberspace, enabled by the Internet and intranet? I submit that these nondomestic activities and trends are growing more important to our economic welfare and that they condition how we develop and frame monetary policy. Here is where Stanley Fischer's three economists enter the picture: Fed economists can certainly count; in my view, better than anybody. But are they counting the right things?

To illustrate the point, let me briefly transport you to a hypothetical world where a nation that produces 25 percent more than India suddenly materializes within the borders of the United States. From 1836 to 1845, that nation had an embassy at 3 St. James's Street; the oenophiles in the audience will know that address today as the site of Berry Bros. & Rudd. That nation was the Republic of Texas, which joined the United States in 1845 and, but for a brief digression into the Confederacy, kept its shoulder firmly to the wheel. By 2005, the state had grown to produce nearly $1 trillion in output, exceeding the production of Brazil or India or South Korea or Mexico.

Texas is now the largest exporting source in the United States. The state is currently growing its employment at twice the U.S. rate. It produces $110 billion in manufactured goods and a healthy chunk of the nation's agricultural output, but, like all advanced economies, it is driven predominately by services, which account for 60 percent of the Texas economy. So it is hardly ridiculous to think of Texas as one thinks of the so-called BRIC countries—except it is larger than all of them except China—for the purpose of an intellectual exercise. (One could, I suppose, replace the *C* in BRIC with a *T* and please our hosts by referring to the "BRIT" economies.)

Indulge me for a moment here. Let's suppose that this substantial economic machine we know as Texas changed its relationship to the U.S. in one and only one way: by establishing its own free-floating currency and independent central bank with the same mission as the Fed—except just for Texas. I know what some of you are thinking: The loonie is already spoken for, so let's call our imaginary Texas currency the "burrito" and back it with the full faith and credit of the government in Austin, a government, incidentally, that is currently running a budget surplus.

The Central Bank of Texas would have exactly the same mandate as the Federal Reserve, to wit: "to promote effectively the goals of maximum employment, stable prices, and moderate long-term interest rates." But only in Texas.

In every other way, business would proceed as usual, and nothing else would change. We would stay connected as we are now to the world around us. We would have the same flows of goods, people, ideas and investment capital that we do today as part of the United States. We would

have the same interstate banking structure—that is, the big national and global banks and financial institutions that currently dominate our banking industry in Texas would continue to operate in the same way. We would have the same corporate headquarters—from Exxon Mobil and ConocoPhillips to American Airlines, Dell, AT&T and Frito-Lay. Our housing market would retain the same access it has today to mortgage market lenders. We would have the same laws as before. We would communicate through the same mobile and fixed-line systems and maintain all our interconnections with the rest of the world. Only the currency and central bank would change.

Now, ask yourself how the Central Bank of Texas would accomplish its mission. What economic indicators would we find useful in seeking to formulate our monetary policy? Would we look only within Texas? Would we target a specific inflation rate? Which inflation gauge would we use? Would our inflation rate policies differ significantly from those of the United States sans Texas? Would real Texas interest rates be fully independent of or highly influenced, or perhaps determined, by U.S. rates? Would we need to take into account the monetary policy of the rest of the United States to determine our own proper monetary stimulus or restraint? Would our operating procedures via Texas' overnight bank lending market have to change in order for us to achieve the desired policy results?

We know that, as with any central bank, the hypothetical Central Bank of Texas would have the power to debase the burrito by printing too much of it or by maladministering our franchise. But could we really, *independently,* determine the course of our own economy—the Texas economy? Could we affect our employment and output, given our real and virtual connections to the U.S. and the world around us? If not, should we then just rewrite our central banking mandate to focus solely on prices? And if we focused only on that important task, in seeking to restrain or otherwise impact prices, would we be able to make the variability in Texas' inflation, and the corresponding inflation risk premium, less than that of the United States? Or would the inflationary impulses of the U.S. condition the dynamics of Texas' inflation? And how about the lags in time between when our Texas Open Market Committee effects a change in policy and the corresponding impact on Texas prices? How would those lags be affected by activity in the rest of the United States?

Now come back to the real world and transfer all those questions I just asked to the U.S. Federal Reserve operating in a hyper-interconnected world. To be sure, the weight of the United States in the global economic ecosystem is greater than the weight of Texas within the U.S. economy. But I wonder if that changes anything from the standpoint of this intellectual exercise.

