

## Advanced Economic Growth Lecture 21 Stochastic Dynamic

The chapters in this twentieth volume of Innovation Policy and the Economy present research on the interactions among public policy, the innovation process, and the economy. One explores changes in the ability of the U.S. to attract talented foreign workers and the role of sponsoring institutions in shaping immigration policy. Another explains how the division of innovative labor between research universities and corporate labs affected productivity growth and the transformation of knowledge into new products and processes. A third reviews different innovation policies and their performance in the pharmaceutical sector. Next is a chapter on the effects of competition policy on innovation, “creative destruction,” and economic growth. A fifth chapter studies how experimental policy design can be a cost-effective way to attain program goals. The last chapter examines geographic disparities in innovation, joblessness, and technological dynamism and studies how reallocation of grants and geographically targeted entrepreneurship policy could affect labor supply and welfare.

SHORTLISTED FOR THE FINANCIAL TIMES & MCKINSEY 2020 BUSINESS BOOK OF THE YEAR One of Fortune Best Books of the Year One of Inc. Best Business Books of the Year One of The Times (UK) Best Business Books of the Year A New York Times Book Review Editors' Choice From an Oxford economist, a visionary account of how technology will transform the world of work, and what we should do about it From mechanical looms to the combustion engine to the first computers, new technologies have always provoked panic about workers being replaced by machines. For centuries, such fears have been misplaced, and many economists maintain that they remain so today. But as Daniel Susskind demonstrates, this time really is different. Breakthroughs in artificial intelligence mean that all kinds of jobs are increasingly at risk. Drawing on almost a decade of research in the field, Susskind argues that machines no longer need to think like us in order to outperform us, as was once widely believed. As a result, more and more tasks that used to be far beyond the capability of computers – from diagnosing illnesses to drafting legal contracts, from writing news reports to composing music – are coming within their reach. The threat of technological unemployment is now real. This is not necessarily a bad thing, Susskind emphasizes. Technological progress could bring about unprecedented prosperity, solving one of humanity's oldest problems: how to make sure that everyone has enough to live on. The challenges will be to distribute this prosperity fairly, to constrain the burgeoning power of Big Tech, and to provide meaning in a world where work is no longer the center of our lives. Perceptive, pragmatic, and ultimately hopeful, *A World Without Work* shows the way.

Uncertainties and changes are pervasive characteristics of modern systems

involving interactions between humans, economics, nature and technology. These systems are often too complex to allow for precise evaluations and, as a result, the lack of proper management (control) may create significant risks. In order to develop robust strategies we need approaches which explicitly deal with uncertainties, risks and changing conditions. One rather general approach is to characterize (explicitly or implicitly) uncertainties by objective or subjective probabilities (measures of confidence or belief). This leads us to stochastic optimization problems which can rarely be solved by using the standard deterministic optimization and optimal control methods. In the stochastic optimization the accent is on problems with a large number of decision and random variables, and consequently the focus of attention is directed to efficient solution procedures rather than to (analytical) closed-form solutions. Objective and constraint functions of dynamic stochastic optimization problems have the form of multidimensional integrals of rather involved in that may have a nonsmooth and even discontinuous character - the tegrands typical situation for "hit-or-miss" type of decision making problems involving irreversibility of decisions or/and abrupt changes of the system. In general, the exact evaluation of such functions (as is assumed in the standard optimization and control theory) is practically impossible. Also, the problem does not often possess the separability properties that allow to derive the standard in control theory recursive (Bellman) equations.

One of the major challenges for many Mediterranean and other countries is finding viable solutions to tackle water shortage. Some of the major water quality constraints derive from the high salinity of groundwater and from pollution sources such as: untreated domestic sewage, fertilizers and pesticides from irrigation drainage, industrial effluents, and solid waste disposal. Wastewater treatment processes involving physico-chemical and biological treatment, chemical oxidation, membrane technologies, along with methods of solids concentration and disposal are of special relevance in dealing with these problems. This volume contains selected lectures presented at the NATO ADVANCED TRAINING COURSE held in Oviedo (November 15-21, 2009) and sponsored by the NATO Science for Peace and Security (SPS) Programme. They cover a variety of topics from wastewater treatment methods to cleaner production strategies, as a careful management of water resources is the basis for sustainable development and to avoid potential security threats. The reader will benefit from a general view of some of the operations involved in wastewater treatment and solid concentration and disposal methods. A proper water reuse and recycling, together with efficient solid disposal, would contribute to a better use of the resources and a sustainable economic growth, particularly in many arid lands of the world.

