

## Population Aging And Endogenous Economic Growth

Will an aging population lower economic growth? Economists are generally concerned that the increase in life expectancy could lower economic growth, however, theory does not make a prediction. As life expectancy increases, so should household savings, which results in more physical capital per worker. This will stimulate economic growth. However, as the retired population share increases, this may reduce spending on children as more resources are transferred to the elderly. This will likely reduce human capital accumulation and lower growth. The net effect of these competing influences is an empirical question. This paper constructs a stylized endogenous growth model that includes both human capital and government transfers to the elderly. The model is mapped into a linear statistical framework that allows us to estimate each of these potential responses using panel data for a set of OECD countries during the period 1975-2014. We find evidence that households do in fact increase savings in response to a longer retirement period and this effect is associated with a higher realized rate of growth per worker. However, we also find evidence that an aging population reduces spending on children (or other productive investments) placing a drag on growth. These results suggest it is the institutional response to population aging that will determine whether or not an aging population will place a drag on future growth, not population aging itself.

Demographics is a vital field of study for understanding social and economic change and it has attracted attention in recent years as concerns have grown over the aging populations of developed nations. Demographic studies help make sense of key aspects of the economy, offering insight into trends in fertility, mortality, immigration, and labor force participation, as well as age, gender, and race specific trends in health and disability. Demography and the Economy explores the connections between demography and economics, paying special attention to what demographic trends can reveal about the sustainability of traditional social security programs and the larger implications for economic growth. The volume brings together some of the leading scholars working at the border between the two disciplines, and it provides an eclectic overview of both fields. Contributors also offer deeper analysis of a variety of issues such as the impact of greater wealth on choices about marriage and childbearing and the effects of aging populations on housing prices, Social Security, and Medicare.

Would population aging affect the effectiveness of fiscal stimulus? Despite the renewed focus on population aging, there are few empirical studies on the output effects of fiscal policy in aging economies. Our study fills this gap by analyzing this issue in OECD countries. We find that, as population ages, the output effects of fiscal spending shocks are weakened. We also find that, while high-debt countries generally face weaker fiscal multipliers, high-debt aging economies face even weaker multipliers. These results point to important policy implications: population aging would call for a larger fiscal stimulus to support aggregate demand during recession and thus require larger fiscal space to allow a wider swing of the fiscal position without creating concerns for fiscal sustainability. Our analysis also suggests that policy measures to promote labor supply could help increase the output effect of fiscal stimulus in aging economies.

Automation and Its Macroeconomic Consequences reveals new ways to understand the economic characteristics of our increasing dependence on machines. Illuminating technical and social elements, it describes economic policies that could counteract negative income distribution consequences of automation without hampering the adoption of new technologies. Arguing that modern automation cannot be compared to the Industrial Revolution, it considers consequences of automation such as spatial patterns, urbanization, and regional concerns. In touching upon labor, growth, demographic, and policy, Automation and its Macroeconomic Consequences stands at the intersection of technology and economics, offering a comprehensive portrait illustrated by empirical observations and examples. Introduces formal

growth models that include automation and the empirical specifications on which the data-driven results rely Focuses on formal modeling, empirical analysis and derivation of evidence-based policy conclusions Considers consequences of automation, such as spatial patterns, urbanization and regional concerns

This original and panoramic book proposes that the underlying forces of demography and globalisation will shortly reverse three multi-decade global trends – it will raise inflation and interest rates, but lead to a pullback in inequality. “Whatever the future holds”, the authors argue, “it will be nothing like the past”. Deflationary headwinds over the last three decades have been primarily due to an enormous surge in the world’s available labour supply, owing to very favourable demographic trends and the entry of China and Eastern Europe into the world’s trading system. This book demonstrates how these demographic trends are on the point of reversing sharply, coinciding with a retreat from globalisation. The result? Ageing can be expected to raise inflation and interest rates, bringing a slew of problems for an over-indebted world economy, but is also anticipated to increase the share of labour, so that inequality falls. Covering many social and political factors, as well as those that are more purely macroeconomic, the authors address topics including ageing, dementia, inequality, populism, retirement and debt finance, among others. This book will be of interest and understandable to anyone with an interest on where the world’s economy may be going. This book reviews standard economic growth models concentrating on the relationship between population ageing and economic growth and develops a growth model with endogenous human capital and endogenous fertility. This model is used to analyse the effects of education policy and family policy on economic growth. The author presents results both for economic policy, and for economic growth theory.

