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# RECOMMENDED READING

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# FOREWORD

The IMF Library has partnered with other IMF departments to develop this bibliography of relevant materials in support of the Annual Meeting's Program of Seminars. The Recommended Reading combines recent and current research from the IMF, WBG, central banks, and other international financial institutions and organizations. This year's topics include Women in the Workplace, Youth at Work, Asia Growth Challenges, Social Protection and the Future of Work, Global Trade, Fintech, Sustainable Development and Monetary Policy. We trust that the Recommended Reading will promote discussion, new ideas, and research around issues facing our global economy and international development.

I hope you will find these readings both enjoyable and useful and wish you successful Meetings.

**Olivier Fleurence**
Chief, General Services Division, Corporate Services and Facilities
International Monetary Fund

# INTRODUCTION

Recommended Reading provides a curated list of relevant works covering topics discussed during the Annual Meetings Seminars. These resources were carefully selected from the publications of the IMF and World Bank, their sister institutions, academics, and research bodies around the world with the aim to represent the diversity of thoughts. For the purpose of knowledge exchange, we have provided hypertext links to the sources and encourage you to share this document with others who are interested in development and international economics.

Recommended Reading was prepared by the staff of the Library at the International Monetary Fund, with contributions from IMF Departments that sponsored the Seminars and suggested research for this compilation. A special thank you goes to the African Department; Asia Pacific Department; Communications Department; Corporate Services and Facilities Department; Information Technology Department; Legal Department; Middle East and Central Asia Department; Monetary and Capital Markets Department; Research Department; Secretary's Department; Strategy, Policy, and Review Department; and Western Hemisphere Department.

**The Library at the International Monetary Fund**
Washington, DC
October 2018

**TUESDAY, October 9, 2018**

# EMPOWERING WOMEN IN THE WORKPLACE

## Sponsored by IMF's Gender Advisory Group, Communications Department, Fiscal Affairs Department, Research Department, and Strategy, Policy, and Review Department

This panel discussion covers how increasing female participation in the labor force can support countries' growth, development, and stability objectives, including on policies geared toward helping women cope with new technologies. The panel will draw on IMF's new research on gender diversity and resilience and will discuss the future of work. The panel will focus on which policy designs are most successful at increasing women's empowerment and how these policies could support countries' growth, development, and stability objectives; including by discussing policies needed to help women cope with technological change.

**Acemoglu, Daron. 2015.**

**"Localised and Biased Technologies: Atkinson and Stiglitz's New View, Induced Innovations, and Directed Technological Change." *The Economic Journal* 125 (583): 443–463.**

This study revisits the important ideas proposed by Atkinson and Stiglitz's seminal 1969 paper on technological change. After linking these ideas to the induced innovation literature of the 1960s and the more recent directed technological change literature, it explains how these three complementary, but different approaches are useful in the study of a range of current research areas--though they may also yield different answers to important questions. It concludes by highlighting several important areas where these ideas can be fruitfully applied in future work.

**Acemoglu, Daron, and Pascual Restrepo. 2018.**

**"Artificial Intelligence, Automation, and Work." Working Paper 24196, National Bureau of Economic Research, Cambridge, MA.**

We summarize a framework for the study of the implications of automation and AI on the demand for labor, wages, and employment. Our task-based framework emphasizes the displacement effect that automation creates as machines and AI replace labor in tasks that it used to perform. This displacement effect tends to reduce the demand for labor and wages. But it is counteracted by a productivity effect, resulting from the cost savings generated by automation, which increase the demand for labor in non-automated tasks. The productivity effect is complemented by additional capital accumulation and the deepening of automation (improvements of existing machinery), both of which further increase the demand for labor. These countervailing effects are incomplete. Even when they are strong, automation in- creases output per worker more than wages and reduce the share of labor in national income. The more powerful countervailing force against automation is the creation of new labor-intensive tasks, which reinstates labor in new activities and tends to increase the labor share to counterbalance the impact of automation. Our framework also highlights the constraints and imperfections that slow down the adjustment of the economy and the labor market to automation and weaken the resulting productivity gains from this transformation: a mismatch between the skill requirements of new technologies, and the possibility that automation is being introduced at an excessive rate, possibly at the expense of other productivity-enhancing technologies.

**Arntz, Melanie, Terry Gregory, and Ulrich Zierahn. 2016.**

**"The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis." OECD Social, Employment and Migration Working Paper 189, OECD Publishing, Paris.**

In recent years, there has been a revival of concerns that automation and digitalization might after all result in a jobless future. The debate has been fueled by studies for the US and Europe arguing that a substantial share of jobs is at "risk of computerization". These studies follow an occupation-based approach proposed by Frey and Osborne (2013), i.e. they assume that whole occupations rather than single job-tasks are automated by technology. As we argue, this might lead to an overestimation of job automatability, as occupations labelled as high-risk occupations often still contain a substantial share of tasks that are hard to automate. Our paper serves two purposes. Firstly, we estimate the job automatability of jobs for 21 OECD countries based on a task-based approach. In contrast to other studies, we take into account the heterogeneity of workers' tasks within occupations. Overall, we find that, on average across the 21 OECD countries, 9 % of jobs are automatable. The threat from technological advances thus seems much less pronounced compared to the occupation-based approach. We further find heterogeneities across OECD countries. For instance, while the share of automatable jobs is 6 % in Korea, the corresponding share is 12 % in Austria. Differences between countries may reflect general differences in workplace organization, differences in previous investments into automation technologies as well as differences in the education of workers across countries.

**Black, Sandra E., and Alexandra Spitz-Oener. 2010.**

**"Explaining Women's Success: Technological Change and the Skill Content of Women's Work." *The Review of Economics and Statistics* 92 (1): 187–194.**

The closing of the gender wage gap is an ongoing phenomenon in industrialized countries. However, research has been limited in its ability to understand the causes of these changes, due in part to an inability to directly compare the work of women to that of men. In this study, we use a new approach for analyzing changes in the gender pay gap that uses direct measures of job tasks and gives a comprehensive characterization of how work for men and women has changed in recent decades. Using data from West Germany, we find that women have witnessed relative increases in nonroutine analytic tasks and non-routine interactive tasks, which are associated with higher skill levels. The most notable difference between the genders is, however, the pronounced relative decline in routine task inputs among women with little change for men. These relative task changes explain a substantial fraction of the closing of the gender wage gap. Our evidence suggests that these task changes are driven, at least in part, by technological change. We also show that these task changes are related to the recent polarization of employment between low and high skilled occupations that we observed in the 1990s.

**Das, Mitali, and Benjamin Hilgenstock. 2018.**

**"The Exposure to Routinization: Labor Market Implications for Developed and Developing Economies." Working Paper 18/135, International Monetary Fund, Washington, DC.**

Evidence that the automation of routine tasks has contributed to the polarization of labor markets has been documented for many developed economies, but little is known about its incidence in developing economies. We propose a measure of the exposure to routinization—that is, the risk of the displacement of labor by information technology—and assemble several facts that link the exposure to routinization with the prospects of polarization. Drawing on exposures for about 85 countries since 1990, we establish that: (1) developing economies are significantly less exposed to routinization than their developed counterparts; (2) the initial exposure to routinization is a strong predictor of the long-run exposure; and (3) among countries with high initial exposures to routinization, polarization dynamics have been strong and subsequent exposures have fallen; while among those with low initial exposure, the globalization of trade and structural transformation have prevailed and routine exposures have risen. Although we find little evidence of polarization in developing countries thus far, with rapidly rising exposures to routinization, the risks of future labor market polarization have escalated with potentially significant consequences for productivity, growth and distribution.

**Duflo, Ester. 2012.**

**"Women Empowerment and Economic Development." *Journal of Economic Literature* 50 (4): 1051–1079.**

Women empowerment and economic development are closely related: in one direction, development alone can play a major role in driving down inequality between men and women; in the other direction, empowering women may benefit development. Does this imply that pushing just one of these two levers would set a virtuous circle in motion? This paper reviews the literature on both sides of the empowerment development nexus, and argues that the interrelationships are probably too weak to be self-sustaining, and that continuous policy commitment to equality for its own sake may be needed to bring about equality between men and women.

**International Monetary Fund (IMF). 2018.**

***Group of Twenty: Future of Work: Measurement and Policy Challenges*. Washington, DC: International Monetary Fund.**

The new technologies hold promises but also significant challenges. Advances in digitalization, artificial intelligence, and automation promise to raise productivity and growth, but they are also bound to reshape the economy and the way we work, with the potential to increase inequality. Given the dimension of the possible changes, it will take a comprehensive and coordinated policy response to secure growth that is widely shared. These policies will also raise challenges for public finances.

A better understanding of the changes afoot is critical. Coverage of the new digital economy in the national accounts and labor statistics is incomplete, introducing some inaccuracy into productivity measures and complicating the monitoring of ongoing structural changes such as the growth of new forms of work organized around digital platforms. Closing these data gaps is essential to better understand, observe, and ultimately meet the challenges ahead.

**Kandpal, Eeshani, Kathy Baylis, and Mary Arends-Kuenning. 2013.**

**"Measuring the Effect of a Community-level Program on Women's Empowerment Outcomes: Evidence from India." Policy Research Working Paper 6399, World Bank, Washington, DC.**

This paper uses primary data from rural north India to show that participation in a community-level female empowerment program significantly increases access to employment, physical mobility, and political participation. The program provides support groups, literacy camps, adult education classes, and vocational training for rural women in several states of India; the data are from Uttarakhand. The paper uses instrumental variables and truncation-corrected matching on primary data to disentangle the program's mechanisms, separately considering its effect on women who work, and those who do not work but whose reservation wage is increased by participation.

**Kochhar, Kalpana, Sonali Jain-Chandra, and Monique Newiak. 2017.**

***Women, Work, and Economic Growth: Leveling the Playing Field*. Washington, DC: International Monetary Fund.**

Women make up a little over half of the world's population, but their contribution to measured economic activity and growth is far below its potential. Despite significant progress in recent decades, labor markets across the world remain divided along gender lines, and progress toward gender equality seems to have stalled. The challenges of growth, job creation, and inclusion are closely intertwined. This volume brings together key research by IMF economists on issues related to gender and macroeconomics. In addition to providing policy prescriptions and case studies from IMF member countries, the chapters also look at the gender gap from an economic point of view.

**Ngai, L. Rachel, and Barbara Petrongolo. 2017.**

**"Gender Gaps and the Rise of the Service Economy." *American Economic Journal: Macroeconomics* 9 (4): 1–44.**

This paper investigates the role of the rise in services in the narrowing of gender gaps in hours and wages in recent decades. We highlight the between-industry component of differential gender trends for the United States and propose a model economy with goods, services, and home production, in which women have a comparative advantage in producing services. The rise of services, driven by structural transformation and marketization of home production, raises women's relative wages and market hours. Quantitatively, the model accounts for an important share of the observed trends in women's hours and relative wages.

**Moitra, Monika. 2017.**

**"Women Empowerment in Science and Technology-An Essential Approach for Strong Nation Building." *Integrated Research Advances* 4 (2): 37–39.**

Women empowerment refers to increasing the spiritual, political, social or economic strength of women in diversified streams. It involves the empowered developing confidence in their capacities. It's a multidimensional social process that helps women to gain control over their own lives and give contribution in strong nation building by their knowledge and skills in various fields of science and technology. Women are becoming aware of their rights and trying best to improve their intellectualism and positive value assertion. Science and technology have been an integral part of Indian civilization and culture. Over the years Indian women have overcome the traditional mindsets and have excelled in professions like teaching, medicine, engineering, information technology, biotechnology, nuclear science, space science and many such specialized fields in the domain of science and technology. Their contribution to socio-economic development as employer and employee is getting recognized and honored in public and private sectors.