The main driver of inequality—returns on capital that exceed the rate of economic growth—is again threatening to generate extreme discontent and undermine democratic values. Thomas Piketty's findings in this ambitious, original, rigorous

work will transform debate and set the agenda for the next generation of thought about wealth and inequality.

In this book, Jane Jacobs, building on the work of her debut, *The Death and Life of Great American Cities*, investigates the delicate way cities balance the interplay between the domestic production of goods and the ever-changing tide of imports. Using case studies of developing cities in the ancient, pre-agricultural world, and contemporary cities on the decline, like the financially irresponsible New York City of the mid-sixties, Jacobs identifies the main drivers of urban prosperity and growth, often via counterintuitive and revelatory lessons.

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.

This publication covers global megatrends for the next 20 years and how they will affect the United States. This is the fifth installment in the National Intelligence Council's series aimed at providing a framework for thinking about possible futures and their implications. The report is intended to stimulate strategic thinking about the rapid and vast geopolitical changes characterizing the world today and possible global trajectories during the next 15-20 years by identifying critical trends and potential discontinuities.

The authors distinguish between megatrends, those factors that will likely occur under any scenario, and game-changers, critical variables whose trajectories are far less certain. NIC 2012-001. Several innovations are included in *Global Trends 2030*, including: a review of the four previous *Global Trends* reports, input from academic and other experts around the world, coverage of disruptive technologies, and a chapter on the potential trajectories for the US role in the international system and the possible the impact on future international relations. Table of Contents: Introduction 1 Megatrends 6 Individual Empowerment 8 Poverty Reduction 8 An Expanding Global Middle Class 8 Education and the Gender Gap 10 Role of Communications Technologies 11 Improving Health 11 A MORE CONFLICTED IDEOLOGICAL LANDSCAPE 12 Diffusion of Power 15 THE RISE AND FALL OF COUNTRIES: NOT THE SAME OLD STORY 17 THE LIMITS OF HARD POWER IN THE WORLD OF 2030 18 Demographic Patterns 20 Widespread Aging 20 Shrinking Number of Youthful Countries 22 A New Age of Migration 23 The World as Urban 26 Growing Food, Water, and Energy Nexus 30 Food, Water, and Climate 30 A Brighter Energy Outlook 34 Game-Changers 38 The Crisis-Prone Global Economy 40 The Plight of the West 40 Crunch Time Too for the Emerging Powers 43 A Multipolar Global Economy: Inherently More Fragile? 46 The Governance Gap 48 Governance Starts at Home: Risks and Opportunities 48 INCREASED FOCUS ON EQUALITY AND OPENNESS 53 NEW GOVERNMENTAL FORMS 54 A New Regional Order? 55 Global Multilateral Cooperation 55 The Potential for Increased Conflict 59 INTRASTATE CONFLICT: CONTINUED DECLINE 59

Interstate Conflict: Chances Rising 61 Wider Scope of Regional Instability 70 The Middle East: At a Tipping Point 70 South Asia: Shocks on the Horizon 75 East Asia: Multiple Strategic Futures 76 Europe: Transforming Itself 78 Sub-Saharan Africa: Turning a Corner by 2030? 79 Latin America: More Prosperous but Inherently Fragile 81 The Impact of New Technologies 83 Information Technologies 83 AUTOMATION AND MANUFACTURING TECHNOLOGIES 87 Resource Technologies 90 Health Technologies 95 The Role of the United States 98 Steady US Role 98 Multiple Potential Scenarios for the United States' Global Role 101 Alternative Worlds 107 Stalled Engines 110 FUSION 116 Gini-out-of-the-Bottle 122 Nonstate World 128 Acknowledgements 134 GT2030 Blog References 137 Audience: Appropriate for anyone, from businesses to banks, government agencies to start-ups, the technology sector to the teaching sector, and more. This publication helps anticipate where the world will be: socially, politically, technologically, and culturally over the next few decades. Keywords: Global Trends 2030 Alternative Worlds, global trends 2030, Global Trends series, National Intelligence Council, global trajectories, global megatrends, geopolitics, geopolitical changes

A theoretical framework aiming to facilitate study of development economics. The author presents his theory in three sections: how advanced nations developed; a proposed third dimension, in addition to labour and capital; and why capital accumulation is unnecessary, even potentially harmful.