Handbook of the Economics of Population Aging, Volume 1B provides the economic literature on aging and associated subjects, presenting comprehensive portraits of both social and theoretical issues. As the second of two volumes in this series on the economics of population aging, it continues the discussion, delving deeper into topics such as the labor market and human resource issues, gerontology, history, and the sociological and political ramifications of this fascinating topic whose inception dates back to the late 1970’s. This volume includes literature that has appeared in general economics journals, in various field journals in economics, especially, but not exclusively, those covering labor market and human resource issues, information from interdisciplinary social science and life science journals, and data presented in papers by economists published in journals associated with gerontology, history, sociology, political science, and demography, amongst others. Presents comprehensive portraits of social and theoretical issues that can be used by both policymakers and scholars Readers receive diverse perspectives on subjects that can be closely associated with national and regional concerns Chapters offer comprehensive, critical reviews and expositions on the essential aspects of the economics of population aging

The impact of an ageing population on the economy is one of the key issues in most developed countries. It is a generally accepted notion that an ageing population could cause negative effects, including a decrease of per-capita output and economic welfare, on the economy mainly due to the decline of the labor force and aggregate saving rate. The first chapter adopts the two-sector overlapping generation (OLG) model to capture the impact of population ageing on the regional economy and compares the effectiveness of government policy in an endogenous growth perspective. Comparing the computational results of a one-sector OLG model where agent0?9s productivity is given exogenously, the simulation result confirms that endogenously determined investment in human capital significantly offsets the negative effects of the ageing population on the regional economy. The chapter also attempts to check if there is room for the government to weaken and prevent the negative effects of the ageing population. For this, this chapter examines the effects of two kinds of government

transfer systems on the regional economy: money transfer and educational transfer systems. The money transfer, which is redistributed to agents by the government, could be used for an individual's consumption, saving and educational investment. Educational transfer is given directly to the individual proportional to his or her opportunity cost stemming from education investment. The result shows that the educational transfer system is superior to money transfer system in the long-run in terms of growth of per-capita income, aggregate welfare and stabilizing the factor prices. However, the results imply that there exists a trade-off relationship in implementing an educational transfer system between economic growth and equity of income and wealth. The second chapter seeks to examine the effects of the ageing population in Illinois with inclusion of the household's ex-ante intra-generational heterogeneity across race and migration status. For this, this chapter empirically shows that there are significant gaps in returns to education between race and migration status in Illinois; and there exists significant relationships between a resident's demographics and the probability of in- and out- migration around Illinois. These empirical results, including heterogeneous properties across race and migration status and demographic- related migration tendency, are calibrated into the two-sector OLG model. Using this two-sector OLG model incorporated with the intra-generational heterogeneity over race and migration status, this chapter projects the economic growth of Illinois will decelerate substantially until the mid 2020s due to population ageing. After that time, the growth of Illinois will partially recover. The major economic problems of the ageing era stem from the deficiency of the labor force. Also the Black's unemployment rate tends to be substantially high in Illinois. Taking the two labor market- related problems of ageing population and high Black's unemployment into consideration, the government could implement a labor policy measure aiming at increasing the employment rate of the Black to the level of the other races through the absorption of the unemployed Blacks by offering industry subsidies or incentives. However, the result shows that an indirect educational policy, targeting the upgrading of the transmission channel of human capital stock from the old generation to the young generation of the Black, is more preferable than the direct employment policy in terms of long-run effects on per-capita income and social welfare. Also, this chapter shows that the effects of the government's immigration policy, which aims at replacing low-productive international immigrants with native, relatively high-productive unemployed individuals who have been unemployed, are very limited in terms of per-capita income, welfare and aggregate productivity. On the contrary, tax and transfer policy inducing international immigrants to invest more in their education works relatively better. Furthermore, under this policy scheme, the native's human capital stock also improves significantly because of positive spillover effects even though the transfer system's direct beneficiary is the international immigrant group. The third chapter attempts to project the economic paths for the individual Midwest states (Illinois, Indiana, Michigan, Ohio and Wisconsin, as well as the Rest of the US) in the future when the population ageing becomes more pronounced. To accomplish this task, a dynamic general equilibrium model is developed so that it could incorporate the inter-regional transactions and endogenous growth mechanisms within the framework of an OLG model. Key parameter values associated with the regional interconnections were assigned by using multi-regional Social Accounting Matrix (SAM) of the Midwest states. Two different steady-state results were presented with the two different age-cohort population structures corresponding to year 2007 and 2030. These steady-state results imply that there should be considerable negative impacts on the regional economies in the sense of declining per-capita output. The rate of declining of per-capita output are projected to be heterogeneous across the regions due to the different developments of age-cohort population structures and consequently different levels of endogenously determined educational investment of workers. Furthermore, the regions could be grouped separately according to the levels of average human capital stock of workers: high-skilled and low-skilled regions, being roughly consistent with actual labor

