Economic growth has been sluggish in many countries since the global financial crisis. At the same time, the gains from growth have not been broadly shared. These developments raise questions about how to boost growth on a sustainable basis and in a way that benefits a larger share of the population. Generating broad-based gains through dynamic business structures, along with appropriately supportive fiscal, trade and monetary policies is vital to fostering a dynamic global economy. Central bankers, policy experts and academics gathered Aug. 24-26 in Jackson Hole, Wyoming, for the 2017 Economic Policy Symposium to discuss a range of issues related to this topic.

Several key themes emerged during the proceedings. First, the global initiative to improve bank supervision and the panoply of regulatory reforms put into place after the global financial crisis do not appear to be hindering credit availability or overall economic growth. Second, the secular decline in the mobility of workers across firms observed in the United States over the last few decades has contributed little to the reduction in the U.S. economic long-run growth rate. A third theme centered on a worldwide shift in sentiment regarding globalization toward more protectionist policies as individuals, policymakers and academics are better recognizing the
difficulty in transitioning a workforce after trade liberalization episodes. Fourth, providing fiscal support during periods of economic weakness does not appear to threaten fiscal sustainability. And finally, global imbalances in trade and capital markets have shifted between countries in the last few decades, as has the underlying factors driving those imbalances.

Financial Stability a Decade After the Onset of the Crisis

Federal Reserve Chair Janet L. Yellen opened the symposium by discussing the reforms put in place in the United States and around the world to improve financial regulation after the crisis 10 years ago. With those reforms in place, she argued that banks are safer, systemic risks have lessened as too-big-to-fail concerns have abated, and the regulatory environment is better positioned to monitor and address risks in areas on the perimeter of the financial system. However, she also noted that the complexity of the reforms put in place may generate some unintended consequences, and that areas for improvement may be available to policymakers.

Chair Yellen discussed the coordination in regulatory procedures and supervisory practices that emerged across countries in the aftermath of the crisis. Regarding the loss-absorbing capacity of global banks, she highlighted several important developments. First, she indicated that both the quantity and quality of capital relative to assets has increased. Second, leverage requirements for the largest banks are higher. Finally, she stated that stress testing has led to greater loss-absorbing capacity at banks, and better public understanding of the risks at large banking firms that induce improved risk management. She also discussed regulatory reforms aimed at mitigating the risks associated with maturity transformation, which complement reforms aimed at improving the resiliency of banks.

Having reviewed the reforms that emerged in the last decade, Chair Yellen then turned to the question of whether these regulatory changes in the financial sector are supporting economic growth, or if reforms have gone too far. She centered her discussion of this question around the effects of regulation on credit availability and on changes in market liquidity. While these relationships are complex
and difficult to isolate, she said that credit appears to be available to small business and homebuyers with strong credit histories. She also noted that simplifying aspects of the Volcker rule, and other rules about capital requirements, may improve market liquidity and support economic activity. Chair Yellen concluded that the balance of research suggests that the core reforms the Federal Reserve put in place during the last 10 years have substantially boosted resilience without unduly limiting credit availability or economic growth.

**Dynamism and the Reallocation Myth**

The first paper challenged a prominent view that declines in business dynamism have contributed to slowing economic growth in the United States. The authors, Professors Chang-Tai Hsieh of the University of Chicago and Peter J. Klenow of Stanford University, argued that high levels of job reallocation and firm entry do not necessarily indicate that resources are being better allocated toward more efficient uses at more productive firms. They contended that allocative efficiency, and hence growth, increases as the marginal product of resources becomes more equal across firms, rather than when firms with higher average productivity employ relatively more labor and capital. In the paper, Hsieh and Klenow calculated how the dispersion in the marginal products of labor across U.S. manufacturing firms changed between 1978 and 2007. They found that the dispersion in marginal products across firms rose over these three decades, indicating no gains in efficiency, or perhaps even losses, due to reallocation. Furthermore, their measure of allocative efficiency worsened while U.S. growth was relatively healthy. This is the first fact that led the authors to conclude that the notion that reallocation across firms is an important driver of U.S. growth is a mere myth.

