

**FOR  
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Questions:	Ms. Duttagupta, SPR (ext. 38583) Mr. Nielsen, SPR (ext. 36467)



## **Global Monitoring Report 2015/2016**

### ***Global Development Goals in an Era of Demographic Change***

#### **Concept Note**

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## Executive Summary

**The *Global Monitoring Report 2015/2016* comes at an inflection point in both the setting of global development goals and the demographic trends affecting those goals.** This year marks the end of the Millennium Development Goals (MDGs) and the launching of the Sustainable Development Goals (SDGs), while the World Bank Group has in parallel articulated the Twin Goals (TGs) of sustainably ending extreme poverty and sharing prosperity. Overshadowing this transition are profound changes in global demography. With the number of children approaching a global ceiling of two billion, the world's population is growing slower. It is also aging faster and the share of working age population has started to decline in 2013. But the direction and pace of these trends vary starkly across countries, with sizeable demographic disparities between centers of global poverty (marked by high fertility) and drivers of global growth (marked by rapid aging). These demographic disparities are expected to deeply affect the pursuit of the post-2015 agenda, accentuating existing challenges and creating new opportunities.

**As a prelude to the SDGs, Part I of the report stresses the need for multi-dimensional approaches to the unfinished development agenda, both in measurement and policies.** First, it presents a multi-dimensional perspective on the TGs, underscoring the importance of non-monetary aspects (such as equitable access to quality education and health services). Along with the latest income poverty headcount data, it features new metrics of poverty's depth and breadth and articulates the goal of shared prosperity beyond monetary measures. It also discusses the policy interventions needed to pursue those goals. Second, it draws on lessons from the MDG process, highlighting the substantial but uneven progress, and discusses the implications for the multi-dimensional SDG agenda, underlining commonalities with the TGs. Third, it discusses the global economic outlook, focusing on the effect of global aging on growth and the prospects for progress towards the post-2015 agenda.

**Part II looks at demographic change globally, analyzes its interaction with the development goals, and examines policy challenges and opportunities within and across countries.** First, it characterizes global demographic trends, develops a country typology of demographic change, and explores how closely these classification types correlate to development indicators. Second, it examines the causal interaction between demographic change and development through the lens of the evolving development goals, paying special attention to cross-border interactions through trade, migration, and capital flows. It will argue that the two-way relation between demography and development is not deterministic but amenable to behavioral change and policy intervention. Third, it analyzes how policy interventions by countries, both individually and collectively, can tilt the interaction between demography and development in their favor.

## A. Overview

1. ***The Global Monitoring Report (GMR) 2015/2016 comes at an inflection point in both the setting of global development goals and the demographic trends affecting them.*** This year marks the end of the 15-year window for achieving the Millennium Development Goals (MDGs). Many global development benchmarks of the MDGs will be extended through the launching of the Sustainable Development Goals (SDGs) this September and, on a parallel course, are reflected in the World Bank Group's Twin Goals (TGs). This transition comes as the world is going through major demographic change. The global population is growing more slowly and aging more rapidly. The number of children is reaching a global ceiling of two billion and the share of those at working age has peaked already. Behind the headlines are stark disparities between centers of global poverty, marked by high fertility, and drivers of global growth, subject to rapid aging. These disparities are expected to deeply affect the post-2015 agenda, not only accentuating existing challenges but also creating new opportunities.

### Monitoring Global Development Progress

2. **As MDGs transition into SDGs, Part I of the report will examine the need for multi-dimensional approaches to the unfinished agenda, in terms of measurement and policies.** This will be accomplished with reference to the multi-dimensional nature of the World Bank Group's TGs. The report will update the global poverty headcount ratios (based on the new global poverty line) and present recent information on the average income growth of the bottom 40 percent (B40), the chosen indicator of shared prosperity. It will emphasize the need to more fully take into account the non-monetary dimensions in support of the TGs. The report will feature new metrics that expand on the multi-dimensional depth and breadth of poverty, relate the shared prosperity objective to non-income aspects and the inequality of opportunity and outcome, and discuss the needed policy interventions to further the above objectives. It will also argue for the need to pursue the TGs sustainably—economically, socially, and environmentally.