**Lagarde, Christine. 2014.**

**"Daring the Difference: the Three L's of Women's Empowerment." Keynote Address at the National Democratic Institute, Washington, DC, May 19.**

**World Bank Group. 2018.**

***World Development Report 2019: the Changing Nature of Work*. Washington, DC: World Bank Group.**

There has never been a time when mankind was not afraid of where its talent for innovation might lead. In the 19th century, Karl Marx worried that "machinery does not just act as a superior competitor to the worker, always on the point of making him superfluous. It is the most powerful weapon for suppressing strikes." John Maynard Keynes warned in 1930 of widespread unemployment arising from technology. And yet innovation has transformed living standards. Life expectancy has gone up; basic health care and education are widespread; and most people have seen their incomes rise. Three-quarters of the citizens of the European Union, the world's lifestyle superpower, believe that the workplace benefits from technology, according to a recent Eurobarometer survey. Two-thirds said technology will benefit society and improve their quality of life even further (figure O.1). Despite this optimism, concerns about the future remain. People living in advanced economies are anxious about the sweeping impact of technology on employment. They hold a view that rising inequality, compounded by the advent of the gig economy (in which organizations contract with independent workers for short-term engagements), is encouraging a race to the bottom in working conditions. This troubling scenario, however, is on balance unfounded. It is true that in some advanced economies and middle-income countries manufacturing jobs are being lost to automation. Workers undertaking routine tasks that are "codifiable" are the most vulnerable to replacement. And yet technology provides opportunities to create new jobs, increase productivity, and deliver effective public services. Through innovation, technology generates new sectors and new tasks.

**WEDNESDAY, October 10, 2018**

# ASIA AT THE FOREFRONT: GROWTH CHALLENGES FOR THE NEXT DECADE AND BEYOND

## Sponsored by the IMF's Asia & Pacific Department

Asia has made remarkable progress over the past fifty years and is now at the forefront of the world economy in many ways—the region is the predominant driver of global growth, the nerve center of world trade, and an increasingly important contributor to the knowledge frontier. But Asia's economic performance now faces fundamental challenges, including a possible global move toward protectionism, slowing productivity growth, rapid population aging in some countries, and the digital revolution, which may be as disruptive as they are transformative. What will these trends mean for the region, and what can policymakers do to ensure that Asia remains at the forefront of the world economy over the coming fifty years? The seminar will cover a wide range of issues including trade as an engine of growth; boosting productivity growth; addressing population aging; and the digital revolution. Some of these themes will also be discussed in our forthcoming Regional Economic Outlook Asia at the *Forefront: Growth Challenges for the Next Decade and Beyond.*

**Acemoglu, Daron, and Pascual Restrepo. 2018.**

**"Demographics and Automation." Working Paper 24421, National Bureau of Economic Research, Cambridge, MA.**

We argue theoretically and document empirically that aging leads to greater (industrial) automation, and in particular, to more intensive use and development of robots. Using US data, we document that robots substitute for middle-aged workers (those between the ages of 36 and 55). We then show that demographic change—corresponding to an increasing ratio of older to middle-aged workers—is associated with greater adoption of robots and other automation technologies across countries and with more robotics-related activities across US commuting zones. We also provide evidence of more rapid development of automation technologies in countries undergoing greater demographic change. Our directed technological change model further predicts that the induced adoption of automation technology should be more pronounced in industries that rely more on middle-aged workers and those that present greater opportunities for automation. Both of these predictions receive support from country-industry variation in the adoption of robots. Our model also implies that the productivity implications of aging are ambiguous when technology responds to demographic change, but we should expect productivity to increase and labor share to decline relatively in industries that are most amenable to automation, and this is indeed the pattern we find in the data.

**Acemoglu, Daron, and Pascual Restrepo. 2017.**

**"Robots and Jobs: Evidence from US Labor Markets." Working Paper 23285, National Bureau of Economic Research, Cambridge, MA.**

As robots and other computer-assisted technologies take over tasks previously performed by labor, there is increasing concern about the future of jobs and wages. We analyze the effect of the increase in industrial robot usage between 1990 and 2007 on US local labor markets. Using a model in which robots compete against human labor in the production of different tasks, we show that robots may reduce employment and wages, and that the local labor market effects of robots can be estimated by regressing the change in employment and wages on the exposure to robots in each local labor market—defined from the national penetration of robots into each industry and the local distribution of employment across industries. Using this approach, we estimate large and robust negative effects of robots on employment and wages across commuting zones. We bolster this evidence by showing that the commuting zones most exposed to robots in the post-1990 era do not exhibit any differential trends before 1990. The impact of robots is distinct from the impact of imports from China and Mexico, the decline of routine jobs, offshoring, other types of IT capital, and the total capital stock (in fact, exposure to robots is only weakly correlated with these other variables). According to our estimates, one more robot per thousand workers reduces the employment to population ratio by about 0.18-0.34 percentage points and wages by 0.25-0.5 percent.

**Korinek, Anton, and Joseph E. Stiglitz. 2017.**

**"Artificial Intelligence and Its Implications for Income Distribution and Unemployment." Working Paper 24174, National Bureau of Economic Research, Cambridge, MA.**

Inequality is one of the main challenges posed by the proliferation of artificial intelligence (AI) and other forms of worker-replacing technological progress. This paper provides a taxonomy of the associated economic issues. First, we discuss the general conditions under which new technologies such as AI may lead to a Pareto improvement. Secondly, we delineate the two main channels through which inequality is affected – the surplus arising to innovators and redistributions arising from factor price changes. Third, we provide several simple economic models to describe how policy can counter these effects, even in the case of a "singularity" where machines come to dominate human labor. Under plausible conditions, non-distortionary taxation can be levied to compensate those who otherwise might lose. Fourth, we describe the two main channels through which technological progress may lead to technological unemployment – via efficiency wage effects and as a transitional phenomenon. Lastly, we speculate on how technologies to create super-human levels of intelligence may affect inequality and on how to save humanity from the Malthusian destiny that may ensue.

**Fernald, John G., and Charles I. Jones. 2014.**

**"The Future of US Economic Growth." *American Economic Review* 104 (5): 44–49.**

Modern growth theory suggests that more than three-quarters of growth since 1950 reflects rising educational attainment and research intensity. As these transition dynamics fade, US economic growth is likely to slow at some point. However, the rise of China, India, and other emerging economies may allow another few decades of rapid growth in world researchers. Finally, and more speculatively, the shape of the idea production function introduces a fundamental uncertainty into the future of growth. For example, the possibility that artificial intelligence will allow machines to replace workers to some extent could lead to higher growth in the future.

**International Monetary Fund. 2018.**

**"Digital Government." In *Fiscal Monitor*, April, 43–86. Washington, DC: International Monetary Fund.**

Digitalization presents both opportunities and risks for fiscal policy. It has the potential to improve the design and implementation of fiscal policy, but it also creates new challenges. Chapter 2 discusses how digitalization can change the way governments design and implement current policies, including by improving tax policy and administration, increasing spending efficiency and enhancing fiscal management. The chapter also discusses the design of future policy, focusing on the implications of the rapid expansion of digital firms whose business model—for example, sales with little physical presence and reliance on online customers to generate commercially valuable information—raises new questions about the allocation of international taxing rights. Finally, while digitalization offers many potential benefits, the chapter examines how it can create new risks, including a disproportionate burden on small businesses and vulnerable households with limited access to technology; opportunities for fraud, and disruption of government functions. With the increase of massive data breaches and intrusions of privacy, the chapter highlights the vulnerabilities of public digital systems. Digitalization calls for a proactive, forward-looking, and comprehensive reform agenda. The chapter conveys that governments must address multiple political, social, and institutional weaknesses and manage digital risks. Digitalization is already an overwhelming trend that will accelerate further. Governments should embrace it, foresee it, and shape it.

**International Monetary Fund. 2015.**

**"Reaping the Benefits from Global Value Chains." In *Regional Economic Outlook: Asia and Pacific*, April, 73–92. Washington, DC: International Monetary Fund.**

Over the past 30 years, the growing technological complexity of products, trade liberalization, and lower transportation and communications costs have reshaped the landscape of global trade. In particular, production has become increasingly fragmented through the growing prevalence of global value chains (GVCs), with components crossing numerous international borders. This has resulted in faster growth of trade in intermediate inputs than of trade in final goods. Asia has especially exemplified this new pattern of production: during 1995–2013, the region's trade in intermediate goods grew by a factor of six, while trade in final goods grew almost four times. This compares with fourfold and threefold increases, respectively, in the rest of the world.

**International Monetary Fund. 2016.**

**"Global Trade: What's Behind the Slowdown?" In *World Economic Outlook: Subdued Demand: Symptoms and Remedies*, October, 63–119. Washington, DC: International Monetary Fund.**

[…] This chapter finds that the overall weakness in economic activity, in particular in investment, has been the primary restraint on trade growth, accounting for up to three-fourths of the slowdown. However, other factors are also weighing on trade. The waning pace of trade liberalization and the recent uptick in protectionism are holding back trade growth, even though their quantitative impact thus far has been limited. The decline in the growth of global value chains has also played an important part in the observed slowdown. The findings suggest that addressing the general weakness in economic activity, especially in investment, will stimulate trade, which in turn could help strengthen productivity and growth. In addition, given the subdued global growth outlook, further trade reforms that lower barriers, coupled with measures to mitigate the cost to those who shoulder the burden of adjustment, would boost the international exchange of goods and services and revive the virtuous cycle of trade and growth.

**International Monetary Fund, the World Bank Group, and the World Trade Organization. 2017.**

**"Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment." Policy Paper, International Monetary Fund, Washington, DC.**

The role of trade in the global economy is at a critical juncture. Increased trade integration helped to drive economic growth in advanced and developing economies in the latter part of the 20th century. Since the early 2000's, however, a slowdown in the pace of trade reform, a post-crisis uptick in protectionism, and risk of further reversals have been a drag on trade, productivity, and income growth. At the same time, trade is leaving too many individuals and communities behind, notably also in advanced economies. To be sure, job losses in certain sectors or regions in advanced economies have resulted to a large extent from technological changes rather than from trade. But adjustment to trade can bring a human and economic downside that is frequently concentrated, sometimes harsh, and has too often become prolonged. It need not be that way. With the right policies, countries can benefit from the great opportunities that trade brings and lift up those who have been left behind. Those polices ease adjustment to trade, as well as strengthen overall economic flexibility and performance.

**International Monetary Fund. 2017.**

***Regional Economic Outlook: Asia Pacific: Preparing for Choppy Seas*. Washington, DC: International Monetary Fund.**

The outlook for the Asia-Pacific region remains robust—the strongest in the world, in fact—and recent data point to a pickup in momentum. The near-term outlook, however, is clouded with significant uncertainty, and risks, on balance, remain slanted to the downside. Medium-term growth faces secular headwinds, including from population aging and sluggish productivity. Macroeconomic policies should continue to support growth while boosting resilience, external rebalancing, and inclusiveness. The region needs structural reforms to address its demographic challenges and to boost productivity.

**International Monetary Fund. Forthcoming, 2018.**

***Regional Economic Outlook: Asia Pacific, Asia at the Forefront: Growth Challenges for the Next Decade and Beyond*. Washington, DC: International Monetary Fund.**

Asia has achieved remarkable economic success over the past five decades. Overall per capita income in Asia still substantially lags that in the United States and Europe, but in growth terms, the region is very much at the forefront of the global economy, accounting for more than 60 percent of world growth. However, risks to the Asia's near- to medium-term outlook are now tilted to the downside, reflecting increased financial market volatility, rising trade tensions, and slowing momentum in China. In addition, Asia faces important challenges to its long-term growth prospects, including sustainability of current trade-driven growth model, population aging, and slowing productivity growth. Asia is at the forefront of digitalization, which promises a radical transformation of the global economy, and indeed of society itself, while at the same time threatening substantial disruptions and dislocation. This report and its four background papers take up these issues, suggesting that, with the appropriate policy responses, Asia will be able to meet its challenges and secure its growth prospects.

**International Monetary Fund. Forthcoming, 2018.**

**"Asia as the Cycle Matures." In *Regional Economic Outlook: Asia Pacific, Asia at the Forefront: Growth Challenges for the Next Decade and Beyond*, Background Paper 1. Washington, DC: International Monetary Fund.**

**International Monetary Fund. Forthcoming, 2018.**

**"The Evolving Role of Trade in Asia: Opening a New Chapter." In *Regional Economic Outlook: Asia Pacific, Asia at the Forefront: Growth Challenges for the Next Decade and Beyond*, Background Paper 2. Washington, DC: International Monetary Fund.**

**International Monetary Fund. Forthcoming, 2018.**

**"Productivity Growth in Asia: Boosting Firm Dynamism and Weeding out the Zombies." In *Regional Economic Outlook: Asia Pacific, Asia at the Forefront: Growth Challenges for the Next Decade and Beyond*, Background Paper 3. Washington, DC: International Monetary Fund.**

**International Monetary Fund. Forthcoming, 2018.**

**"The Digital Revolution in Asia: Disruptor or New Growth Engine (or Both)?" In *Regional Economic Outlook: Asia Pacific, Asia at the Forefront: Growth Challenges for the Next Decade and Beyond*, Background Paper 4. Washington, DC: International Monetary Fund.**

**Mano, Rui. 2016.**

**"Quantifying the Spillovers from China Rebalancing Using a Multi-Sector Ricardian Trade Model." Working Paper 16/219, International Monetary Fund, Washington, DC.**

This paper assesses the spillovers from different facets of China rebalancing using a calibrated Ricardian trade model that includes 41 economies, each consisting of 34 sectors. We find that China's move up the value chain in particular has the potential for significant spillovers – on the one hand, adversely affecting industrialized economies heavily involved in the Asia value chain, while at the same time generating positive spillovers to lower and middle-income countries. The model's strength lies in endogenously capturing production value chains and international trade of goods across sectors.