productivity statistics. It is intuitive that the supply-demand interactions between the regions should be affected by developments of demographics in each region. This intuition is consistent with the simulation results in the sense that the result revealed the development of output price in a certain region reflects the dynamics of demographics of every region. Meanwhile, according to the dynamic simulation, the negative impacts of population ageing will not be so severe unlike what was presented in the steady-state results. This mitigation of negative effects could be attributed mainly to the growth of human capital stock of workers. The dynamic simulation results reveal that the per-capita output of every region is projected to grow positively in the near future when the population ageing will be pronouncing. However, the growth rate of the per-capita output is projected to be heterogeneous across the regions: the regions with high-skilled workers hold the potential threat that population ageing could give more negative impacts on the economy due to the relatively sluggish growth of human capital stock. Also, the dynamic simulation results show that certain regions in Midwest will experience their terms-of-trade deteriorate in the near future, implying that careful attention should be given to their future trade conditions.

This book studies optimal economic growth in a closed economy which experiences non-stable population growth. The economy is described by means of a neoclassical growth model which distinguishes overlapping generations within the population. The basic neoclassical growth model is extended to include various types of technical change, as well as investment in human capital or education. The research described in this book connects the analytical tools of traditional growth theory with the actual demographic experience of most industrialized countries. The role of demographic processes in the growth theoretical literature is discussed in the next section. The discussion will show that growth theory needs to extend its scope through the construction of growth models which explicitly recognize demographic forces as a potential source of non-stationarities. This book constitutes a first attempt at such a demographic extension.

### 1.1 Growth theory and demographic change

The theory of economic growth (e.g. Solow, 1970; Burmeister & Dobell, 1970; Wan, 1971) attempts to describe and to explain the long-run development of an economic system (or, in short, economy). An economic system is essentially dynamic in nature. Among the most important sources of dynamics in economics are the following: accumulation of capital (investment); technical change; population growth. Some of these dynamic forces are, at least in part, endogenous to the economic system (i.e. determined by economic variables).

This book provides a comprehensive, theory-based analysis of current issues in population economics. It addresses the most important problems caused by demographic changes using the popular overlapping generations growth model by Samuelson and Diamond. Taking into account families' fertility decisions, it examines not only the demographic changes due to longer life expectancy but also the effects of social security policy on demography and labor supply/individual retirement behaviors. Conducting all analyses in a dynamic general equilibrium setting, the book offers a valuable theoretical reference guide in the field of population economics.

This volume provides an important collection of recent papers on the

macroeconomic effects of population ageing. The articles are focused into three categories which cover the main channels through which population ageing affects national living standards: productivity and growth; consumption and saving; and labour market and fiscal effects. The papers have been selected for their clear and valuable contributions to this field of study. The book will be an essential reference volume for academic and public sector economists, policy makers and demographers.