Complementing their view on reallocation toward highly productive firms, Hsieh and Klenow argued that reallocation of resources toward innovating firms is only a modest source of U.S. economic growth. When one firm innovates on the products available in a market place, growth can be achieved as resources are reallocated toward production at the innovating firm. In other words, job reallocation may signal the creative destruction often associated with growth. The authors looked to employment changes among all nonfarm U.S.
business to estimate the importance of reallocation toward innovating firms for aggregate growth. While new entrants and “gazelle” firms, those that grow more than 20 percent per year, account for the overwhelming majority of job creation, hiring at these new and fast growing firms tends to be associated with offsetting job destruction at incumbent firms. As a result, the contribution of entrants and gazelles to aggregate growth is smaller than their share of job creation. The authors suggested that the reallocation toward innovating firms on net accounts for less than a quarter of aggregate growth. Instead, the authors argued that innovation at slow growing incumbent firms is the main driver of growth. Since innovation within incumbent firms requires no reallocation of resources across firms, the authors concluded that reallocation must contribute little to U.S. productivity growth. A key implication of Hsieh and Klenow’s argument is that declining dynamism and reallocation is an unlikely explanation for slowing growth in the U.S. over recent decades.

Professor Gita Gopinath of Harvard University discussed the paper. She reviewed trends in U.S. productivity growth over the last 30 years, which served as a backdrop for comparisons to trends in measured allocative efficiency and job reallocation. She highlighted the authors’ observation that allocative efficiency is measured best by the dispersion in marginal products of labor across firms. Instead of considering only manufacturing or the U.S. economy as a whole, Gopinath suggested that the authors examine changes in allocative efficiency within a variety of sectors, especially those that make intensive use of information technology, as these exhibited a period of stronger than average productivity growth in the 1990s. The different trends across industries may then be useful in characterizing the role of reallocation. She also raised concerns about quantifying the contribution of reallocation toward innovating firms to growth based on employment changes. In the paper, Hsieh and Klenow assumed that the amount of innovation is independent of firm size. However, if smaller firms tend to innovate more intensively than large firms, then the role of reallocation may be much larger than is claimed by the authors.
Trade and Inequality in Developing Countries

Nina Pavcnik of Dartmouth College presented the second paper at the symposium, which gave an account of the distributional aspects of international trade, particularly within developing countries. Over the last 40 years, the share of the world’s exports attributable to developing and emerging economies nearly doubled. As developing economies have deepened their participation in the global economy, Professor Pavcnik showed sentiment toward globalization in these countries remains positive. Citing responses to Pew surveys, she also noted that attitudes about international trade are similar across emerging and developed economies. However, several of the labor market consequences of trade liberalization exhibit important differences.

Pavcnik presented evidence from various emerging economies that demonstrates a lack of reallocation of workers across industries as trade barriers fall. As a consequence, relative wages across industries have to adjust, making the industry of employment an important factor for wage distributions overall. She noted that this adjustment in industry wage premiums contrasts with the experiences of developed countries, in particular the United States, which tend to exhibit sharp changes in employment levels across industries as trade barriers fall, while relative wages remain nearly the same.

Trade liberalization often is viewed as inducing a one-time structural shift in labor demand within nations, but Pavcnik discussed a burgeoning literature that has begun to focus on the persistent and dynamic effects of trade liberalizations. For example, evidence from Brazil indicates that the consequences of trade liberalization for labor markets tend to magnify every year up to 20 years after liberalization occurs. Thus, the labor market dynamics of trade play out on horizons that are longer than typical business cycles.

Finally, Pavcnik addressed the consequences of trade for low-income households, for whom food expenditures account for a relatively large fraction of overall consumption. She cited evidence that trade liberalization in emerging markets tends to lower food costs more than it lowers the cost of other products. Given this fact, she
argued the consumer benefits of trade should tend to disproportionately favor low-income households in metro areas.