**Mathai, Koshy, Geoff Gottlieb, Gee Hee Hong, Sung Eun Jung, Jochen M. Schittmann, and Jiangyan Yu. 2016.**

**"China's Changing Trade and the Implications for the CLMV Economies." Departmental Paper 16/10, International Monetary Fund, Washington, DC.**

China's trade patterns are evolving. While it started in light manufacturing and the assembly of more sophisticated products as part of global supply chains, China is now moving up the value chain, "onshoring" the production of higher-value-added upstream products and moving into more sophisticated downstream products as well. At the same time, with its wages rising, it has started to exit some lower-end, more labor-intensive sectors. These changes are taking place in the broader context of China's rebalancing—away from exports and toward domestic demand, and within the latter, away from investment and toward consumption—and as a consequence, demand for some commodity imports is slowing, while consumption imports are slowly rising. The evolution of Chinese trade, investment, and consumption patterns offers opportunities and challenges to low-wage, low-income countries, including China's neighbors in the Mekong region. Cambodia, Lao P.D.R., Myanmar, and Vietnam (the CLMV) are all open economies that are highly integrated with China. Rebalancing in China may mean less of a role for commodity exports from the region, but at the same time, the CLMV's low labor costs suggest that manufacturing assembly for export could take off as China becomes less competitive, and as China itself demands more consumption items. Labor costs, however, are only part of the story. The CLMV will need to strengthen their infrastructure, education, governance, and trade regimes, and also run sound macro policies in order to capitalize fully on the opportunities presented by China's transformation. With such policy efforts, the CLMV could see their trade and integration with global supply chains grow dramatically in the coming years.

**Mühleisen, Martin. 2018.**

**"[The Long and Short of The Digital Revolution]." *Finance & Development* 55 (2): 4–8.**

Smart policies can alleviate the short-term pain of technological disruption and pave the way for long-term gain. Digital platforms are recasting the relationships between customers, workers, and employers as the silicon chip's reach permeates almost everything we do—from buying groceries online to finding a partner on a dating website. As computing power improves dramatically and more and more people around the world participate in the digital economy, we should think carefully about how to devise policies that will allow us to fully exploit the digital revolution's benefits while minimizing job dislocation.

**Sedik, Tahsin Saadi. 2018.**

**"[Asia's Digital Revolution]." *Finance & Development* 55 (3): 31–33.**

Asia is embracing the digital revolution. Companies such as Alibaba, Tencent, and Baidu are providing a wide range of services from e-commerce to fintech and cloud computing for customers in China and elsewhere. In Indonesia, GO-JEK offers services including ride-hailing, logistics and digital payments. These and other Asian companies are exploiting recent advances in artificial intelligence, robotics, cryptography, and big data that promise to reshape the global economy and fundamentally alter the way we live and work in the same way that the steam engine and electricity did in centuries past. In Asia as elsewhere, the digital revolution is rippling across industries from retailing and banking to manufacturing and transportation.

**Schneider, Todd, Gee Hee Hong, and Anh Van Le. 2018.**

**"[Land of the Rising Robots]." *Finance & Development* 55 (2): 28–31.**

While automation will eliminate very few occupations entirely in the coming decades, it is likely to have an impact on portions of almost all jobs to some degree—depending on the type of work and the tasks involved. Set to move beyond routine and repetitive manufacturing activities, automation has the potential to appear in a much broader range of activities than seen until now, and to redefine human labor and work style in services and other sectors. In Japan, the rapid decline in the labor force and the limited influx of immigrants create a powerful incentive for automation, which makes the country a particularly useful laboratory for the study of the future landscape of work.

**WEDNESDAY, October 10, 2018**

# SOCIAL PROTECTION AND THE FUTURE OF WORK

## Sponsored by the IMF's Finance Department; Strategy, Policy, and Review Department; and Research Department

Rapid technological change promises higher economic growth, but it also presents many challenges. As new jobs are created, others are lost, and the burden of adjustment can be heavy for some. At the same time, the benefits of growth might not be equally shared, with capital owners and the higher skilled benefiting more than others. Technological change, in combination with increased globalization of product and factor markets and liberalization of labor markets, often comes with increasing employment and income uncertainty throughout many peoples' lives. Working lives will involve more frequent transitions across jobs and job statuses. Are today's social protection systems up to the challenge? Do these developments require rethinking how society deals with increasing risk? What is the role of enhancing human capital to address inequality of opportunity? What is the role of redistributive taxes and transfers? Or is a bigger rethinking of public policy needed, rather than just doing the old things better?

**Berg, Andrew, Edward F. Buffi, and Zanna Luis-Felipe. 2018.**

**"[Should We Fear the Robot Revolution? (The Correct Answer is Yes)]." Working Paper 18/116, International Monetary Fund, Washington, DC.**

We may be on the cusp of a 'second industrial revolution' based on advances in artificial intelligence and robotics. We analyze the implications for inequality and output, using a model with two assumptions: 'robot' capital is distinct from traditional capital in its degree of substitutability with human labor; and only capitalists and skilled workers save. We analyze a range of variants that reflect widely different views of how automation may transform the labor market. Our main results are surprisingly robust: automation is good for growth and bad for equality; in the benchmark model real wages fall in the short run and eventually rise, but 'eventually' can easily take generations.

**Bouis, Romain, Romain A. Duval, and Johannes Eugster. 2016.**

**"[Product Market Deregulation and Growth: New Country-Industry-Level Evidence]." Working Paper 16/114, International Monetary Fund, Washington, DC.**

The paper investigates the economic effects of major product market reforms in some of the historically most protected non-manufacturing industries. It relies on a unique mapping between new annual data on reform shocks and sector-level outcomes for five network industries (electricity and gas, land transport, air transport, postal services, and telecommunications) in twenty-six countries spanning over three decades. The use of a three-dimensional panel and careful instrumentation of reform shocks using external instruments enables us to control for economy-wide macroeconomic shocks and address possible sources of omitted variable bias more broadly. Using a local projection method, we find that major reductions in barriers to entry yield large increases in output and labor productivity over a five-year horizon, concomitant with a relative price decline. By contrast, there is only a weak positive effect on sectoral employment, and investment is essentially unaffected, suggesting that output gains from reform primarily reflect higher total factor productivity. It takes some time for these gains to materialize: effects become statistically significant two to three years after the reform, as prices start dropping, and productivity and output increase significantly. However, there is no evidence of any negative short-term cost from reform, including under weak macroeconomic conditions. These findings provide a clear case for intensifying product market reform efforts in advanced economies at the current juncture of weak growth.

**Brunori, Paolo, Francisco H. G. Ferreira, and Vito Peragine. 2013.**

**"[Inequality of Opportunity, Income Inequality, and Economic Mobility: Some International Comparisons]." World Bank Policy Research Working Paper Series No. 6304. World Bank, Washington, DC.**

Despite a recent surge in the number of studies attempting to measure inequality of opportunity in various countries, methodological differences have so far prevented meaningful international comparisons. This paper presents a comparison of ex-ante measures of inequality of economic opportunity (IEO) across 41 countries, and of the Human Opportunity Index (HOI) for 39 countries. It also examines international correlations between these indices and output per capita, income inequality, and intergenerational mobility. The analysis finds evidence of a “Kuznets curve” for inequality of opportunity, and finds that the IEO index is positively correlated with over income inequality, and negatively with measures of intergenerational mobility, both in incomes and in years of schooling. The HOI is highly correlated with the Human Development Index, and its internal measure of inequality of opportunity yields very different country rankings from the IEO measure.

**Brussevich, Mariya, Era Dabla-Norris, Christine Kamunge, Pooja Karnane, Salma Khalid, and Kalpana Kochhar. Forthcoming, 2018.**

**"Gender, Technology, and the Future of Work." Staff Discussion Note, International Monetary Fund, Washington, DC.**

The impact of technology on the future of work has emerged as a critical issue on the radar of the Fund membership and is expected to be a key focus in discussions with the membership in various fora. Previous Fund work has focused on the economic imperative for boosting female labor force participation and closing gender wage gaps. Bringing together the need to boost female labor force participation and an understanding of the impact of technology will be very important to draw out potential gender differences in the vulnerability to displacement of labor by technology. Automation will likely affect female and male workers in distinct ways, with attendant implications for both the extensive and intensive margins of female employment. Most existing studies that relate women's labor force outcomes to the task content of their work and its complementarity with technologies focus on country case-studies owing to the lack of standardized data across multiple countries on occupational characteristics. This SDN attempts to fill this gap by examining the gender dimensions of automation and the future of work using individual level data on task composition at work across a large sample of advanced and emerging market economies. Given the burgeoning interest in technology and the future of work, the results of our analysis are likely to garner considerable policy attention.

**Clements, Benedict, Ruud de Mooij, Sanjeev Gupta, and Michael Keen. 2015.**

***Inequality and Fiscal Policy*. Washington, DC: International Monetary Fund.**

The sizeable increase in income inequality experienced in advanced economies and many parts of the world since the 1990s and the severe consequences of the global economic and financial crisis have brought distributional issues to the top of the policy agenda. The challenge for many governments is to address concerns over rising inequality while simultaneously promoting economic efficiency and more robust economic growth. The book delves into this discussion by analyzing fiscal policy and its link with inequality. Fiscal policy is the government's most powerful tool for addressing inequality. It affects households' consumption directly (through taxes and transfers) and indirectly (via incentives for work and production and the provision of public goods and individual services such as education and health). An important message of the book is that growth and equity are not necessarily at odds; with the appropriate mix of policy instruments and careful policy design, countries can in many cases achieve better distributional outcomes and improve economic efficiency. Country studies (on the Netherlands, China, India, Republic of Congo, and Brazil) demonstrate the diversity of challenges across countries and their differing capacity to use fiscal policy for redistribution. The analysis presented in the book builds on and extends work done at the IMF and also includes contributions from leading academics.

**Duval, Romain, Davide Furceri, and Jakob Miethe. 2018.**

**"The Needle in the Haystack: What Drives Labor and Product Market Reforms in Advanced Countries?" Working Paper 18/101, International Monetary Fund, Washington, DC.**

The political economy literature has put forward a multitude of hypotheses regarding the drivers of structural reforms, but few, if any, empirically robust findings have emerged thus far. To make progress, we draw a parallel with model uncertainty in the growth literature and provide a new version of the Bayesian averaging of maximum likelihood estimates (BAMLE) technique tailored to binary logit models. Relying on a new database of major past labor and product market reforms in advanced countries, we test a large set of variables for robust correlation with reform in each area. We find widespread support for the crisis-induces-reform hypothesis. Outside pressure increases the likelihood of

**ElFayoumi, Khalid, Anta Ndoye, Sanaa Nadeem, and Gregory Auclair. 2018.**

**"Structural Reforms and Labor Reallocation: A Cross-Country Analysis." Working Paper 18/64, International Monetary Fund, Washington, DC.**

Institutional and market frictions impose costs on the reallocation of labor from low to high productivity sectors, leading to suboptimal allocations and a loss in aggregate labor productivity. Using cross-country sector-level data, we use a dynamic panel error correction model to compute the speed of sectoral labor adjustment, as well as the contribution of structural reforms in governance, labor and product markets, trade and openness, and the financial sector to lowering the costs of labor reallocation. We find that, on average, sectoral employment shares converge towards equilibrium allocations, closing about 13.7 percent of labor productivity gaps each year; this speed of labor adjustment varies across sectors and income groups. On structural reforms, we find a significant association between more efficient labor reallocation and financial market liberalization, less bureaucracy, strong judicial and regulatory environment, trade liberalization, better education and more flexible labor and product markets.