Is it really possible to assume that like the fictional, independent Central Bank of Texas, the Federal Reserve can make monetary policy without taking into account capacity constraints, levels of resource utilization, global liquidity and other factors impacting price developments in the rest of the world? How do we know what our true potential growth is without properly accounting for the world's resource potential? How can we calculate our NAIRU—our non-accelerating inflation rate of unemployment—without an accurate sense of workforce dynamics and price movements outside our geographic boundaries? Can we assume that the Taylor rule, our most trusted compass, is sufficient as is? Or does it require adjustment before it can point us to true north? Do the old paradigms that guided us in determining lags in monetary policy still hold?

Thanks to Janet Henry and others who have picked up the baton, I am happy to see some of our finest economic minds now devoting more attention to these important questions. This past summer, globalization was the front and center theme of the annual central bankers retreat at Jackson Hole, Wyoming, sponsored by the Kansas City Fed. In presentation after presentation, the world's leading monetary policy scholars and practitioners—people like John Taylor, Ken Rogoff and the Bank of England's Charlie Bean—talked about the implications of the global economy and the importance of looking beyond our national borders when setting policy.

Now, let me return to Stan Fischer's three economists. To be able to count, they need the right data to count with. Our reliance on domestic mathematics alone may be insufficient, but at least the Federal Reserve has access to a plethora of highly sophisticated, regularly measured and accurate data to put into its existing models. But as Janet knows, measuring the things we need in order to understand what is happening with the rest of the world can get rather dicey.

What's the first thing we might want to count? At a minimum, we would like to know how big, in economic terms, the rest of the world is. All countries produce estimates of aggregate activity, some in a more timely and user-friendly fashion than others. The standard national accounts give us a sense of how quickly economies grow, but they are less helpful in comparing the relative size of economies due to differences in national currencies, which are our measuring rods. To get around this, economists often look to estimates of purchasing power to figure out how big China is, for example, relative to the U.S. While this may be the correct way to make such comparison in theory, it is not clear that current practice lives up to this ideal.

One of my pet peeves is the confidence that analysts and journalists alike place in purchasing power parity (PPP) data to adjust real output to account for the presumed pecking order of national economies, based on their size and power. Recently, for example, China has been declared the world's second-largest economy based upon PPP-adjusted output. And yet China's output in 2005, when measured in unadjusted dollars, was $360 billion smaller than the production of the Twelfth Federal Reserve District, which covers California and eight other states. My colleague Bill Poole at the St. Louis Fed reminded us last summer that China's real GDP per capita today is roughly the same as what the U.S. achieved in 1886. So arguing that China's economy will surpass ours in size in the foreseeable future, as PPP aficionados like to argue, strikes me as a dodgy proposition. Yet, that said, there are compelling theoretical arguments for measuring economies in PPP terms, and doing so can give us added insights into relative developments among economies. But, again, we go back to Stan Fischer's economists: You can't add what doesn't add up.

The raw material for PPP calculations is gathered under the guidance of the International Comparison Program, or ICP, which is coordinated by the World Bank and the OECD. Upon close examination, the ICP's price comparisons appear to be fraught with errors. The problems seem to stem from the minuscule amount of resources devoted to gathering raw data. The rich countries of the EU, for example, devote something like one staff member per annum to gathering data for the ICP, a grossly deficient manpower commitment when you consider how many staff years go into the construction of national consumer price indexes and other metrics. One can only imagine how shoddy the situation is in less developed countries. Until statistical agencies like the ICP develop accurate measurements of purchasing-power-adjusted output, this oft-quoted measurement device will be of limited utility for policymakers and might even lead to false conclusions.

Measuring the size of the global labor pool might appear to be less tricky, but don't be fooled by raw population numbers alone. Let's go back to China. China has a population of about 1.3 billion and advertises a labor force of just under 800 million. However, many of these workers are employed in the traditional subsistence sector. How many of them can realistically transition from this sector to the modern sectors of the global economy, and how quickly could it happen? How interchangeable can we expect these workers to be with labor in the developed world? Will the availability of large stocks of underemployed rural labor keep wage pressures contained in developing nations like China, or will their limited ability to contribute to the modern economy cause bottlenecks along their road to economic development and integration? We already hear of growing labor shortages along China's bustling coastal belt, raising questions about how easily underemployed rural workers can meet the needs of the New China that is feeding the global trading system.