While Pavcnik’s paper focused on developing countries, the discussant, David Dorn of the University of Zurich, focused on the distributional consequences of trade in developed countries. Professor Dorn emphasized the costs of frictions that inhibit worker relocation and job mobility in a globalizing world, as workers adversely affected by trade often need to move across industries and geographic regions to adjust to import competition. He argued that Germany and the United States both exhibit weak geographic mobility of workers, potentially exacerbating the losses for workers most exposed to foreign competition. Dorn also discussed the distributional consequences of trade on gender wage disparities. He argued that imports from China had the effect of reducing the gap between male and female earnings. Yet, the gender gap tends to shrink because male earnings fall relatively more than female earnings, rather than female wage levels rising to close the gap.

The Changing Landscape of International Trade

The morning sessions ended with a panel discussion that included Ann E. Harrison of the University of Pennsylvania, Catherine L. Mann of the Organisation for Economic Co-Operation and Development, Peter K. Schott of Yale University and John Van Reenen of the Massachusetts Institute of Technology.

Each of the panel discussants noted that one of the most apparent changes surrounding international trade is the sudden and ubiquitous shift in public sentiment regarding globalization. Whether the issue is trade, foreign investment, or immigration, and whether countries are relatively large or small, sentiment has shifted more toward nationalist economic policies in many countries.

Professor Harrison noted that the growth in global trade as share of world gross domestic product (GDP) has stalled from its long and steady rise since World War II. Protectionist policies are on the rise and she suggested this may be the result of two mistakes made by economists. First, economists expected it would be easier for workers
to transition out of sectors adversely affected by trade. Second, economists believed it would be easier to design and implement policies that compensate those who are adversely affected by trade. She also suggested that trade with China has played less of a role in displacing workers than have labor-saving technologies.

Mann, the OECD’s chief economist, discussed how the nature of trade has shifted across countries, between products, and along supply chains. She showed evidence that goods trade is now growing more slowly than services trade, and that the concentration of goods trade has shifted from developed countries toward China and Dynamic Asia. All the while, integrated production networks and global value chains have deepened. These changes in the landscape of international trade, she noted, were accompanied by shifts in technology and consumer preferences. Mann suggested that trade liberalization, shifts in technology and changes in preferences all accentuated one another in the case of manufacturing employment, which took the brunt of the negative impact from these secular developments.

Professor Schott discussed trade policy through a different lens—uncertainty. The typical episode of trade liberalization results in a reduction in the costs or barriers to entering a foreign market. However, Schott noted that uncertainty about future trade policy may itself be a deterrent to forming cross-border commercial relationships. As a result, resolving trade policy uncertainty can boost the incentives to trade even when actual trade costs remain unchanged. He discussed a salient episode of resolving trade policy uncertainty when in 2000 the United States permanently normalized trade relations with China, the so-called PNTR. Even though actual tariff rates were unchanged, the resolution of uncertainty about their future levels led to a surge in import activity, and accelerated the decline in U.S. manufacturing employment. Schott also discussed the broader impact for those that are adversely affected by import competition, including greater health risks and higher death rates. While such effects also emerge the downturns in business cycles, he noted that they were particularly large in years just after PNTR. Despite the challenges that global competition has wrought upon U.S. manufacturing, Schott argued that manufacturing value added continues to rise, benefiting the United States as a whole.
The final discussion on the panel came from Professor Van Reenen, who commented on the United Kingdom's ongoing experience with leaving the European Union, known as Brexit. Specifically, he discussed attempts to quantify the costs to the U.K. of leaving the European Union, which rely on recent advancements in computational modeling. The challenge to quantifying Brexit is that the ultimate relationship between the U.K. and much of continental Europe remains uncertain. The estimated cost to the U.K. ranges from approximately $1,100 per household—in the case where the U.K. remains in the Common Market—to nearly $2,300 per household—in the case where the U.K. exits the European Union completely and is governed by WTO rules. Van Reenen noted that these estimates likely understate the actual costs of Brexit because they ignore many dynamic consequences of leaving the European Union.

Luncheon Address

Mario Draghi, president of the European Central Bank, discussed the importance of sustaining openness in a dynamic global economy. He argued that slowing population growth places the burden of increasing potential growth on achieving productivity growth. And one of the key ingredients to productivity growth, he stated, is openness to trade, investment and international capital flows. He commented that these international flows facilitate technological diffusion across borders, and thereby drive efficiency and growth.