This book presents selected papers from the 9th International Workshop of Advanced Manufacturing and Automation (IWAMA 2019), held in Plymouth, UK, on November 21–22, 2019. Discussing topics such as novel techniques for manufacturing and automation in Industry 4.0 and smart factories, which are vital for maintaining and improving economic development and quality of life, it offers researchers and industrial engineers insights into implementing the concepts and theories of Industry 4.0, in order to effectively respond to the challenges posed by the 4th industrial revolution and smart factories.

Since the very beginnings of economics as a science, which might be dated from Ibn Khaldun's "Introduction to History" (1377), the challenge of making societies escape from poverty and attain some degree of prosperity has always been, and can remain, a fundamental issue. This book presents research on each of these issues.

Prior to the initiation of economic reforms and trade liberalization 36 years ago, China maintained policies that kept the economy very poor, stagnant, centrally-controlled, vastly inefficient, and relatively isolated from the global economy. Since opening up to foreign trade and investment and implementing free market reforms in 1979, China has been among the world's fastest-growing economies, with real annual gross domestic product (GDP) growth averaging nearly 10% through 2016. In recent years, China has emerged as a major global economic power. It is now the world's largest economy (on a purchasing power parity basis), manufacturer, merchandise trader, and holder of foreign exchange reserves. The global economic crisis that began in 2008 greatly affected China's economy. China's exports, imports, and foreign direct investment (FDI) inflows declined, GDP growth slowed, and millions of Chinese workers reportedly lost their jobs. The Chinese government responded by implementing a \$586 billion economic stimulus package and loosening monetary policies to increase bank lending. Such policies enabled China to effectively weather the effects of the sharp global fall in



demand for Chinese products, but may have contributed to overcapacity in several industries and increased debt by Chinese firms and local government. China's economy has slowed in recent years. Real GDP growth has slowed in each of the past six years, dropping from 10.6% in 2010 to 6.7% in 2016, and is projected to slow to 5.7% by 2022. The Chinese government has attempted to steer the economy to a "new normal" of slower, but more stable and sustainable, economic growth. Yet, concerns have deepened in recent years over the health of the Chinese economy. On August 11, 2015, the Chinese government announced that the daily reference rate of the renminbi (RMB) would become more "market-oriented." Over the next three days, the RMB depreciated against the dollar and led to charges that China's goal was to boost exports to help stimulate the economy (which some suspect is in worse shape than indicated by official Chinese economic statistics). Concerns over the state of the Chinese economy appear to have often contributed to volatility in global stock indexes in recent years. The ability of China to maintain a rapidly growing economy in the long run will likely depend largely on the ability of the Chinese government to implement comprehensive economic reforms that more quickly hasten China's transition to a free market economy; rebalance the Chinese economy by making consumer demand, rather than exporting and fixed investment, the main engine of economic growth; boost productivity and innovation; address growing income disparities; and enhance environmental protection. The Chinese government has acknowledged that its current economic growth model needs to be altered and has announced several initiatives to address various economic challenges. In November 2013, the Communist Party of China held the Third Plenum of its 18th Party Congress, which outlined a number of broad policy reforms to boost competition and economic efficiency. For example, the communique stated that the market would now play a "decisive" role in allocating resources in the economy. At the same time, however, the communique emphasized the continued important role of the state sector in China's economy. In addition, many foreign firms have complained that the business climate in China has worsened in recent years. Thus, it remains unclear how committed the Chinese government is to implementing new comprehensive economic reforms. China's economic rise has significant implications for the United States and hence is of major interest to Congress. This report provides background on China's economic rise; describes its current economic structure; identifies the challenges China faces to maintain economic growth; and discusses the challenges, opportunities, and implications of China's economic rise.