Can we make sense of the idea of a global output gap? It is standard practice in the central banking community to frame policy decisions in terms of price pressures stemming from resource utilization. As I have already argued, I believe it is insufficient to think in terms of domestic resource utilization alone in our globalized world: We need to be looking at capacity and slack at the global level. But how do we measure these things? We already have estimates of output gaps in the countries that belong to the OECD, but these countries account for a declining share of global output, and the estimates are subject to large revisions. The data needed to measure output gaps for emerging economies and developing countries in many, if not all, cases simply don't exist. For example, despite the boom in fixed-asset investment under way in China, there are no official estimates of its capital stock, which is a basic component in measuring an output gap. Data that might serve as a substitute, such as capacity utilization or unemployment figures, are spotty at best, released erratically and difficult to interpret.

And what about trade, my old stomping ground as deputy U.S. trade representative? I wonder whether our traditional measures of trade and current account balances adequately capture the full extent of our interaction with the rest of the world or the impact the rest of the world has on U.S. economic activity and inflation.

For example, economists tend to draw a distinction between traded and nontraded goods. By tradition, economists have assumed all commodities and physical goods can be shipped abroad, while services cannot. While the distinction between the two types of goods remains important, classifying services as inherently nontradable no longer makes complete sense. The technological revolution that has done so much to facilitate globalization has also opened the gates to a wider range of services to be traded internationally.

The essence of what it means to be tradable needs to be rethought with respect to services. The key distinction is between services that must be delivered face to face and those that can be delivered remotely. The actual skills required to perform a task are increasingly irrelevant in determining whether a service can be traded.

Trade in goods and services is certainly an important dimension of openness, but it is not the only one. What about the labor market and worker mobility? The U.S is a nation of immigrants. The foreign-born make up about an eighth of our population. Like the U.K., our ability to attract the best and brightest and hardest working from around the globe is testimony to the strength and

vitality of our economy. The skills and talents immigrants bring with them continually add to our stock of human capital, replenishing our workforce and reinvigorating our demographics.

As with labor, the U.S. continues to be a magnet for capital from abroad, a testimony to the strength of our economy, institutions and—if my friends in Brussels and the former occupant of the Palais de l'Elysée will forgive me—unique constitutional unity. As you know, looking only at net capital inflows ignores the true extent of our involvement in international capital markets; we need to look at the more substantial gross flows. Beyond the numbers, however, foreign direct investments knit our economies together. Direct investment by U.S. companies abroad and by foreign companies in the U.S. is probably one of the most important channels for the transmission of technical and managerial know-how across borders.

I think I've posed enough examples and questions today, showing the deep void we need to fill. The bottom line is that we have a great deal of accounting and analytical work left to do as we seek to refine our ability to make monetary policy in a globalized world. Monetary policymaking at the Fed—as at the Bank of England or any other central bank—is an evolving craft, half art and half science, requiring as much prudent judgment as skilled analysis. The 18 men and women I have the honor of sitting with around the FOMC table are remarkably thoughtful and wise in their knowledge of the real world. My point is simply that the committee's wisdom would be enhanced, and the economy would benefit, from having analytical tools to help us build more practicable models than what we currently have to guide our thinking as we make monetary policy in a complicated, reconfigured, globalized world. Today I appeal to you and your firms to help us develop these analytical tools either directly or by demanding them in the marketplace, where you wield considerable influence.

So much for the formal part of my presentation. Let me close there. But before doing so, I want the conveners of this conference to know that I did note the article in last Thursday's *Wall Street Journal*. Stuart [Gulliver], it brought to mind the only quote my late Norwegian mother would dare utter from a Swedish king. Oscar II, who ruled until 1907, said something we always considered admirable in my family: "I would rather have people laugh at my economies than weep for my extravagance."

Now, I would be happy to avoid answering your questions about the U.S. economy and interest rates. And then I must beetle off to the Garrick Club for dinner.

Thank you.