**Iyer, Tara. 2017.**

**"Exchange Rate Choices with Inflexible Markets and Costly Price Adjustments." Working Paper 17/154, International Monetary Fund, Washington, DC.**

This paper analyzes the appropriate choice of an exchange rate regime in agricultural commodity-exporting economies. In an open economy model that incorporates key structural characteristics of agricultural commodity exporters including dual labor markets, the benefits of exchange rate flexibility are shown to depend on the extent of labor and product market development. With developed markets, flexible exchange rates are preferred as they allow for greater relative price fluctuations, which amplify the transmission mechanism of labor reallocation upon commodity price volatility. When labor and product markets are not well developed, however, international relative price adjustments exacerbate currency and factor misalignments. A nominal exchange rate peg, by mitigating relative wage and price fluctuations, increases welfare relative to a float. Given the current low level of labor and product market development across most agricultural commodity exporters, the study provides a counterpoint to conventional arguments in favor of flexible exchange rates and a rationale as to why exchange rate targeting is appropriate in agricultural economies.

**Krishna, Anirudh, and Swapnil Agarwal. 2017.**

**"Promoting Social Mobility in India." *Journal of South Asian Development* 12 (3): 236–258.**

Equality of opportunity is an important ideal to uphold in a just society. Beyond its long-standing commitment to affirmative action, relatively little has been done in India to realize this ideal. Compared to other countries, Indian children raised in poverty have a smaller chance of rising to high positions. Seized of this situation, a group of organizations has taken up the mission of social mobility promotion. Through coaching, mentorship, guidance, information provision and other means, these organizations are helping smart and hard-working children with backgrounds in poverty to aspire, and to achieve, superior career options. We identify five types of social mobility promoting organizations (SMPOs), examine their modes of action and indicate future directions.

**Peragine, Vito, Flaviana Palmisano, and Paolo Brunori. 2014.**

**"Economic Growth and Equality of Opportunity." *World Bank Economic Review* 28 (2): 247–281.**

In this paper, we argue that a better understanding of the relationship between inequality and economic growth can be obtained by shifting the analysis from the space of final achievements to the space of opportunities. To this end, we introduce a formal framework based on the concept of the Opportunity Growth Incidence Curve. This framework can be used to evaluate the income dynamics of specific groups of the population and to infer the role of growth in the evolution of inequality of opportunity over time. We show the relevance of the introduced framework by providing two empirical analyses, one for Italy and the other for Brazil. These analyses show the distributional impact of the recent growth experienced by Brazil and the recent crisis suffered by Italy from both the income inequality and opportunity inequality perspectives.

**Perez-Arce, Francisco, Ernesto F. L. Amaral, Haijing Crystal Huang, and Carter C. Price. 2016.**

***Inequality and Opportunity: the Relationship Between Income Inequality and Intergenerational Transmission of Income*. Santa Monica, CA: RAND Corporation.**

Rising income inequality has the potential to affect outcomes for children whose parents are at the lower end of the income scale by curtailing their opportunities. This report aims to understand the extent to which inequalities in opportunity and outcomes are related — and the mechanisms that drive that relationship — to help evaluate which policies have the most potential to level the playing field. This report reviews recent trends in inequality in outcomes (particularly, income inequality) and proxies for inequality of opportunity (measures of intergenerational transmission of income) and presents evidence on the extent to which they are correlated across countries and within countries across time. We discuss the evidence that shows that inequality in income and wealth has been increasing in the United States and most developed countries since the 1980s and that income inequality and inequality of opportunity are correlated across countries, but proxy measures for inequality of opportunity do not show the same consistently upward trend that was experienced by income inequality. The report then presents a framework to understand the mechanisms underlying the relationship between inequalities in income and opportunity. In-light of this framework, we discuss the potential effects of policies on both income and inequality opportunity, and how these can be quantitatively assessed.

**Ridao-Cano, Cristobal, and Christian Bodewig. 2018.**

***Growing United: Upgrading Europe's Convergence Machine*. Washington, DC: World Bank.**

Since its foundation over sixty years ago, the European Union (EU) has become the modern world's greatest "convergence machine", propelling poorer, and newer, member states to become high-income economies, and delivering to its citizens some of the highest living standards and lowest levels of income inequality in the world. But today, Europeans are increasingly recognizing that convergence is not automatic. Inequality among people has been mounting in many parts of the EU since the 1990s, as low-income Europeans are falling behind in the labor market. And the productivity gap between Southern and Northern member states has been widening since the early 2000s. The EU is growing, but Europeans are not "growing united". Why? Growing United argues that technological change, by revolutionizing product and labor markets, is slowing down the old convergence machine: technology offers ever richer opportunities for well-skilled workers and frontier firms, while low-skilled workers and less productive firms risk falling behind. As a result, countries that provide less opportunities for people to build relevant skills and a less supportive environment for firms to thrive are losing ground. This calls for an upgrade to Europe's convergence machine, to seize the benefits of technological change for all Europeans. Growing United argues that the convergence machine, version 2.0, should focus on the convergence of opportunities for people and firms across the Union. It should support the capabilities of people (skills) and firms (innovation) and provide a level-playing field for people and firms through "flexicure" labor markets and an enabling business environment.

**Farole, Thomas, Soraya Goga, and Marcel Ionescu-Heroiu. 2018.**

***Rethinking Lagging Regions: Using Cohesion Policy to Deliver on the Potential of Europe's Regions*. Washington, DC: World Bank.**

As the World Bank’s 2012 Golden Growth report emphasized, the European Union, since its founding, has been a ‘convergence machine,’ generating wealth and a higher quality of life for the poorest in the 28 EU member states. More recently, the Growing United report highlighted that while the convergence machine still works, it is not working for everyone. And among the fault lines emerging in the convergence machine, regional inequality represents a potent threat to Europe's economic well-being, and to its social and political cohesion. In this context, Rethinking Lagging Regions highlights the nature and implications of regional inequalities in Europe and recommends how cohesion policy can be leveraged to maximize its impact on lagging regions, and on the businesses and people in these regions. The report has several key messages: regional inequalities are high and likely to rise; Europe's lagging regions are going in opposite directions, but face common challenges; cohesion policy can maximize its impact on lagging regions by explicitly targeting regional potential and equality of opportunity rather than convergence; cohesion policy priorities can be rebalanced to help deliver on regional potential; and delivery of regional policy needs to engage ever more deeply at the ground level. This report aims to contribute to the debate on the future of cohesion policy, with a specific focus on lagging regions. It calls for a further shift in the objectives of cohesion policy towards an increasingly 'region-centered' approach that aims to maximize potential in all regions, while seeking convergence of opportunities for individuals, no matter where they live.

**World Bank Group. 2018.**

***World Development Report 2019: The Changing Nature of Work*. Washington, DC: World Bank Group.**

There has never been a time when mankind was not afraid of where its talent for innovation might lead. In the 19th century, Karl Marx worried that "machinery does not just act as a superior competitor to the worker, always on the point of making him superfluous. It is the most powerful weapon for suppressing strikes." John Maynard Keynes warned in 1930 of widespread unemployment arising from technology. And yet innovation has transformed living standards. Life expectancy has gone up; basic health care and education are widespread; and most people have seen their incomes rise.

**WEDNESDAY, October 10, 2018**

# HOW GLOBAL TRADE CAN PROMOTE GROWTH FOR ALL

## Sponsored by the IMF's Strategy, Policy, and Review Department

This plenary session will highlight the role of trade in promoting global economic growth and stability. Panelists will discuss countries' shared interest in a strengthened global trading system. The session will focus particularly on areas where trade reforms can make the greatest contribution to the global economy and on practical ways to advance reforms in those areas, including through the World Trade Organization.

**Ahn, JaeBin, Era Dabla-Norris, Romain Duval, Bingjie Hu, and Lamin Njie. 2016.**

**"Reassessing the Productivity Gains from Trade Liberalization." Working Paper 16/77, International Monetary Fund, Washington, DC.**

This paper reassesses the impact of trade liberalization on productivity. We build a new, unique database of effective tariff rates at the country-industry level for a broad range of countries over the past two decades. We then explore both the direct effect of liberalization in the sector considered, as well as its indirect impact in downstream industries via input linkages. Our findings point to a dominant role of the indirect input market channel in fostering productivity gains. A 1 percentage point decline in input tariffs is estimated to increase total factor productivity by about 2 percent in the sector considered. For advanced economies, the implied potential productivity gains from fully eliminating remaining tariffs are estimated at around 1 percent, on average, which do not factor in the presumably larger gains from removing existing non-tariff barriers. Finally, we find strong evidence of complementarities between trade and FDI liberalization in boosting productivity. This calls for a broad liberalization agenda that cuts across different areas.

**Bacchus, James. 2018.**

**"Was Buenos Aires the Beginning of the End or the End of the Beginning?" Policy Analysis 841, Cato Institute, Washington, DC.**

**Dabla-Norris, Era, and Romain Duval. 2016.**

**"How Lowering Trade Barriers Can Revive Global Productivity and Growth." *IMFBlog*, June 20.**

**Hoekman, Bernard M., and Petros C. Mavroidis. 2015.**

**"WTO 'a la carte' or 'menu du jour'? Assessing the Case for More Plurilateral Agreements." *The European Journal of International Law* 26 (2): 319–343.**

Plurilateral agreements in the context of the World Trade Organization (WTO) allow sub-sets of countries to agree to commitments in specific policy areas that only apply to signatories and thus allow for 'variable geometry' in the WTO. Plurilateral agreements share a number of features with preferential trade agreements (PTAs), which are increasingly used by governments to liberalize trade in goods and services. This article discusses the current institutional framework that governs these two alternatives and distinguishes them from the general, non-discriminatory agreements that are negotiated among – and apply to – all WTO members. Current WTO rules make it much more difficult to pursue the plurilateral route than to negotiate a PTA. We review the arguments for and against making it easier for 'issue-specific' clubs to form in the WTO and discuss how concerns raised by some WTO members regarding the potential negative impact of plurilateral agreements on the multilateral trading system might be addressed. We take the view that action to facilitate the negotiation of plurilateral agreements in the WTO should be considered and that the potential downsides for the multilateral trading system can be managed.

**International Monetary Fund, World Bank Group, and World Trade Organization. Forthcoming, 2018.**

**"Reinvigorating Trade and Inclusive Growth." Policy Paper, International Monetary Fund, Washington, DC.**

**International Monetary Fund, World Bank Group, and World Trade Organization. 2017.**

**"Making Trade an Engine of Growth for All: The Case for Trade and for Policies to Facilitate Adjustment." Policy Paper, International Monetary Fund, Washington, DC.**

The role of trade in the global economy is at a critical juncture. Increased trade integration helped to drive economic growth in advanced and developing economies in the latter part of the 20th century. Since the early 2000's, however, a slowdown in the pace of trade reform, a post-crisis uptick in protectionism, and risk of further reversals have been a drag on trade, productivity, and income growth. At the same time, trade is leaving too many individuals and communities behind, notably also in advanced economies. To be sure, job losses in certain sectors or regions in advanced economies have resulted to a large extent from technological changes rather than from trade. But adjustment to trade can bring a human and economic downside that is frequently concentrated, sometimes harsh, and has too often become prolonged. It need not be that way. With the right policies, countries can benefit from the great opportunities that trade brings and lift up those who have been left behind. Those polices ease adjustment to trade, as well as strengthen overall economic flexibility and performance.

**International Monetary Fund. 2016.**

**"Global Trade: What's Behind the Slowdown?" In World Economic Outlook Subdued Demand: Symptoms and Remedies, October, 63–119. Washington, DC: International Monetary Fund.**

Trade growth has slowed since 2012 relative both to its strong historical performance and to overall economic growth. This chapter finds that the overall weakness in economic activity, in particular in investment, has been the primary restraint on trade growth, accounting for up to three-fourths of the slowdown. However, other factors are also weighing on trade. The waning pace of trade liberalization and the recent uptick in protectionism are holding back trade growth, even though their quantitative impact thus far has been limited. The decline in the growth of global value chains has also played an important part in the observed slowdown. The findings suggest that addressing the general weakness in economic activity, especially in investment, will stimulate trade, which in turn could help strengthen productivity and growth. In addition, given the subdued global growth outlook, further trade reforms that lower barriers, coupled with measures to mitigate the cost to those who shoulder the burden of adjustment, would boost the international exchange of goods and services and revive the virtuous cycle of trade and growth.