Awareness has been growing in the United States - and in nations around the world - that the Chinese Communist Party (CCP) has triggered a new era of great-power competition. Yet few discern the pattern in China's inroads within every region of the world, much less the specific form of dominance to which the party aspires. The CCP aims not merely at preeminence within the established world order - an order that is grounded in free and sovereign nation-states, flows from the universal principles on which America was founded, and advances U.S. national interests - but to fundamentally revise world order, placing the People's Republic of China (PRC) at the center and serving Beijing's authoritarian goals and hegemonic ambitions. In the face of the China challenge, the United States must secure freedom. China is a challenge because of its conduct. Modeled on 20th-century Marxist-Leninist dictatorship, the CCP eventually spurred rapid modernization and produced prodigious economic growth -

thanks in no small measure to the party's decision in the late 1970s to embrace free-market elements and to the decision by the United States and nations around the world to engage, and welcome commerce with, China. The party today wields its economic power to co-opt and coerce countries around the world; make the societies and politics of foreign nations more accommodating to CCP specifications; and reshape international organizations in line with China's brand of socialism. At the same time, the CCP is developing a world-class military to rival and eventually surpass the U.S. military. These actions enable the CCP to credibly pursue the quest - proceeding outward through the Indo-Pacific region and encompassing the globe - to achieve "national rejuvenation" culminating in the transformation of the international order. To understand China's peculiar form of authoritarianism and the hegemonic goals to which it gives rise, it is necessary to grasp the intellectual sources from which China's conduct springs: the CCP's Marxist-Leninist beliefs and the party's extreme interpretation of Chinese nationalism.

This book provides a comprehensive overview, in the form of eight long essays, of the evolution of monetary theory over the three-quarters of century, from the time of Keynes to the present day. The essays are originally based on lecture notes from a graduate course on Advanced Monetary Economics offered at York University, Toronto, written in the style of academic papers. The essays are mathematical in method — but also take a historical perspective, tracing the evolution of monetary thought through the Keynesian model, the monetarist model, new classical model, etc, up to and including the neo-Wickesellian models of the early 21st century. The book will be an essential resource for both graduate and advanced undergraduate students in economics, as well as for individual researchers seeking basic information on the theoretical background of contemporary debates.

Francis Fukuyama famously predicted "the end of history" with the ascendancy of liberal democracy and global capitalism. The topic of his latest book is, therefore, surprising: the building of new nation-states. The end of history was never an automatic procedure, Fukuyama argues, and the well-governed polity was always its necessary precondition. "Weak or failed states are the source of many of the world's most serious problems," he believes. He traces what we know—and more often don't know—about how to transfer functioning public institutions to developing countries in ways that will leave something of permanent benefit to the citizens of the countries concerned. These are important lessons, especially as the United States wrestles with its responsibilities in Afghanistan, Iraq, and beyond. Fukuyama begins *State-Building* with an account of the broad importance of "stateness." He rejects the notion that there can be a science of public administration, and discusses the causes of contemporary state weakness. He ends the book with a discussion of the consequences of weak states for international order, and the grounds on which the international community may legitimately intervene to prop them up.

Vality and GrowthWorld Bank PublicationsThe Future of ProductivityOECD Publishing

The United Nations definitive report on the state of the world economy, providing global and regional economic outlook for 2019 and 2020. Produced by the

Department of Economic and Social Affairs, the five UN regional commissions, the United Nations Conference on Trade and Development, with contributions from the UN World Tourism Organization.

From Nobel Prize-winning economist and New York Times bestselling author Robert Shiller, a groundbreaking account of how stories help drive economic events—and why financial panics can spread like epidemic viruses. Stories people tell—about financial confidence or panic, housing booms, or Bitcoin—can go viral and powerfully affect economies, but such narratives have traditionally been ignored in economics and finance because they seem anecdotal and unscientific. In this groundbreaking book, Robert Shiller explains why we ignore these stories at our peril—and how we can begin to take them seriously. Using a rich array of examples and data, Shiller argues that studying popular stories that influence individual and collective economic behavior—what he calls "narrative economics"—may vastly improve our ability to predict, prepare for, and lessen the damage of financial crises and other major economic events. The result is nothing less than a new way to think about the economy, economic change, and economics. In a new preface, Shiller reflects on some of the challenges facing narrative economics, discusses the connection between disease epidemics and economic epidemics, and suggests why epidemiology may hold lessons for fighting economic contagions.