Draghi addressed three areas of public concern about openness. The first is fairness, specifically the extent to which all trading partners adhere to the same standards and eschew costly practices such as currency manipulation. Second, he suggested that many express concerns about whether openness is safe, or if foreign shocks in the financial sector or pathogens in agricultural sectors might spill over to domestic markets. Finally, he noted that many individuals have concerns about whether openness is equitable. Draghi suggested that multilateral cooperation is a precondition for addressing each of these concerns, and he drew from experiences in the European Union to discuss how these issues can be managed.
He suggested that one area in need of additional focus and further collaboration is cross-border finance. Draghi recognized that substantial work has been done to strengthen microprudential tools and to calibrate macroprudential policies, much of which Chair Yellen discussed in her opening remarks. He argued that this work has been essential because the mobility of finance can lead to contagion. He also commented on the fact that monetary policy is accommodative globally, and that the absence of multilateral collaboration on regulatory policy could risk rekindling the incentives that led to the financial crisis.

**Fiscal Stimulus and Fiscal Sustainability**

The second day began with a presentation from Alan J. Auerbach and Yuriy Gorodnichenko, both professors at the University of California-Berkeley. They argued that developed countries can use expansionary fiscal policies during economic downturns to stimulate the economy without increasing debt-to-GDP ratios. In fact, expansionary policies implemented when economies are weak may actually reduce debt-to-GDP ratios and interest rates. In short, countercyclical fiscal expansion is not a threat to fiscal sustainability.

A common argument against fiscal expansion during economic downturns is that increases in government borrowing and spending will raise interest rates, which subsequently reduce private investment and consumption, exacerbating poor economic conditions. Auerbach and Gorodnichenko contended, however, that fiscal expansion during periods of weak economic performance actually reduce interest rates, mitigating concerns that government spending that might drag on overall growth. Instead, overall GDP rises as government spending expands, and rises faster than debts so that debt burdens remain sustainable. Auerbach and Gorodnichenko recognized a few important caveats to their conclusions about fiscal expansion. They suggested that the consequences of increasing government spending are different during economic expansions and for countries where debt burdens are already high.

The authors cast the importance of their results against the current stance of monetary policies across developed countries. Though the
United States is experiencing one of the longest expansions on record and growth is rising elsewhere, interest rates in many countries remain near zero, leaving little scope for countercyclical monetary policy if needed. They suggested that the current low-interest-rate, low-inflation environment might require an even greater reliance on fiscal policy to address the next recession, whenever it begins.

Jason Furman of Harvard University discussed the paper and suggested that the current low-rate environment may assuage some of the concerns raised by the authors that high debt burdens affect the results about fiscal expansion. For example, with low rates the total amount of interest payments paid by the U.S. government as a fraction of GDP is at its lowest level since World War II. Generally, forward-looking measures of debt burden have come down, even as debt-to-GDP ratios have risen. Combined with smaller-than-anticipated growth in government spending due to health care reforms across countries, Professor Furman suggested that the low interest environment may provide more space for fiscal expansion than suggested by simple debt burden measures.

**Balanced Global Growth**

In the final paper on the program, Menzie Chinn of the University of Wisconsin argued that the factors behind the re-emergence of global imbalances since the financial crisis are different from those that drove large current account deficits and surpluses in previous decades. Accordingly, Professor Chinn first showed that distribution of current account surpluses and deficits has been quite dynamic since the turn of the century. Oil exporters are no longer a source of global surpluses, China’s current account as a share of GDP has been shrinking steadily since the crisis, and the number of countries with large imbalances swelled ahead of the crisis before reverting to the level exhibited in 2000.

Chinn discussed a variety of reasons that global imbalances might arise. These included a standard textbook view that imbalances reflect differences in expectations of future growth across countries; a second view that fiscal and demographic factors drive imbalances, with differences in savings and investment across countries leading
to deficits and surpluses; and a third mercantilist view, in which government interventions into export markets induce global imbalances; and finally a so-called savings-glut view, where differences in financial development across countries leads to imbalances. As a practical matter, each of these factors may be partially responsible for determining the level of global imbalances, though together they may not necessarily fully explain the current account levels observed globally. In the paper, Chinn presented estimates of each factor’s importance in recent decades.