**International Monetary Fund. 2016.**

**"Group of Twenty - Reinvigorating Trade to Support Growth: A Path Forward." Policy Paper, International Monetary Fund, Washington.**

Reinvigorating trade integration should be a key component of the global policy agenda to boost growth. Trade policy's new frontiers such as services, regulatory cooperation, and trade and investment complementarities carry high potential to bolster efficiency and productivity. But with governments differing on whether to continue the WTO Doha Round, there is an urgent need to identify a path for the global trading system in today's more complex trade policy landscape. A long interregnum without a path forward would risk fragmenting the global trade system and undermining its governance. Tackling trade policy issues important to the global economy may require flexible approaches to multilateral negotiations, including modalities such as plurilaterals. Enhanced coherence efforts are also needed to ensure that regional trade agreements and multilateralism coexist productively.

**Lagarde, Christine. 2018.**

**"Creating a Better Global Trade System." *IMFBlog*, May 29.**

**Lagarde, Christine. 2018.**

**"Policy Actions to Sustain Growth and Guard Against Risks." *IMFBlog*, March 15.**

**World Bank Group, and World Trade Organization. 2015.**

***The Role of Trade in Ending Poverty*. Geneva: World Trade Organization.**

The expansion of international trade has been essential to development and poverty reduction. Today's economy is unquestionable global. Trade as a proportion of global GDP has approximately doubled since 1975. Markets for goods and services have become increasingly integrated through a fall in trade barriers, with technology helping drive trade costs lower. But trade is not an end in itself. People measure the value of trade by the extent to which it delivers better livelihoods, through higher incomes, greater choice, and a more sustainable future, among other benefits. For the extreme poor living on less than $1.25 a day, the central value of trade is its potential to help transform their lives and those of their families. In this way, there is no doubt that the integration of global markets through trade openness has made a critical contribution to poverty reduction. The number of people living in extreme poverty around the world has fallen by around one billion since 1990. Without the growing participation of developing countries in international trade, and sustained efforts to lower barriers to the integration of markets, it is hard to see how this reduction could have been achieved.

**THURSDAY, October 11, 2018**

# A CONVERSATION WITH THE IMF'S MANAGING DIRECTOR ON THE GLOBAL ECONOMY

For some time now, the IMF has been urging leaders to "fix the roof while the sun is shining." With some risks to the global economy now materializing, is it too late? Are trade tensions and rising debt levels just passing clouds or a storm on the horizon? Martin Wolf of the Financial Times leads a conversation with IMF Managing Director Christine Lagarde on the global economy's main challenges and the opportunities they present for policymakers.

**International Monetary Fund. 2018.**

**Global Financial Stability Report. Washington, DC: International Monetary Fund.**

The Global Financial Stability Report provides an assessment of the global financial system and markets and addresses emerging market financing in a global context. It focuses on current market conditions, highlighting systemic issues that could pose a risk to financial stability and sustained market access by emerging market borrowers. The Report draws out the financial ramifications of economic imbalances highlighted by the IMF's World Economic Outlook. It contains, as special features, analytical chapters or essays on structural or systemic issues relevant to international financial stability.

**International Monetary Fund. 2018.**

**Regional Economic Outlook, Asia Pacific: Good Times, Uncertain Times: A Time to Prepare. Washington, DC: International Monetary Fund.**

Asia is expected to grow by about 5 1/2 percent this year, accounting for nearly two-thirds of global growth, and the region remains the world's most dynamic by a considerable margin. But despite the strong outlook, policymakers must remain vigilant. While risks around the forecast are broadly balanced for now, they are skewed firmly to the downside over the medium term. Key risks include those of further market corrections—possibly triggered by inflation surprises and/or faster-than-expected monetary tightening in advanced economies—a shift toward protectionist policies, and an increase in geopolitical tensions.

**International Monetary Fund. 2018.**

**World Economic Outlook. Washington, DC: International Monetary Fund.**

A Survey by the IMF staff usually published twice a year. It presents IMF staff economists' analyses of global economic developments during the near and medium term. Chapters give an overview as well as more detailed analysis of the world economy; consider issues affecting industrial countries, developing countries, and economies in transition to market; and address topics of pressing current interest. Annexes, boxes, charts, and an extensive statistical appendix augment the text.

THURSDAY, October 11, 2018

# THE BALI FINTECH AGENDA

This panel will discuss the wide-ranging opportunities and challenges raised by technology in potentially transforming the economic and financial landscape. Fintech can support growth and poverty reduction by strengthening financial development, inclusion, and efficiency but may also pose risks to financial stability and integrity, as well as to consumer and investor protection.

**Anagnostopoulos, Ioannis. 2018.**

**"Fintech and Regtech: Impact on Regulators and Banks." *Journal of Economics and Business* July: 1-19.**

The purpose of this paper is to develop an insight and review the effect of FinTech development against the broader environment in financial technology. We further aim to offer various perspectives in order to aid the understanding of the disruptive potential of FinTech, and its implications for the wider financial ecosystem. By drawing upon very recent and highly topical research on this area this study examines the implications for financial institutions, and regulation especially when technology poses a challenge to the global banking and regulatory system. It is driven by a wide-ranging overview of the development, the current state, and possible future of FinTech. This paper attempts to connect practitioner-led and academic research. While it draws on academic research, the perspective it takes is also practice-oriented. It relies on the current academic literature as well as insights from industry sources, action research and other publicly available commentaries. It also draws on professional practitioners' roundtable discussions, and think-tanks in which the author has been an active participant. We attempt to interpret banking, and regulatory issues from a behavioral perspective.

**Arner, Douglas W., Janos Barberis, and Ross P. Buckley. 2017.**

**"FinTech, RegTech, and the Reconceptualization of Financial Regulation." *Northwestern Journal of International Law & Business* 37(3): 371-413.**

Regulatory change and technological developments following the 2008 Global Financial Crisis are changing the nature of financial markets, services, and institutions. At the juncture of these phenomena lies regulatory technology or "RegTech " – the use of technology, particularly information technology, in the context of regulatory monitoring, reporting, and compliance. Regulating rapidly transforming financial systems requires increasing the use of and reliance on RegTech. Whilst the principal regulatory objectives (e.g., financial stability, prudential safety and soundness, consumer protection and market integrity, and market competition and development) remain, their means of application are increasingly inadequate. RegTech developments are leading towards a paradigm shift necessitating the reconceptualization of financial regulation. RegTech to date has focused on the digitization of manual reporting and compliance processes. This offers tremendous cost savings to the financial services industry and regulators. However, the potential of RegTech is far greater – it has the potential to enable a nearly real-time and proportionate regulatory regime that identifies and addresses risk while facilitating more efficient regulatory compliance. We argue that the transformative nature of technology will only be captured by a new approach at the nexus of data, digital identity, and regulation. This paper seeks to expose the inadequacy of digitizing analogue processes in a digital financial world, sets the foundation for a practical understanding of RegTech, and proposes sequenced reforms that could benefit regulators, industry, and entrepreneurs in the financial sector and other industries.

**Financial Stability Board (FSB). 2017.**

***Financial Stability Implications from FinTech: Supervisory and Regulatory Issues that Merit Authorities' Attention*. Basel: Financial Stability Board.**

Technology-enabled innovation in financial services (FinTech) is developing rapidly. With its emergence, there will be both opportunities and risks to financial stability that policymakers, regulators, supervisors and overseers should consider. This is particularly important as many innovations have not yet been tested through a full financial cycle, and decisions taken in this early stage may set important precedents. Policymakers should continue to assess the adequacy of their regulatory frameworks as adoption of FinTech increases, with the objective of harnessing the benefits while mitigating risks. In this regard, the German G20 Presidency, as part of its focus on digitalization, has suggested that the Financial Stability Board (FSB) build on the monitoring to date and identify supervisory and regulatory issues of FinTech that merit authorities' attention from a financial stability perspective. Currently, any assessment of the financial stability implications of FinTech is challenging given the limited availability of official and privately disclosed data. It will be important to take into account materiality and risks in evaluating new areas. It will also be important to understand how business models of start-ups and incumbents, and the market structure, are changing. To draw out the supervisory and regulatory issues of FinTech, the FSB developed a framework that defines the scope of FinTech activities and identifies the potential benefits and risks to financial stability. It provides a basis on which future analysis and monitoring can be made. As most FinTech activities are currently small compared to the overall financial system, the analysis focuses on conceivable benefits and risks. Nonetheless, international bodies and national authorities should consider taking FinTech into account in their existing risk assessments and regulatory frameworks in light of its rapid evolution. Indeed, many authorities have already made regulatory changes to adapt to FinTech activities. There are clear benefits to greater international cooperation given the commonalities and global dimension of many FinTech activities. Increased cooperation will be particularly important to mitigate the risk of fragmentation or divergence in regulatory frameworks, which could impede the development and diffusion of beneficial innovations in financial services, and limit the effectiveness of efforts to promote financial stability. Drawing on the findings of the literature, discussions with academics and industry participants, and a stocktake of regulatory approaches to FinTech, the FSB concludes that there are currently no compelling financial stability risks from emerging FinTech innovations. The analysis identifies, however, ten issues that merit authorities' attention, of which three are seen as priorities for international collaboration. Addressing these priority areas is seen as important to promoting financial stability, fostering responsible innovation and preventing any derailment of authorities' efforts to achieve a more inclusive financial system. Although many of these issues are not new, they may be accentuated given the speed of growth of FinTech, new forms of interconnectedness, and increased dependencies on third-party service providers. All of the issues identified are building blocks for ensuring a strong, sustainable and resilient financial system as innovations in financial services evolve and are adopted. The FSB will continue to monitor and discuss the evolution of the financial stability implications of FinTech developments going forward.

**Fung, Ben S.C., and Hanna Halaburda. 2016.**

**"Central Bank Digital Currencies: a Framework for Assessing Why and How." Bank of Canada Staff Discussion Paper 2016-22, Bank of Canada, Ottawa, Ontario, Canada.**

Digital currencies have attracted strong interest in recent years and have the potential to become widely adopted for use in making payments. Public authorities and central banks around the world are closely monitoring developments in digital currencies and studying their implications for the economy, the financial system and central banks. One key policy question for public authorities such as a central bank is whether or not to issue its own digital currency that can be used by the general public to make payments. There are several public policy arguments for a central-bank-issued digital currency. This paper proposes a framework for assessing why a central bank should consider issuing a digital currency and how to implement it to improve the efficiency of the retail payment system.

**He, Dong, Ross Leckow, Vikram Haksar, Tommaso Mancini Griffoli, Nigel Jenkinson, Mikari Kashima, Tanai Khiaonarong, Celine Rochon, and Hervé Tourpe. 2017.**

**"Fintech and Financial Services: Initial Consideration." Staff Discussion Notes 17/05, International Monetary Fund, Washington, DC.**

From artificial intelligence to cryptography, rapid advances in digital technology are transforming the financial services landscape, creating opportunities and challenges for consumers, service providers, and regulators alike. This paper reviews developments in this new wave of technological innovations, often called "fintech," and assesses their impact on an array of financial services. Given the IMF's mandate to promote the stability of the international monetary system, it focuses on rapidly changing cross-border payments. Using an economic framework, the paper discusses how fintech might provide solutions that respond to consumer needs for trust, security, privacy, better services, and change the competitive landscape. Overall, the financial services sector is poised for change. But it is hard to judge whether this will be more evolutionary or revolutionary. Policymaking will need to be nimble, experimental, and cooperative. At the same time, regulatory authorities need to balance carefully efficiency and stability tradeoffs in the face of these rapid changes. They need to be assured that risks to stability and integrity— including from cyberattacks, money-laundering and terrorism financing—can be effectively managed without stifling innovation. They need to ensure that trust is maintained in an evolving financial system.

**He, Dong. 2018.**

**"Monetary Policy in the Digital Age: Crypto Assets May One Day Reduce Demand for Central Bank Money." *Finance & Development* 55(2): 13-16.**

**He, Dong, Karl Habermeier, Ross Lecknow, Vikram Haksar, Yasmin Almeida, Mikari Kashima, Nadim Kyriakos-Saad, Hiroko Oura, Tahsin Saadi Sedik, Natalia Stetsenko, and Concepcion Verdugo-Yepes. 2016.**

**"Virtual Currencies and Beyond: Initial Considerations." Staff Discussion Notes 16/03, International Monetary Fund, Washington, DC.**

New technologies—supported by advances in encryption and network computing—are driving transformational change in the global economy, including in how goods, services and assets are exchanged. An important development in this process has been the emergence of virtual currencies (VCs). VC schemes are private sector systems that, in many cases, facilitate peer-to-peer exchange bypassing traditional central clearinghouses. VCs and their associated technologies (notably distributed ledgers based on blockchains) are rapidly evolving, and the future landscape is difficult to predict.