Between 1960 and 2007, child mortality and fertility declined quickly in Indonesia. Child deaths per 1,000 decreased from around 216 to 36 and births per woman declined from 5.6 to 2.2. While total population grew modestly at 1.9 per cent per year, the age distribution of the population shifted considerably. The ratio of the working age population to the combined young and elderly populations rose from 1.31 to 2.01. The Indonesian economy grew moderately at 3.7 per cent annually but would have grown significantly faster if not for the regional financial and economic crisis of 1997-98. The analysis in this paper offers strong support for the hypotheses that demographic and economic variables are endogenous to one another and that the magnitude of the causal relationships is significant. Child mortality and fertility together accounted for about 35 per cent of the variation in per capita GDP and GDP determined about 18 per cent and 25 per cent of movements in child mortality and fertility, respectively, over the nearly 50 year period.

The increases in global wealth and the developments in the field of health have led to decreases in mortality rates, increases in life expectancy, and decreases in fertility rate, leading to a population that is rapidly consisting more and more of older individuals. The demographic changes affect nearly all parts of society including economics, education, health, social security systems, socio-cultural activities, and more. Thus, it is essential to study the impacts that an aging population will have on society. The Handbook of Research on Economic and Social Impacts of Population Aging analyzes the economic and social impacts of population aging from a multidisciplinary perspective. Covering topics such as life expectancy, social welfare, health, social security, and more, this book is essential for social scientists, sociologists, demographers, economists, medical professionals, government officials, policymakers, professionals, researchers, managers, students, and academicians looking to understand the effects of an aging population on modern society.

Studies have documented that recent population decline in U.S. counties has been exacerbated by economic recession, but there is a lack of information about how to stabilize a declining population in a growing economy. The purpose of this book was to measure participants perceptions of the relationship between population decline and economic growth, employment, and education in one northern US County. Smiths theory relating functional division of labor to increases in wealth and Malthuss theory relating population change and economic growth served as theoretical bases. This mixed-methods case study

used documents, a survey of 25 participants, and individual interviews with 10 participants. Data were analyzed with ANOVAs, t tests, and linear simple regressions. Survey results indicated that participants believed there was a minimal to moderate correlation between population decline and economic growth and that increased higher education opportunities in the community could stabilize the population and create long-term economic growth. Some participants were concerned that increased educational opportunities would lead to overpopulation and a loss of traditional values, suggesting that efforts should be made to help community members understand the value of higher education as a population and economic stabilizer. This study can contribute to positive social change by providing strategies for maintaining economic stability in areas experiencing population decline.

*Household and Economy: Welfare Economics of Endogenous Fertility* deals with welfare economics and the socially optimal population size, as well as the social consequences of individual choice with respect to family size within each generation. The general equilibrium implications of endogenous fertility for a number of issues of population policy are discussed. In addition to their own consumption, the number of children and the utility of each child is assumed to enter the utility function of the parents. Comprised of 10 chapters, this volume begins with a review of social welfare criteria for optimal population size and the static theory of optimal population size, optimal population growth with exogenous fertility, and the theory of endogenous fertility. The reader is then introduced to the basic principles of welfare economics and the economics of externalities, followed by a summary of the traditional theory of household behavior. Subsequent chapters focus on optimal population size according to various social welfare criteria; real and potential externalities generated by the endogeneity of fertility; and the principal alternative reason for having children: to transfer resources from the present to support the future consumption of parents in old age. The book concludes by assessing the implications of endogenous fertility for within-generation income distribution policies and reflecting on the directions in which future research may be fruitful. This monograph will be of value to economists, social scientists, students of welfare economics, and those who wish to understand the contribution of economic analysis to an improved understanding of population policy.