China's transition to a market economy has propelled its remarkable economic growth since the late 1970s. In this book, Nicholas R. Lardy, one of the world's foremost experts on the Chinese economy, traces the increasing role of market forces and refutes the widely advanced argument that Chinese economic progress rests on the government's control of the economy's "commanding heights." In another challenge to conventional wisdom, Lardy finds little evidence that the decade of the leadership of former President Hu Jintao and Premier Wen Jiabao (2003–13) dramatically increased the role and importance of state-owned firms, as many people argue. This book offers powerfully persuasive evidence that the major sources of China's growth in the future will be similarly market rather than state-driven, with private firms providing the major source of economic growth, the sole source of job creation, and the major contributor to China's still growing role as a global trader. Lardy does, however, call on China to deregulate and increase competition in those portions of the economy where state firms remain protected, especially in energy and finance.

This book addresses the rising productivity gap between the global frontier and other firms, and identifies a number of structural impediments constraining business start-ups, knowledge diffusion and resource allocation (such as barriers to up-scaling and relatively high rates of skill mismatch).

The conditions for sustainable growth and development are among the most debated topics in economics, and the consensus is that institutions matter greatly in explaining why some economies are more successful than others over time. Probing the long-term effects of early colonial differences on immigration policy,

land distribution, and financial development in a variety of settings, Understanding Long-Run Economic Growth explores the relationship between economic conditions, growth, and inequality, with a focus on how the monopolization of resources by the political elite limits incentives for ordinary people to invest in human capital or technological discovery. Among the topics discussed are the development of credit markets in France, the evolution of transportation companies in the United Kingdom and the United States, and the organization of innovation in the United States.

One of the most enduring questions in economics involves how a nation could accelerate the pace of its economic development. One of the most enduring answers to this question is to promote exports -either because doing so directly influences development via encouraging production of goods for export, or because export promotion permits accumulation of foreign exchange which permits importation of high-quality goods and services, which can in turn be used to expand the nation's production possibilities. In either case, growth is said to be export-led; the latter case is the so-called "two-gap" hypothesis (McKinnon, 1964; Findlay, 1973). The early work on export-led growth consisted of static cross-country comparisons (Michaely, 1977; Balassa, 1978; Tyler, 1981; Kormendi and Meguire, 1985). These studies generally concluded that there is strong evidence in favour of export-led growth because export growth and income growth are highly correlated. However, Kravis pointed out in 1970 that the question is an essentially dynamic one: as he put it, are exports the handmaiden or the engine of growth? To make this determination one needs to look at time series to see whether or not exports are driving income. This approach has been taken in a number of papers (Jung and Marshall, 1985; Chow, 1987; Serletis, 1992; Kunst and Marin, 1989; Marin, 1992; Afxentiou and Serletis, 1991), designed to assess whether or not individual countries exhibit statistically significant evidence of export-led growth using Granger causality tests.

The main purpose of Lectures on Macroeconomics is to characterize and explain fluctuations in output, unemployment and movement in prices. Lectures on Macroeconomics provides the first comprehensive description and evaluation of macroeconomic theory in many years. While the authors' perspective is broad, they clearly state their assessment of what is important and what is not as they present the essence of macroeconomic theory today. The main purpose of Lectures on Macroeconomics is to characterize and explain fluctuations in output, unemployment and movement in prices. The most important fact of modern economic history is persistent long term growth, but as the book makes clear, this growth is far from steady. The authors analyze and explore these fluctuations. Topics include consumption and investment; the Overlapping Generations Model; money; multiple equilibria, bubbles, and stability; the role of nominal rigidities; competitive equilibrium business cycles, nominal rigidities and economic fluctuations, goods, labor and credit markets; and monetary and fiscal policy issues. Each of chapters 2 through 9 discusses models appropriate to the topic.



Chapter 10 then draws on the previous chapters, asks which models are the workhorses of macroeconomics, and sets the models out in convenient form. A concluding chapter analyzes the goals of economic policy, monetary policy, fiscal policy, and dynamic inconsistency. Written as a text for graduate students with some background in macroeconomics, statistics, and econometrics, Lectures on Macroeconomics also presents topics in a self contained way that makes it a suitable reference for professional economists.

Economic growth, inflation, and interest rates have declined in Asia, just as they have in the United States and Europe. This volume explores the relevance to several Asian economies of the diagnosis known as "secular stagnation."

Leading experts on the region discuss the fiscal and monetary policy challenges of reviving growth without generating domestic financial imbalances. The essays on innovation, demographics, spillovers, and various policy proposals are accompanied by case studies focusing on Japan, South Korea, China, India, and Indonesia.