**Hill, John. 2018.**

***Fintech and the Remaking of Financial Institutions*. London: Academic Press.**

FinTech and the Remaking of Financial Institutions explores the transformative potential of new entrants and innovations on business models. In its survey and analysis of FinTech, the book addresses current and future states of money and banking. It provides broad contexts for understanding financial services, products, technology, regulations and social considerations. The book shows how FinTech has evolved and will drive the future of financial services, while other FinTech books concentrate on particular solutions and adopt perspectives of individual users, companies and investors. It sheds new light on disruption, innovation and opportunity by placing the financial technology revolution in larger contexts.

**International Monetary Fund. 2017.**

**"Recent Trends in Correspondent Banking Relationships: Further Consideration." Policy Papers, International Monetary Fund, Washington, DC.**

Correspondent banking relationships (CBRs), which facilitate global trade and economic activity, have been under pressure in several countries. So far, cross-border payments have remained stable and economic activity has been largely unaffected, despite a recent slight decrease in the number of CBRs. However, in a limited number of countries, financial fragilities have been accentuated as their cross-border flows are concentrated through fewer CBRs or maintained through alternative arrangements. These fragilities could undermine affected countries' long-run growth and financial inclusion prospects by increasing costs of financial services and negatively affecting bank ratings.

**International Organization of Securities Commissions (IOSCO). 2017.**

***IOSCO Research Report on Financial Technologies (Fintech)*. Madrid: International Organization of Securities Commissions.**

The Board of the International Organization of Securities Commissions (IOSCO) tasked the Committee on Emerging Risks (CER) to collaborate with other IOSCO Committees and lead a study on the evolution of Financial Technologies, including its intersection with securities

markets regulation. IOSCO is the international body that brings together the world's securities regulators and is recognized as the global standard setter for the securities sector. Working intensively with the G20 and the Financial Stability Board (FSB) on the global regulatory reform agenda, IOSCO develops, implements and promotes adherence to internationally recognized standards for securities regulation. The term Financial Technologies or "Fintech" is used to describe a variety of innovative business models and emerging technologies that have the potential to transform the financial services industry. This report is the result of extensive collaboration among different IOSCO Committees, with overall coordination by the Vice Chair of the CER. It incorporates substantial contributions from the members of the CER, the Growth and Emerging Markets Committee (GEMC) and the Affiliate Members Consultative Committee (AMCC), including the results from three different surveys.

**KPMG. 2017.**

***The Pulse of Fintech Q4 2017: Global Analysis of Investment in Fintech*. Amstelveen, Netherlands: KPMG.**

This report highlights key trends and issues affecting the fintech market globally and in key regions around the world. In this edition, we take a look back at the entire year, as well as making some predictions for 2018.

**Lagarde, Christine. 2018.**

**"Straight Talk: a Regulatory Approach to Fintech." *Finance & Development* 55(2): 9-10.**

**Mancini-Griffoli, Tommaso. 2017.**

**"Seven Questions on Fintech." *IMF Research Bulletin* 18(2): 10-12.**

**Mersch, Yves. 2017.**

**"Digital Base Money: an Assessment from the ECB's Perspective." Speech at the Farewell Ceremony for Pentti Hakkarainen, Deputy Governor of Suomen Pankki, Finlands Bank. Helsinki, January 16.**

**Mori, Nobuchika. 2017.**

**"Will FinTech Create Shared Values?" Speech at the Annual Tokyo Conference of the Center on Japanese Economy and Business, Columbia Business School. Tokyo, May 25.**

**Nicolaisen, Jon. 2017.**

**"What Should the Future Form of Our Money Be?" Speech at the Norwegian Academy of Science and Letters. Oslo, Norway. April 25.**

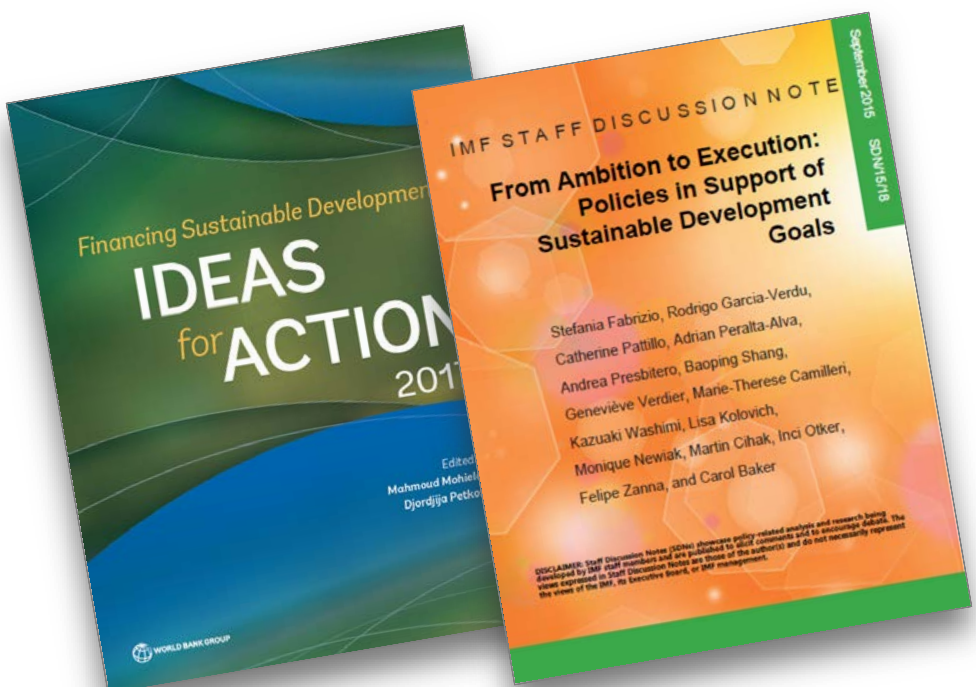
**FRIDAY, October 12, 2018**

# LEVERAGING POLICIES FOR SUSTAINABLE DEVELOPMENT GOALS

## Sponsored by the IMF's Fiscal Affairs Department and Strategy, Policy, and Review Department

The Sustainable Development Goals (SDGs) are the core of an ambitious global framework based on the idea that development should be economically, socially, and environmentally sustainable. Global priority areas, such as poverty eradication, reduced inequalities, and sustainable economic growth, underpin SDGs and are particularly important for developing countries. However, with faltering growth and rising vulnerabilities in many of these countries, SDG implementation is facing setbacks and SDG-related spending could add to already rising debt burdens.

This seminar will focus on the following questions: What are the spending needs to achieve the SDGs? How can countries meet their social and investment spending priorities without compromising debt sustainability? How can SDG implementation be supported through stronger tax capacity and greater spending efficiency? How can development partners, the private sector, and other international stakeholders support the implementation of SDGs?



**Alexander, Thomas, Claudia H. Dziobek, and Tadeusz Galeza 2018.**

**"Sustainable Development Goals (SDGs) and GDP: What National Accounts Bring to the Table." Working Paper 18/41, International Monetary Fund, Washington, DC.**

The Sustainable Development Goals (SDGs) adopted by the UN General Assembly in 2015 represent a new global consensus to end poverty, promote prosperity, and protect the environment. Goal 8 seeks to improve global resource efficiency in consumption and production and to decouple economic growth (GDP) from environmental degradation while Goal 12 focuses on sustainable consumption and production. While GDP does not capture these broader goals, we suggest that the System of National Accounts which incorporates but goes well beyond GDP, can be used for the measurement of these SDGs and to support policy. We construct a conceptual "super balance sheet" with an expanded asset boundary to include durable consumer goods used to produce services, human capital, and access to resources such as clean water and air, education, health, and infrastructure, to produce an expanded household net worth.

**Annett, Anthony, and Chris Lane. 2018.**

**"5 Things You Need to Know About the IMF and the Sustainable Development Goals." *IMFBlog*, July 26.**

**Fabrizio, Stefania, Rodrigo Garcia-Verdu, Catherine Pattillo, Adrian Peralta-Alva, et al. 2015.**

**"From Ambition to Execution: Policies in Support of Sustainable Development Goals." Staff Discussion Note 15/18, International Monetary Fund, Washington, DC.**

The formal launch of the Sustainable Development Goals (SDGs) sets the global development agenda through 2030, placing significant emphasis on promoting social and environmental sustainability alongside economic growth and poverty reduction. Meeting the SDGs will require actions across a wide range of areas by both national governments and the international community. This paper examines the types of policies that developing countries will need to implement to foster economic transformation, to promote economic and social inclusion, and to meet key environmental objectives. Reducing inequality, achieving gender equity, and pricing energy and water resources appropriately receive particular attention.

**Fabrizio, Stefania, Roland Kpodar, and Chris Lane. 2017.**

**"IMF Support for the United Nations' Sustainable Development Goals." *IMFBlog*, July 19.**

**International Monetary Fund. 2015.**

**"Financing for Development: Enhancing the Financial Safety Net for Developing Countries." Policy Paper, International Monetary Fund, Washington, DC.**

Access to Fund financial resources provides a financial safety net to help countries manage adverse shocks, acting as a potential supplement to foreign reserves when there is a balance of payments need. Such support is especially important to developing countries with limited capacity to borrow in domestic or foreign markets. This paper proposes a set of measures that would expand access to Fund resources for developing countries, as one of the initiatives the Fund is undertaking as part of the wider effort of the international community to support countries in pursuing the post- 2015 Sustainable Development Goals (SDGs).

**International Monetary Fund. 2015.**

**"Financing for Development: Revisiting the Monterrey Consensus." Policy Paper, International Monetary Fund, Washington, DC.**

2015 […] a pivotal year for the international development agenda, with agreements to be reached on the objectives and policies for promoting development that is economically, socially, and environmentally sustainable through 2030. The first stage in completing the debate on these issues is the Third UN Conference on Financing for Development (FfD), to be held in Addis Ababa during July 13–16, 2015, which aims to build an international consensus on the actions needed to ensure that sufficient financing is available for developing countries in pursuing sustainable development.

**International Monetary Fund. 2016.**

**"Financing for Development: Enhancing the Financial Safety Net for Developing Countries—Further Considerations." Policy Paper, International Monetary Fund, Washington, DC.**

PRGT-eligible members make considerable use of Fund concessional financing. Since 2010, 56 percent of Fund arrangements have involved a PRGT-facility. This paper examines a number of issues raised by Executive Directors and the International Monetary and Financial Committee (IMFC) since the issuance to the Board of the June 2015 staff paper on enhancing the financial safety net for developing countries (IMF, 2015a). This paper concludes that there is a need to clarify guidance in some areas pertaining to PRGT policies. This will be done through an early revision of the LIC Handbook, which is already underway. The paper does not propose changes to the Fund's concessional facilities at this juncture. A comprehensive review of PRGT (Poverty Reduction and Growth Trust) resources and facilities is planned for 2018.

**International Monetary Fund. 2018.**

**"IMF and the Sustainable Development Goals." Factsheet, International Monetary Fund, Washington, DC.**

The Sustainable Development Goals (SDGs) are a set of global development targets adopted by the member countries of the United Nations (UN) in September 2015. The SDGs will guide the global development agenda through 2030. The SDGs are universal and broader in scope than the Millennium Development Goals (MDGs), reflecting the view that development needs to be economically, socially, and environmentally sustainable. The IMF, with its expertise on macroeconomic and financial issues and its global membership, supports the development efforts of its member countries and promotes global economic and financial stability, a crucial precondition for the success of development efforts.

**International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank Group. 2016.**

**"Enhancing the Effectiveness of External Support in Building Tax Capacity in Developing Countries: Prepared for Submission to G20 Finance Ministers," Policy Paper, International Monetary Fund, Washington, DC.**

This report responds to the February 2016 request from the G20. The report has been prepared in the framework of the Platform for Collaboration on Tax (the "PCT"), under the responsibility of the Secretariats and Staff of the four mandated organizations. The report reflects a broad consensus among these staff, but should not be regarded as the officially endorsed views of those organizations or of their member countries. The request arises in the context of increased recognition of the centrality to development of strong tax systems and of the importance of external support in building them, and a correspondingly increased willingness of advanced economies to provide substantially greater financing and other support for this. In that context, the report uses the experiences of the international organizations to analyze how support for developing tax capacity can be improved.