"An extremely important book which contains a number of uniformly excellent papers on a variety of topics relating, to various degrees, to the nexus of demographic-economic interrelationships for presently developing countries."—William J. Serow, *Southern Economic Journal* "An important landmark in the growing field of economic demography."—Dudley Kirk, *Journal of Developing Areas*

'While there already exists a crowded body of publications addressing the effect of an aging population on the economy, this monograph is most outstanding in presenting a global, in-depth analysis of the implications thereby generated for 23 developed and

developing countries. . . Scholars, researchers, and practitioners everywhere will benefit immensely from this comprehensive work.' – H.I. Liebling, Choice 'Ron Lee and Andrew Mason's Population Aging and the Generational Economy is a demographic and economic tour-de-force. Their collaborative, intercontinental. . . study of aging, consumption, labor supply, saving, and private and public transfers is the place to go to understand global aging and its myriad and significant economic challenges and opportunities.' – Laurence Kotlikoff, Boston University, US 'The culmination of. . . work by Lee, Mason, and their collaborators from around the world to extend Samuelson's framework to accommodate realistic demography, empirical measurement of age-specific earnings, consumption, tax payments, and benefit receipts, the studies. . . demonstrate the power of this integrated economic-demographic framework to advance our understanding of critical public policy challenges faced by countries at different stages of demographic transition and population aging.' – Robert Willis, University of Michigan, US 'Lee and Mason have done scholars and practitioners a magnificent service by undertaking this comprehensive, compelling, and supremely innovative examination of the economic consequences of changes in population age structure. The book is a bona fide crystal ball. It will be a MUST READ for the next decade!' – David Bloom, Harvard School of Public Health, US 'Population Aging and the Generational Economy provides an encompassing account of what we know about population aging and the impact that this process will have on our economies. It does not confine itself to the advanced industrial countries, where aging has already been largely studied, but adopts a truly global perspective. I am sure it will become a key reference for researchers, students and those involved in policy-making in areas that are affected by population aging.' – Giuliano Bonoli, Swiss Graduate School of Public Administration (IDHEAP), Switzerland Over coming decades, changes in population age structure will have profound implications for the macroeconomy, influencing economic growth, generational equity, human capital, saving and investment, and the sustainability of public and private transfer systems. How the future unfolds will depend on key actors in the generational economy: governments, families, financial institutions, and others. This path-breaking book provides a comprehensive analysis of the macroeconomic effects of changes in population age structure across the globe. The result of a substantial seven-year research project involving over 50 economists and demographers from Africa, Asia, Europe, Latin America, and the United States, the book draws on a new and comprehensive conceptual framework – National Transfer Accounts – to quantify the economic lifecycle and economic flows across generations. It presents comprehensive estimates of both public and private economic flows between generations, and emphasizes the global nature of changes in population age structure that are affecting rich and poor countries alike. This unique and informative book will prove an invaluable reference tool for a wide-ranging audience encompassing students, researchers, and academics in fields such as demography, aging, public finance, economic development, macroeconomics, gerontology, and national income accounting; for policy-makers and advisers focusing on areas of the public sector such as education, health, pensions, other social security programs, tax policy, and public debt; and for policy analysts at international agencies such as the World Bank, the IMF, and the UN.

The apparently unrelenting growth in the GDP-share of health spending (SHS) has

been a perennial issue of policy concern. Does an equilibrium limit exist? The issue has been left open in recent dynamic models which take income growth and population aging as given. We view these variables as endogenously determined within an overlapping-generations, human-capital-based endogenous-growth model, where a representative parent makes all life-cycle consumption and investment decisions, and life and health protection are subject to diminishing returns. Our prototype model, allowing for both quantity and quality of life as desired goods, yields equilibrium upper bounds for SHS. Our calibrated simulations also account for observed trends in reproductive choices, population aging, life expectancy, and economic growth. The analysis offers new insights about factors that drive long-term trends in aging and health spending and establishes a direct relation between health investments at young age and the equilibrium, steady-state rate of economic growth.

Analysing the relation between population factors and technological progress is the main purpose of this book. With its declining population, Japan faces the simple but difficult problem of whether sustained economic growth can be maintained. Although there are many studies to investigate future economic growth from the point of view of labor force transition and the decreasing saving rate, technological progress is the most important factor to be considered in the future path of the Japanese economy.