In this book, Robert Lucas brings together several of his seminal papers on the subject, together with the Kuznets Lectures that he gave at Yale University, to present a coherent view of economic growth."--BOOK JACKET.

Hofman, a researcher with the Chile-based Economic Commission for Latin America and the Caribbean, uses growth accounting methods and previously unavailable long-term series data to assess the economic performance of the region during the century from a comparative and historical perspective. In particular he compares Latin American economies to those of advanced capitalist economies, to newly industrialized economies, and to Spain and Portugal because of the historical ties. He looks at the reasons for the poor or negative growth during the 1980s and the apparent recovery in the 1990s and at such problems as debt, income inequality, high inflation, cyclical instability, and political and policy instability. Annotation copyrighted by Book News, Inc., Portland, OR

Introduction to Modern Economic Growth is a groundbreaking text from one of today's leading economists. Daron Acemoglu gives graduate students not only the tools to analyze growth and related macroeconomic problems, but also the broad perspective needed to apply those tools to the big-picture questions of growth and divergence. And he introduces the economic and mathematical foundations of modern growth theory and macroeconomics in a rigorous but easy to follow manner. After covering the necessary background on dynamic general equilibrium and dynamic optimization, the book presents the basic workhorse models of growth and takes students to the frontier areas of growth theory, including models of human capital, endogenous technological change, technology transfer, international trade, economic development, and political economy. The book integrates these theories with data and shows how theoretical approaches can lead to better perspectives on the fundamental causes of economic growth and the wealth of nations. Innovative and

authoritative, this book is likely to shape how economic growth is taught and learned for years to come. Introduces all the foundations for understanding economic growth and dynamic macroeconomic analysis Focuses on the big-picture questions of economic growth Provides mathematical foundations Presents dynamic general equilibrium Covers models such as basic Solow, neoclassical growth, and overlapping generations, as well as models of endogenous technology and international linkages Addresses frontier research areas such as international linkages, international trade, political economy, and economic development and structural change An accompanying Student Solutions Manual containing the answers to selected exercises is available (978-0-691-14163-3/\$24.95). See: <http://press.princeton.edu/titles/8970.html>. For Professors only: To access a complete solutions manual online, email us at: [acemoglusolutions@press.princeton.edu](mailto:acemoglusolutions@press.princeton.edu)

Nobel laureate Solow shows how Kenneth J. Arrow's classic paper "The Economic Implications of Learning by Doing" fits into the modern theory of economic growth, and uses it as a springboard for a critical consideration of spectacular recent developments that have made growth theory a dynamic topic today.

Future economic growth lies in the value of experiences and transformations--good and services are no longer enough. We are on the threshold, say authors Pine and Gilmore, of the Experience Economy, a new economic era in which all businesses must orchestrate memorable events for their customers. The Experience Economy offers a creative, highly original, and yet eminently practical strategy for companies to script and stage the experiences that will transform the value of what they produce. From America Online to Walt Disney, the authors draw from a rich and varied mix of examples that showcase businesses in the midst of creating personal experiences for both consumers and businesses. The authors urge managers to look beyond traditional pricing factors like time and cost, and consider charging for the value of the transformation that an experience offers. Goods and services, say Pine and Gilmore, are no longer enough. Experiences and transformations are the basis for future economic growth, and The Experience Economy is the script from which managers can begin to direct their own transformations.

This paper analyzes the extent of income inequality from a global perspective, its drivers, and what to do about it. The drivers of inequality vary widely amongst countries, with some common drivers being the skill premium associated with technical change and globalization, weakening protection for labor, and lack of financial inclusion in developing countries. We find that increasing the income share of the poor and the middle class actually increases growth while a rising income share of the top 20 percent results in lower growth—that is, when the rich get richer, benefits do not trickle down. This suggests that policies need to be country specific but should focus on raising the income share of the poor, and ensuring there is no hollowing out of the middle class. To tackle inequality, financial inclusion is imperative in emerging and developing countries while in advanced economies, policies should focus on raising human capital and skills and making tax systems more progressive.