**International Monetary Fund, Organisation for Economic Co-operation and Development, United Nations, and World Bank Group. 2017.**

**"Concept Note on the Medium-Term Revenue Strategy (MTRS)." Group Discussions: How Do We want to Fulfil the ATI Commitments Until 2020?, ITC/ATI Tax and Development Conference, Berlin, June 14-16.**

The purpose of this note is to further develop the concept of Medium-Term Revenue Strategy (MTRS) presented in the paper that the Platform for Collaboration on Tax (IMF, OECD, UN, WB) submitted in July 2016 to the G20 Finance Ministers meeting in Chengdu, China. The core elements needed for an effective implementation of an MTRS are outlined in Box 10 of the paper, reproduced below. As explained in the Platform paper, the fully-fledged implementation of an MTRS in a given country would require a holistic, synergetic, and steady development of the core elements.

**Lane, Chris, and Harris Elliott. 2018.**

**"Mounting Debt Threatens Sustainable Development Goals." *IMFBlog*, April 27.**

**Lagarde, Christine, and Gaspar Vitor. 2018.**

**"Give Today's Children a Chance." *IMFBlog*, September 24.**

**Lauridsen, Morten Lykke, and Florian Mölders. 2017.**

**"Creating Markets: Developing New Markets is Essential to Increasing Private Investment and Achieving the UN Sustainable Development Goals." *Finance & Development* 54 (3): 56–57.**

**Plant, Mark. 2018.**

**"SDG Arithmetic." *Center for Global Development Blog*, June.**

**Schmidt-Traub, Guido, 2015.**

**"Investment Needs to Achieve the Sustainable Development Goals: Understanding the Billions and Trillions." Working Paper, Sustainable Development Solutions Network, New York.**

This paper proposes an analytical framework for SDG needs assessments that translates the 17 SDGs into eight investment areas and integrates climate change adaptation and mitigation. It reviews available needs assessments to provide a first, preliminary estimate of incremental public and private investment needs to meet the goals. The paper also presents a financing analysis and discusses major gaps in our understanding of how the SDGs can be financed.

**United Nations, Inter-Agency Task Force on Financing for Development. 2017.**

***Financing for Development: Progress and Prospects*. New York: United Nations.**

In 2016, the first full year of implementation of the Addis Ababa Action Agenda, efforts have begun at all levels to mobilize resources and align financing flows and policies with economic, social and environmental priorities. Progress can be reported in all seven action areas of the Addis Agenda. Nonetheless, a difficult global environment has impeded individual and collective efforts, and many implementation gaps remain. The Addis Agenda offers a broad framework for individual actions and international cooperation to increase sustainable development investment, stimulate global growth and advance the world towards achieving the Sustainable Development Goals (SDGs). Its rapid implementation is therefore more important than ever.

**United Nations, Economic and Social Council. 2018.**

**"Report of the Economic and Social Council Forum on Financing for Development Follow-up." FFDF/2918/3, United Nations, New York.**

**World Bank Group. 2017.**

***Financing Sustainable Development: Ideas for Action 2017*. Washington, DC: World Bank Group.**

We are pleased to present the results of the 2017 Ideas for Action (I4A) initiative, a youth competition on financing for development that is jointly organized by the World Bank Group and the Zicklin Center for Business Ethics Research at the Wharton School of the University of Pennsylvania. This is the third year of the competition, and the 2017 winners were selected from among 743 proposals from 118 countries. We focus on youth for this competition because 3 billion people—43 percent of the world's population—are under the age of 25. Today's youth have the most at stake in achieving the 2030 Agenda for Sustainable Development, and its associated Sustainable Development Goals (SDGs). The world's youth will implement this global agenda, contributing their unique solutions and shaping their future and ours. The SDGs are a set of 17 global goals that seek to end. poverty, promote peace, and preserve the planet for future generations, all by 2030. More ambitious than their predecessor, the Millennium Development Goals, the SDGs cover a broad range of interconnected issues, from ending hunger, promoting health, addressing inequality, creating jobs and sustainable economic growth to improving governance and addressing global challenges such as climate change.

**World Trade Organization. 2018.**

***Mainstreaming Trade to Attain the Sustainable Development Goals*. Geneva: World Trade Organization.**

"Mainstreaming trade to attain the Sustainable Development Goals" shows that by delivering and implementing trade reforms which are pro-growth and pro-development and by continuing to foster stable and fair-trading relations across the world, the WTO is playing an important role in delivering the SDGs, just as it did with the Millennium Development Goals before them. The book examines the SDGs from economic, social and environmental perspectives and outlines how trade is contributing to making progress in each of these areas, including through reducing poverty, improving health and supporting efforts to tackle environmental degradation. It also recommends a number of steps to help accelerate progress in achieving the SDGs.

**SATURDAY, October 13, 2018**

# THE FUTURE OF FINANCE: CHARTING NEW WATERS IN THE NEXT DECADE

## Sponsored by the IMF's Monetary and Capital Markets Department, Research Department, and Strategy, Policy, and Review Department

T global financial landscape has changed significantly over the past decade. In the future, several trends will transform financial systems still further. Population aging, climate change, increasing credit intermediation through nonfinancial firms, and changes in global economic integration will continue to shape the future of finance. What would this future look like? How can policymakers and financial institutions best deal with these changes and help improve economic outcomes while adequately safeguarding the stability of the financial system? The panelists will discuss the challenges and opportunities that policymakers and financial institutions would face during the transformation of finance going forward.

**Beck, Thorsten, and Samuel Munzele Maimbo. 2013.**

***Financial Sector Development in Africa: Opportunities and Challenges*. Washington, DC: World Bank Group.**

Africa's financial systems face challenges across many dimensions, as discussed in the report *Financing Africa: Through the Crisis and Beyond*. The analysis in that report was based partly on several detailed background papers that are included in this volume, written by experts in their respective areas who provide an in-depth analysis of these challenges and present possible solutions. In this introduction, the authors provide an overview of the different chapters and how they are related to each other and the main volume.

**Berkes, Enrico G., Ugo Panizza, and Jean-Louis Arcand. 2012.**

**"Too Much Finance?" Working Paper 12/161, International Monetary Fund, Washington, DC.**

This paper examines whether there is a threshold above which financial development no longer has a positive effect on economic growth. We use different empirical approaches to show that there can indeed be "too much" finance. In particular, our results suggest that finance starts having a negative effect on output growth when credit to the private sector reaches 100% of GDP. We show that our results are consistent with the "vanishing effect" of financial development and that they are not driven by output volatility, banking crises, low institutional quality, or by differences in bank regulation and supervision.

**Brown, J. R., G. Martinsson, and B. C. Petersen. 2013.**

**"Law, Stock Markets, and Innovation." *The Journal of Finance* 68: 1517-1549.**

We study a broad sample of firms across 32 countries and find that strong shareholder protections and better access to stock market financing lead to substantially higher long-run rates of R&D investment, particularly in small firms, but are unimportant for fixed capital investment. Credit market development has a modest impact on fixed investment but no impact on R&D. These findings connect law and stock markets with innovative activities key to economic growth and show that legal rules and financial developments affecting the availability of external equity financing are particularly important for risky, intangible investments not easily financed with debt.

**Ding, Ding, Waikei R. Lam, and Shanaka J. Peiris. 2014.**

**"Future of Asia's Finance: How Can it Meet Challenges of Demographic Change and Infrastructure Needs?" Working Paper 14/126, International Monetary Fund, Washington, DC.**

There is a role for Asia's financial sector to play in addressing the challenges associated with the region's changing demographics and infrastructure investment needs. Enhancing financial innovation and integration in the region could facilitate intra-regional financial flows and mobilize resources from the aging savers in industrialized Asia to finance infrastructure investment in emerging Asia. Strengthening the financial ties within the region as well as with the global financial markets alongside appropriate prudential frameworks could also help diversify sources of financing and reduce the cost of funding in emerging Asia. Finally, financial deepening could help ease the potential overheating from scaling up infrastructure investment and hence achieve a more balanced growth in the region.

**Gianluigi, Giorgioni. 2017.**

***Development Finance: Challenges and Opportunities*. London: Palgrave Macmillan.**

This book provides an in-depth overview of the most salient aspects of development finance. It critically reviews the current state of relevant literature on this topic and assesses both the challenges and the opportunities presented by the various forms of finance for development. Chapters from expert contributors examine a range of topics from the link between finance and growth and finance and misallocation, the relationship between financial illiteracy and lack of legal titles on access to finance, to the role of governments in the financial system, the role of overseas development assistance, remittances, microfinance, foreign direct investment (FDI) and stock exchanges on development.

**Guttmann, Robert. 2016.**

***Finance-Led Capitalism Shadow Banking, Re-Regulation, and the Future of Global Markets*. New York: Palgrave Macmillan.**

In Finance-Led Capitalism, author and economist Robert Guttmann provides a new conceptual framework to assess the dominate role of modern finance within the workings of our contemporary economic system. This lively and provocative read will challenge some of the core beliefs about modern finance and the world economy.

**Hodson, James. 2018.**

**"Humans, Jobs, and the Economy: The Future of Finance in the Age of Big Data."In Proceedings of the 24th ACM SIGKDD International Conference on Knowledge Discovery & Data Mining, ACM, London, United Kingdom.**

Finance is the efficient allocation of capital to achieve individual and societal objectives. Finance runs on information, from the number of ships under construction in the ports of Dalian, to the beliefs of investors in a marketplace--we want to put capital to work in the places it will have the biggest impact. Increasingly, large new data sources are facilitating our understanding of how individuals, teams, companies, governments, and other entities operate, allowing for new types of modelling that can unlock value and accelerate growth. In this talk, we will explore several open questions at the intersection of individuals, jobs, companies, and financial markets, where new data brings the promise of new understanding. How do people and firms interact to create economic value? How do we accelerate this value creation? How can the KDD community help?

**International Monetary Fund. 2017.**

**"Low Growth, Low Interest Rates, and Financial Intermediation." in *Global Financial Stability Report: Getting the Policy Mix Right*, 49-82. Washington, DC: International Monetary Fund.**

Chapter 2 analyzes the potential long-term impact of a scenario of sustained low growth and low real and nominal rates for the business models of financial institutions and the products offered by the financial sector. Advanced economies have experienced low interest rates and growth since the global financial crisis. Despite recent signs of an increase in longer-term yields, an imminent exit from low rates is not guaranteed, given the prevalence of slow-moving structural factors, such as demographic aging and stagnation in productivity growth. The confluence of these factors could change the nature of financial intermediation. Credit demand would likely be lower whereas household demand for transaction services would likely rise. Consequently, banking in advanced economies may evolve toward fee-based services. Aging will increase demand for health and long-term-care insurance, and low asset returns would accelerate the transition to defined-contribution private pension plans. Demand is likely to weaken for long-term savings products offered by insurers in favor of passive index funds. Policies could help ease the adjustment to such an environment by providing incentives to ensure longer-term stability instead of merely attenuating short-term pain.

**International Monetary Fund. Monetary and Capital Markets Department. 2017.**

**"Japan: Financial Sector Assessment Program-Technical Note-Long-Term Challenges for Financial Intermediation." Country Report No. 17/283. International Monetary Fund, Washington, DC.**

Sustained demographic change can have potentially significant effects on the economy and the financial system. Aging can affect financial intermediation through its effects on potential growth, on the term structure of interest rates and risk premiums in general, and on the demand for retirement-related products and services. At the same time, in an aging society, the financial sector has a particularly important role to play in helping to foster growth and productivity. This note analyzes and quantifies the effect of aging in Japan—both at the national and regional levels—on the nature of financial intermediation and concludes that the relative role of banks is likely to diminish.

**Korniyenko, Yevgeniya, Manasa Patnam, Rita Maria del Rio-Chanon, and Mason A. Porter. 2018.**

**"Evolution of the Global Financial Network and Contagion: A New Approach." Working Paper 18/113, International Monetary Fund, Washington, DC.**

This paper studies the interconnectedness of the global financial system and its susceptibility to shocks. A novel multilayer network framework is applied to link debt and equity exposures across countries. Use of this approach—that examines simultaneously multiple channels of transmission and their important higher order effects—shows that ignoring the heterogeneity of financial exposures, and simply aggregating all claims, as often done in other studies, can underestimate the extent and effects of financial contagion. The structure of the global financial network has changed since the global financial crisis, impacted by European bank's deleveraging and higher corporate debt issuance. Still, we find that the structure of the system and contagion remain similar in that network is highly susceptible to shocks from central countries and those with large financial systems (e.g., the USA and the UK). While, individual European countries (excluding the UK) have relatively low impact on shock propagation, the network is highly susceptible to the shocks from the entire euro area. Another important development is the rising role of the Asian countries and the noticeable increase in network susceptibility to shocks from China and Hong Kong SAR economies.