Technological progress is the result of innovations or improvements in the quality of human and physical capital. The increase in technological progress, which is measured as total factor productivity (TFP), is realized both by improvements in productivity in the short term and by economic developments in the long term. The author investigates the relationship of population factors and productivity, focusing on productivity improvement in the short term. Many discussions have long been held about the relation between population and technological progress. From the old Malthusian model to the modern endogenous economic growth models, various theories are developed in the context of growth theory. In this book, these discussions are summarized briefly, with an analysis of the quantitative relation between population and technological progress using country-based panel data in recent periods.

Population aging is perhaps the single biggest economic and social obstacle confronting Asia's future. The region-wide demographic transition towards an older population is fundamentally reshaping the demographic landscape, and is giving rise to two key socio-economic challenges. This timely book provides an in-depth analysis of these challenges and presents concrete policy options for tackling them. First, the expert contributors argue, Asia must find ways to sustain rapid economic growth in the face of less favorable demographics, which implies slower growth of the workforce. Second, they contend, Asia must find ways to deliver affordable, adequate and sustainable old-age economic security for its growing elderly population. Underpinned by rigorous analysis, a wide range of concrete policy options for sustaining economic growth while delivering economic security for the elderly are then presented. These include Asia-wide policy options relevant to the entire region such as building up strong national pension systems, whilst other policy options are more relevant to sub-groups of countries. This stimulating and informative book will be of great interest to academics, students and researchers with an interest in Asian studies, economics generally, and more specifically, public sector economics.

This edited collection explores the links between human capital (both in the form of

health and in the form of education), demographic change, and economic growth. Using empirical as well as theoretical perspectives, the authors investigate several important issues in the context of human capital, namely population ageing, inequality, public policy, and long-term economic development. Ultimately, they demonstrate that the accumulation of human capital is of crucial importance to long-run economic growth. Serious research into the causes and implications of an aging population is a relatively recent phenomenon. Though several relevant issues of aging have received considerable attention in public and political discussions (especially in European countries and in Japan), the economics profession is somewhat lacking behind. This is particularly true for the theoretical underpinnings of the economics of population aging. Until now, the aging-debate is primarily led by institutionalists. The present book with its analytical and econometric studies on fiscal implications of population aging is an important step in the process of theoretical analysis of aging. It is of interest both for population economists (and demographers) and for public economists - providing a bridge between these areas of research.

There is long-standing debate on how population growth affects national economies. A new report from Population Matters examines the history of this debate and synthesizes current research on the topic. The authors, led by Harvard economist David Bloom, conclude that population age structure, more than size or growth per se, affects economic development, and that reducing high fertility can create opportunities for economic growth if the right kinds of educational, health, and labor-market policies are in place. The report also examines specific regions of the world and how their differing policy environments have affected the relationship between population change and economic development.

Although mathematical demography has traditionally studied the so-called stable population (fixed mortality and fertility schedules), Ansley Coale investigates now the dynamics of population growth and structure—the changing age composition of a population as birth and death rates fluctuate. Originally published in 1972. The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

In this book the author investigates the impact of demographic change on economic growth. As a result of the current financial crisis, a new view on economics has been demanded by various scientists. The author provides such a new view on economic growth, using a methodology of system dynamics. By applying this method, the author focuses on characteristics of complex systems and analyzes aging and shrinking processes, and not only positive growth. Delays and feedback processes are also considered. This leads to deeper and revealing insights into economic behavior. In doing so, a new semi-endogenous growth model is developed by introducing a specific and detailed population sector (demographic growth model). The book shows and analyzes the behavior of such a model and tests several policy scenarios in a transfer chapter to apply the new theoretical approach on real world problems. The major

results are summarized in 15 principles of demographic growth.

This book explores how demographic changes affect inter-generational transfers of time, money, goods, and services, all things that play a role in the well-being of individuals and families. It details the nature and measurement of transfers, their motives and mechanisms, and their macro-level dimensions, especially in the context of demographic transitions. Coverage includes original empirical analyses of datasets from some twenty countries and extends the traditional analysis of inter-generational transfers by examining different types of transfers.