Chinn argued that fiscal factors are important drivers of imbalances, especially for industrialized countries and in recent years. Demographics also tend to play a role. He also argued that intervention into foreign exchange markets is an important driver of imbalances. However, looking over the last 45 years in its entirety, he suggested that the savings-glut view appears not to be an important driver of global imbalances. This apparent lack of effect from savings-glut factors is at odds with prior evidence (including his own work) and with an influential narrative from former Federal Reserve Chairman Ben S. Bernanke ahead of the financial crisis. However, Chinn attributed this discrepancy to the diminishing importance of savings-glut factors over the last decade.

Maurice Obstfeld, economic counsellor at the International Monetary Fund (IMF), discussed the paper, highlighting an important distinction between current account deficits or surpluses and current account imbalances. Countries may run balances or surpluses for a variety of sound economic reasons. Obstfeld discussed an alternative measure of imbalances from the IMF—its External Balance Assessment—that considers balances that reflect deviations from those that would obtain if IMF policy recommendations were followed. In addition to the various factors at the center of the analysis, Obstfeld suggested that international liquidity exploded after 2000 as greater collateral and loosening borrowing constraints led to larger amounts of international lending. While he does not deny that savings-glut factors played a role, he attributes more of the post-2000 increase in imbalances to this financial factor than does Chinn. Finally, he expressed concerns about the results regarding foreign exchange market intervention and its importance for current account
balances, suggesting that intervention probably has a smaller effect on the current account than is estimated in the paper.

**Overview Panel**

The symposium concluded with an overview panel comprised of Norman Chan, chief executive of the Hong Kong Monetary Authority; Timothy J. Kehoe of the University of Minnesota; and Carmen M. Reinhart of Harvard University.

Chan highlighted the strong global economic expansion over the last few decades and the importance of open market policies in fostering this type of growth. Although growth has been strong and many in emerging economies have been lifted out of poverty, Chan remarked that labor’s share of income has been falling steadily. He discussed reasons why a smaller fraction of income goes to workers and argued that technological advancements have been the primary factor, whereas the rise of global value chains contributed modestly to the declining labor share. Regardless of the total amount of income going to workers, Chan noted that the distributions of income within many countries have become more uneven. He suggested that the link between monetary policy and the distribution of income is still uncertain, and called for more investigation into how unconventional monetary policies might affect income inequality.

Professor Kehoe discussed the nexus of growth and globalization taking a historical perspective, considering U.S. growth over the last two centuries rather than just the last few decades. He argued that the industrial revolution that began around 1800 in the U.K. is still ongoing globally, and spread rapidly after 1960 due in part to international trading relationships. The consequence has been a significant reduction in poverty and lower income inequality across countries. He suggested that the rise in inequality within countries has contributed to a retreat from liberalization policies in many countries. Finally, Kehoe echoed comments from earlier in the symposium that global imbalances have accelerated the ongoing decline in U.S. manufacturing employment since the turn of the century, but argued that productivity growth is a much more important factor than are imbalances in explaining that decline over the last few decades.
In the final remarks of the symposium, Professor Reinhart suggested that the U.S. dollar, which underwent a substantial appreciation between mid-2014 and 2016, was responsible for ongoing recoveries in Japan and in Europe. If such is the case, she expressed concerns that the softening of the U.S. dollar since the beginning of the year may pose a threat to those recoveries. Reinhart argued that the dollar serves as an anchor for much of the world economy, and so U.S. monetary policy has important global implications. On this theme, she closed with two comments about monetary policy. First, central banks bore the brunt of stimulating economic growth, as fiscal space to support recoveries was limited in so many countries. She expressed her expectation that the burden will remain on monetary policy for the foreseeable future and central bankers will have to move slowly toward policy normalization. Second, with so much of sovereign debt being held by the world’s central banks, interest rates may not be as useful as indicators of vulnerabilities as they have been in the past.