**Maimbo, Samuel Munzele, Simon Zadek, Francisco Avendaño, Katerina Levitanskaya, et al. 2017.**

***Roadmap for a Sustainable Financial System*. Washington, DC: World Bank Group.**

Historically, the financial system has responded to the needs of the time. A global consensus has arisen that sustainable growth will be one of the greatest challenges of the 21st century, as demonstrated by the United Nations (UN) Sustainable Development Goals (SDGs) adopted as part of its 2030 Agenda for Sustainable Development, along with the measures to combat climate change and adapt to its effects that are part of the Paris Agreement. As in previous structural transformations, the financial system will play a major role in this process: the full potential of the financial system needs to be harnessed to serve as an engine in the global economy's transition toward sustainable development. The objective of this Roadmap is to propose an integrated approach that can be used by all financial sector stakeholders—both public and private, to accelerate the transformation toward a sustainable financial system. This approach can bring policy cohesiveness across ministries, central banks, financial regulators, and private financial sector participants to focus efforts. The ultimate vision that the Roadmap seeks to reach is one of a financial system that integrates sustainability considerations into its operations, including the full costing of positive and negative externalities that sustainability implies, leading to a reorientation of the flow of resources toward more inclusive and sustainable activities.

**Sahay, Ratna, Cheng Lim, Chikahisa Sumi, James Walsh, and Jerald Schiff. 2015.**

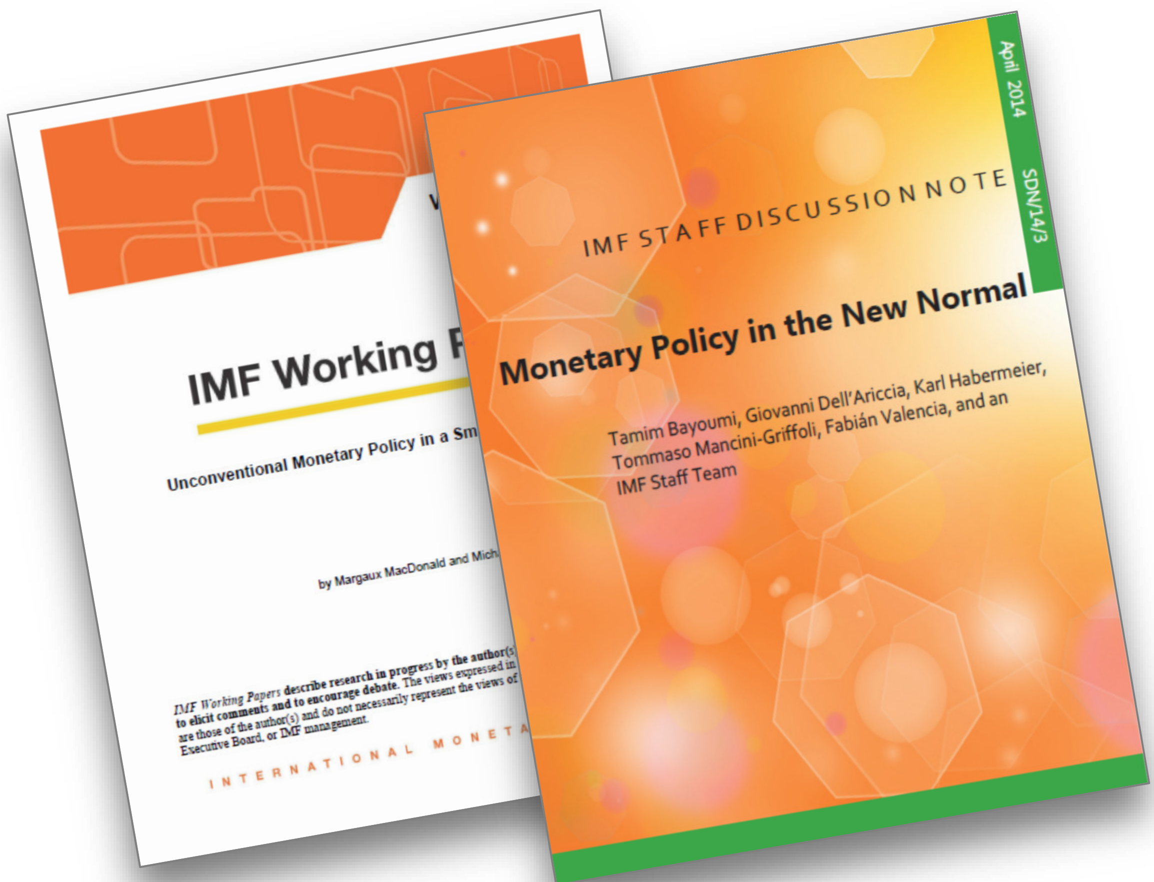
***The Future of Asian Finance*. Washington, DC: International Monetary Fund.**

Asia's financial systems proved resilient to the shocks from the global financial crisis, and growth since then has been strong. But new challenges have emerged in the region's economies, including demographics and aging, the need to diversify from bank-dominated systems, urbanization and infrastructure, and the rebalancing of economic activity. This book takes stock of the challenges facing the region today and how economic systems in Asia's advanced and emerging market economies compare with the rest of the world.

**SATURDAY, October 13, 2018**

# Per Jacobsson Panel: "Is There a New Orthodoxy for Monetary Policy?"

The Per Jacobsson Lecture will bring together central bank governors from countries in Southeast Asia to discuss key issues and challenges facing central banks, including whether there is a new orthodoxy for monetary policy.



**Bayoumi, Tamim, Giovanni Dell'Ariccia, Karl F. Habermeier, Tommaso Mancini Griffoli, and Fabian Valencia. 2014.**

**"Monetary Policy in the New Normal." Staff Discussion Notes 14/3, International Monetary Fund, Washington, DC.**

The proposed SDN would take stock of the current debate on the shape that monetary policy should take after the crisis. It revisits the pros and cons of expanding the objectives of monetary policy, the merits of turning unconventional policies into conventional ones, how to make monetary policy frameworks more resilient to the risk of being constrained by the zero-lower bound going forward, and the institutional challenges to preserve central bank independence with regards to monetary policy, while allowing adequate government oversight over central banks' new responsibilities. It will draw policy conclusions where consensus has been reached and highlight the areas where more work is needed to get more granular policy advice.

**Brainard, Lael. 2016.**

**"New Normal' and What It Means for Monetary Policy." Speech at the Chicago Council on Global Affairs, Chicago, Illinois, September 12.**

In the months ahead, my colleagues and I will continue to assess what policy path will best promote the sustained attainment of our goals. With that in mind, I would like to start by describing the contours of today's economy that will be particularly important in shaping the appropriate path of policy before reviewing recent developments. These contours represent noteworthy departures from the "old normal" that prevailed in the decades prior to the financial crisis. I would argue that policy today must rely less on the old normal as a guidepost and instead be sensitive to the contours that shape today's "new normal."

**Brainard, Lael. 2017.**

**"Rethinking Monetary Policy in a New Normal." Speech at the Panel on Monetary Policy "Rethinking Macroeconomic Policy," a Conference Sponsored by the Peterson Institute for International Economics, Washington, DC, October 17.**

**Bullard, James. 2015.**

**"Three Challenges to Central Bank Orthodoxy." Speech at Shadow Open Market Committee, New York, NY, October 2.**

In a speech to the Shadow Open Market Committee in New York, St. Louis Fed President James Bullard discussed the orthodox view of current monetary policy, which emphasizes that the FOMC's objectives are close to being met while monetary policy settings remain far from normal, along with three challenges to that view, which relate to strict inflation targeting, low real interest rates and globalization. He concluded that the U.S. economy will likely experience better outcomes if the monetary policy orthodoxy is preserved as the guiding principle.

**Pfister, Christian, and Natacha Valla. 2018.**

**"'New Normal' or 'New Orthodoxy'? Elements of a Central Banking Framework for the After-Crisis." Working Paper Series no. 680, Banque De France, Paris.**

Two different approaches to central banking in the aftermath of the crisis are contrasted. In the first one, labelled 'New Normal', the monetary policy strategy is broadened to encompass such objectives as financial stability or full employment. Furthermore, the inflation target is raised and large-scale asset purchases (LSAPs) are retained as a standard instrument for implementing monetary policy. In the second approach, which we label 'New Orthodoxy', central banks keep the same objectives, but interest rates can be brought to unprecedented negative levels, thus making LSAPs possibly unnecessary. The role of central banks in preserving financial stability is also explicitly recognized, both by themselves and by society, making their contribution to this task more effective and transparent.

**Dell'Ariccia, Giovanni, and Karl Habermeier. 2014.**

**"The Evolution of Monetary Policy: More Art and Less Science." *IMFBlog*, April 7.**

**Kiley, Michael T. 2018.**

**"Quantitative Easing and the "New Normal" in Monetary Policy." Finance and Economics Discussion Series 2018-004, Board of Governors of the Federal Reserve System, Washington, DC.**

Interest rates may remain low and fall to their effective lower bound (ELB) often. As a result, quantitative easing (QE), in which central banks expand their balance sheet to lower long-term interest rates, may complement policy approaches focused on adjustments in short-term interest rates. Simulation results using a large-scale model (FRB/US) suggest that QE does not improve economic performance if the steady-state interest rate is high, confirming that such policies were not advantageous from 1960 to 2007. However, QE can offset a significant portion of the adverse effects of the ELB when the equilibrium real interest rate is low. These improvements in economic performance exceed those associated with moderate increases in the inflation target. Active QE is primarily required when nominal interest rates are near the ELB, pointing to benefits within the model from QE as a secondary tool while relying on short-term interest rates as the primary tool.

**MacDonald, Margaux, and Michal Ksawery Popiel. 2017.**

**"Unconventional Monetary Policy in a Small Open Economy." Working Paper 17/268, International Monetary Fund, Washington, DC.**

This paper investigates the effects of unconventional monetary policy in a small open economy. Using recently proposed shadow interest rates to capture unconventional monetary policy at the zero lower bound (ZLB) we estimate a Bayesian structural vector autoregressive model for Canada - a useful case where foreign shocks can be proxied by US variables alone. We find that, during the ZLB period, Canadian unconventional monetary policy increased output (measured by industrial production) by 0.013 percent per month on average while US unconventional monetary policy raised Canadian output by 0.127 percent per month on average. Our results demonstrate the effectiveness of domestic unconventional monetary policy and the strong positive spillover effects that foreign unconventional monetary policies can have in a small open economy.

**Pereira da Silva, Luiz Awazu. 2016.**

**"A Possible Way Out from the 'New Normal': Rebalancing Fiscal-Monetary Policies by Picking 'Low-Hanging Fruits' to Engineer More Confidence." Remarks at the Eurofi High Level Seminar 2016, Amsterdam, April 20–22.**

There is a broad agreement that monetary policy (MP) is not sufficient to fundamentally change growth prospects under the "New Normal" in most advanced economies (AEs). Conversely there is a heated debate as to whether unconventional monetary policy (UMP) is still effective using Negative Interest Rate Policy (NIRP), especially in Europe and Japan. Moreover, without fully endorsing any of the explanations, many economists are wondering: why has the response to policies been so muted? Is it because of "debt deleveraging"? Or is it because of a fundamental shift such as the "secular stagnation" hypothesis? The answer is not easy, but perhaps one can try to propose an explanation and a possible alternative policy framework.

**Williams, John C. 2016.**

**"Monetary Policy in a Low R-star World." FRBSF Economic Letter 2016-23, Federal Reserve Bank of San Francisco, San Francisco.**

Central banks and governments around the world must be able to adapt policy to changing economic circumstances. The time has come to critically reassess prevailing policy frameworks and consider adjustments to handle new challenges, specifically those related to a low natural real rate of interest. While price level or nominal GDP targeting by monetary authorities are options, fiscal and other policies must also take on some of the burden to help sustain economic growth and stability.

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