From the authors of the bestselling *The Big Shift*, a provocative argument that the global population will soon begin to decline, dramatically reshaping the social, political, and economic landscape. For half a century, statisticians, pundits, and politicians have warned that a burgeoning planetary population will soon overwhelm the earth's resources. But a growing number of experts are sounding a different kind of alarm. Rather than growing exponentially, they argue, the global population is headed for a steep decline. Throughout history, depopulation was the product of catastrophe: ice ages, plagues, the collapse of civilizations. This time, however, we're thinning ourselves deliberately, by choosing to have fewer babies than we need to replace ourselves. In much of the developed and developing world, that decline is already underway, as urbanization, women's empowerment, and waning religiosity lead to smaller and smaller families. In *Empty Planet*, Ibbitson and Bricker travel from South Florida to Sao Paulo, Seoul to Nairobi, Brussels to Delhi to Beijing, drawing on a wealth of research and firsthand reporting to illustrate the dramatic consequences of this population decline--and to show us why the rest of the developing world will soon join in. They find that a smaller global population will bring with it a number of benefits: fewer workers will command higher wages; good jobs will prompt innovation; the environment will improve; the risk of famine will wane; and falling birthrates in the developing world will bring greater affluence and autonomy for women. But enormous disruption lies ahead, too. We can already see the effects in Europe and parts of Asia, as aging populations and worker shortages weaken the economy and impose crippling demands on healthcare and social security. The United States is well-positioned to successfully navigate these coming demographic shifts--that is, unless growing isolationism and anti-immigrant backlash lead us to close ourselves off just as openness becomes more critical to our survival than ever before. Rigorously researched and deeply compelling, *Empty Planet* offers a vision of a future that we can no longer prevent--but one that we can shape, if we choose.

What circumstances or behaviors turn poverty into a cycle that perpetuates across generations? The answer to this question carries especially important implications for the design and evaluation of policies and projects intended to reduce poverty. Yet a major challenge analysts and policymakers face in understanding poverty traps is the sheer number of mechanisms—not just financial, but also environmental, physical, and psychological—that may contribute to the persistence of poverty all over the world. The research in this volume explores the hypothesis that poverty is self-reinforcing because the equilibrium behaviors of the poor perpetuate low standards of living. Contributions explore the dynamic, complex processes by which households accumulate assets and increase their productivity and earnings potential, as well as the conditions under which some individuals, groups, and economies struggle to escape poverty. Investigating the

full range of phenomena that combine to generate poverty traps—gleaned from behavioral, health, and resource economics as well as the sociology, psychology, and environmental literatures—chapters in this volume also present new evidence that highlights both the insights and the limits of a poverty trap lens. The framework introduced in this volume provides a robust platform for studying well-being dynamics in developing economies.

The Pacific region is in the final stage of the demographic transition with declining fertility and expanding life expectancy, where significant changes in population size and age distribution, i.e. "aging" have been and will be witnessed. They are unprecedented and going to affect economic growth in various ways. This book focuses on the Pacific region, one of the most rapidly aging regions, and examines the possible risk aspects. Particularly, the book takes into account of possible adjustments both endogenous and exogenous (including policy responses) to the new reality of aging population. It also assesses their quantitative influences on the growth impact of aging population, which might be very different from those in the past experience. The book highlights the doubts on the steadiness across periods and similarities across economies of parameters relevant to labor market participation, saving and investment of private sectors, and productivity growth, which a bulk of prior studies were crucially based on. Policy measures to enhance labor supply, domestic savings and productivity have been scrutinized. The book discusses the policy alternatives in practice and their implementations and/or planning of each category across regional economies.

The age-distribution of Europe's workforce has shifted towards older workers over the past few decades, a process expected to accelerate in the years ahead.. This paper studies the effect of the aging of the workforce on labor productivity, identifies the main transmission channels, and examines what policies might mitigate the effects of aging. We find that workforce aging reduces growth in labor productivity, mainly through its negative effect on TFP growth. Projected workforce aging could reduce TFP growth by an average of 0.2 percentage points every year over the next two decades. A variety of policies could ameliorate this effect.