Global growth is projected to be slightly faster in 2020 than the post-crisis low

registered last year. While growth could be stronger if reduced trade tensions lead to a sustained reduction in uncertainty, the balance of risks to the outlook is to the downside. Growth in emerging market and developing economies is also expected to remain subdued, continuing a decade of disappointing outcomes. A steep and widespread productivity growth slowdown has been underway in these economies since the global financial crisis, despite the largest, fastest, and most broad-based accumulation of debt since the 1970s. In addition, many emerging market and developing economies, including low-income countries, face the challenge of phasing out price controls that impose heavy fiscal cost and dampen investment. These circumstances add urgency to the need to implement measures to rebuild macroeconomic policy space and to undertake reforms to rekindle productivity growth. These efforts need to be supplemented by policies to promote inclusive and sustainable long-term growth and accelerate poverty alleviation. Global Economic Prospects is a World Bank Group Flagship Report that examines global economic developments and prospects, with a special focus on emerging market and developing countries, on a semiannual basis (in January and June). The January edition includes in-depth analyses of topical policy challenges faced by these economies, whereas the June edition contains shorter analytical pieces.

Over the past two decades, the percentage of the world's population living on less than a dollar a day has been cut in half. How much of that improvement is because of—or in spite of—globalization? While anti-globalization activists mount loud critiques and the media report breathlessly on globalization's perils and promises, economists have largely remained silent, in part because of an entrenched institutional divide between those who study poverty and those who study trade and finance. Globalization and Poverty bridges that gap, bringing together experts on both international trade and poverty to provide a detailed view of the effects of globalization on the poor in developing nations, answering such questions as: Do lower import tariffs improve the lives of the poor? Has increased financial integration led to more or less poverty? How have the poor fared during various currency crises? Does food aid hurt or help the poor? Poverty, the contributors show here, has been used as a popular and convenient catchphrase by parties on both sides of the globalization debate to further their respective arguments. Globalization and Poverty provides the more nuanced understanding necessary to move that debate beyond the slogans.

The Middle East and North Africa (MENA) is an economically diverse region. Despite undertaking economic reforms in many countries, and having considerable success in avoiding crises and achieving macroeconomic stability, the region's economic performance in the past 30 years has been below potential. This paper takes stock of the region's relatively weak performance, explores the reasons for this outcome, and proposes an agenda for urgent reforms.

Macrofinancial linkages have long been at the core of the IMF's mandate to oversee the stability of the global financial system. With the advent of the economic crisis, the Fund has drawn on this research in order to contribute to critical debates on the nature of appropriate policy responses at both the national and multilateral levels. The current juncture offers a good opportunity to take stock of this body of research by IMF staff and to share it with a wider audience, particularly since few collections have been published in this area. This volume brings together some of the best writing by IMF

economists on macrofinancial issues, and highlights the issues and approaches that have guided IMF thinking in an area that makes up an increasingly important component of the IMF's overall remit. The chapters in the volume fit into three broad themes: financial crises and boom-bust cycles; financial integration, financial liberalization, and economic performance; and policy issues relating to macroeconomic policy and the corporate and financial sectors-including domestic and external financial liberalization.

Military and defense-related procurement has been an important source of technology development across a broad spectrum of industries that account for an important share of United States industrial production. In this book, the author focuses on six general-purpose technologies: interchangeable parts and mass production; military and commercial aircraft; nuclear energy and electric power; computers and semiconductors; the INTERNET; and the space industries. In each of these industries, technology development would have occurred more slowly, and in some case much more slowly or not at all, in the absence of military and defense-related procurement. The book addresses three questions that have significant implications for the future growth of the United States economy. One is whether changes in the structure of the United States economy and of the defense-industrial base preclude military and defense-related procurement from playing the role in the development of advanced technology in the future, comparable to the role it has played in the past. A second question is whether public support for commercially oriented research and development will become an important source of new general-purpose technologies. A third and more disturbing question is whether a major war, or the threat of major war, will be necessary to mobilize the scientific, technical, and financial resources necessary to induce the development of new general-purpose technologies. When the history of United States technology development in the next half century is written, it will focus on incremental rather than revolutionary changes in both military and commercial technology. It will also be written within the context of slower productivity growth than of the relatively high rates that prevailed in the United States in the 1950s and 1960s or during the information technology bubble that began in the early 1990s. These will impose severe constraints on the capacity of the United States to sustain a global-class military posture and a position of leadership in the global economy.

[Copyright: caa9a8ebf44e1d90f6dfc6de77f39383](https://www.copyright.com/lookup.do?copyrightId=caa9a8ebf44e1d90f6dfc6de77f39383)