Recent studies show that almost all industrial countries have experienced dramatic decreases in both fertility and mortality rates. This situation has led to aging societies with economies that suffer from both a decline in the working population and a rise in fiscal deficits linked to increased government spending. East Asia exemplifies these trends, and this volume offers an in-depth look at how long-term demographic transitions have taken shape there and how they have affected the economy in the region. The Economic Consequences of Demographic Change in East Asia assembles a group of experts to explore such topics as comparative demographic change, population aging, the rising cost of health care, and specific policy concerns in individual countries. The volume provides an overview of economic growth in East Asia as well as more specific studies on Japan, Korea, China, and Hong Kong. Offering important insights into the causes and consequences of this transition, this book will benefit students, researchers, and policy makers focused on East Asia as well as anyone concerned with similar trends elsewhere in the world.

Population Ageing and Economic Growth Education Policy and Family Policy in a Model of Endogenous Growth Springer Science & Business Media

This book is intended as a relatively nontechnical introduction to current demographic

methods. It has been several years in preparation, beginning from occasional class handouts I wrote to elaborate on essential points of demographic methodology. Its growth from scattered notes to an integrated text was a natural process, if a gradual one. The content of the book addresses three objectives. First, I have tried to avoid demographic methods that are now dated. In some chapters, that has meant concentrating on formulas most demographers recognize. In the chapters on life tables, it meant testing competing formulas on a variety of real and synthetic datasets, and dropping or relegating to footnotes those that were least accurate. Second, I have attempted to give readers a sense of the limits of different formulas and methods. I am a terse writer, however, and for the reader that means most sentences carry weight. Chapters should be read attentively, with careful regard to commentary as well as to formulas and examples. Finally, I have tried to make the principal methodologies of the book accessible, by offering explanations for formulas that are not obvious, by keeping examples to the forefront, and by placing relatively specialized topics in chapter appendices.

Handbook of the Economics of Population Aging, Volume 1A, provides the economic literature on aging and associated subjects, including social insurance and healthcare costs. This text explores the economic literature on aging and associated subjects, including social insurance, health care costs, the interests of policymakers, and the role of academics. As the first of two volumes, users will find it a great resource on the topics associated with the economics of aging. Together with its companion, volume 1B, this work includes literature that has appeared in general economics journals, in various field journals in economics, especially, but not exclusively, those covering labor market and human resource issues, information from interdisciplinary social science and life science journals, and data presented in papers by economists published in journals associated with gerontology, history, sociology, political science, and demography, amongst others. Provides the latest economics literature on aging and its associated subjects, including the aspects of social insurance and healthcare costs. Includes valuable data from a variety of general economics journals and interdisciplinary social and life science publications. Critical text for policymakers and academics that describes and analyzes valuable information since the inception of the study of the science of population aging in the late 1970s.

In recent years it has become apparent that the pattern of population growth is consistent with the predictions of the Malthusian model. Studies on the pre-industrial epoch in a wide range of countries show positive income elasticities of mortality and a strong positive correlation between real wages and marriage rates. Negative shocks to population, such as the Black Death, were reflected in higher real wages and faster population growth. Moreover, the prediction of the Malthusian model that differences in technology should be reflected in population density, but not in standards of living, is also borne out. However, the empirical implications of the Malthusian model are more complex than simply a tendency of real wage to revert to its long-run equilibrium level together with slow population growth. Many factors have impinged on the fertility and mortality rates. A most striking feature of the preindustrial epoch is the simultaneous effect of contradictory forces. This volume studies these forces pushing towards both growth and poverty, and evaluates the utility of the Malthusian model as a tool for understanding demographic dynamics today.

Over the next few decades, the world will experience significant demographic shifts, with material fiscal implications. In many advanced and emerging market economies, aging populations will lead to higher spending on pensions and health care. Moreover, projected population dynamics will adversely affect growth and government revenues. Building on and extending a 2015 IMF Staff Discussion Note by Clements and others, this note presents a simple framework that can assist researchers in quantifying the effects of demographic changes resulting from population aging on government fiscal balances. It includes two country applications of the framework and an associated template. The note addresses several key questions: What are channels through which demographic changes could affect public finances? How can we quantify the fiscal impact of demographic changes? How can we tailor the assessment to country-specific circumstances?

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