3. **Increased attention to the non-monetary dimensions is warranted given contextual factors that will likely complicate future progress on the development goals.** First, extreme poverty is increasingly concentrated in low-income countries marked by high fertility, conflict and fragility, and dependence on natural resources. The Democratic Republic of Congo (a conflict state) and Zambia (a country dependent on natural resources and with low productivity in agriculture) have registered extreme poverty rates of 88 and 74 percent in 2011 and 2010, respectively. Second, while many countries saw healthy income growth in the B40 of their income distributions, the pursuit of shared *prosperity* (as opposed to *income*) is made difficult by persistent inequality of opportunity in basic socioeconomic non-income indicators. Third, many higher-income countries are addressing their own financial challenges in the face of high indebtedness,

limiting the scope for direct interventions to further development objectives at home and thereby constraining the availability of official development assistance for international initiatives.

4. **Drawing lessons from the MDGs, the report will interpret the expanded SDG approach as a welcome effort to reinvigorate the post-2015 development agenda.** Building on the MDG Report Card, the report will take stock of the progress made so far, highlighting substantial successes, particularly in reducing the incidence of extreme income poverty from 36 percent in 1990 to 14.5 percent in 2011. Yet, the outcomes of the MDG process so far do not offer room for complacency. First, in spite of their diminishing relative importance in global population, around one billion people still live in extreme poverty, mostly in Sub-Saharan Africa and South Asia, with pockets of ultra-poverty remaining. Second, global averages (influenced by large countries such as China) continue to hide considerable unevenness in performance across countries. Third, and more generally, comparatively less progress has been made on the MDGs that capture the non-income indicators of deprivation and which favor the intergenerational transmission of poverty, such as scant access to education and health care. Against this backdrop, the report will welcome the efforts of the expanded SDGs to better capture the multi-dimensionality of development, highlighting also the commonality with the WBG's TGs.

5. **The report will present the global prospects for growth, with special emphasis on the opportunities and challenges relating to demographic change.** As in previous years, the IMF will contribute its latest global economic outlook. Many developing countries benefited economically from demographic trends over the past 50 years, and in turn these “dividends” supported progress towards the MDGs. In the absence of policy adjustments, the phasing out of these dividends may produce global growth headwinds, as the rapid aging experienced in current global centers of economic activity may produce growth spill-overs onto the rest of the world economy. Conversely, the ongoing demographic transition in many countries in Sub-Saharan Africa will result in a sharp increase in the regional working age population over the next two decades, which with the right set of policies can provide a significant positive dividend for growth and development in the region.<sup>1</sup>

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<sup>1</sup> International Monetary Fund (2015a) and World Bank (2015d).

## Demographic Change and the Development Goals

6. **Part II looks at demographic change globally, analyze their interaction with the development goals, and examine policy opportunities within and across countries.** First, it characterizes global demographic trends, develops a country typology of demographic change, and explores how closely these classification types correlate to development indicators. Second, it examines the causal interaction between demographic change and development (both theoretically and empirically) through the lens of the evolving development goals; special attention will be given to cross-border interactions such as trade, migration and capital flows. It argues that the two-way relation between demography and development is not deterministic but amenable to behavioral change and policy intervention. Third, it analyzes how policy interventions by countries, both individually and collectively, can tilt the interaction between demography and development in their favor.

7. **To set apart demographic contexts, the report will employ a typology that classifies countries into a continuum of four groups based on their potential demographic dividend.** The four-country typology will differentiate between countries past the demographic transition (post-dividend), late in the transition (late dividend), early in the transition (early dividend), and not yet in the transition (pre-dividend).<sup>2</sup> During the early stages of the demographic transition, countries have the opportunity to realize a “first demographic dividend” as declining fertility translates into fewer children and eventually leads to a temporary boost in the labor supply relative to the population of dependents. More workers may thereby lead to higher per capita output and savings. To the extent that savings are productively converted into domestic investment, more capital (human and physical) may be accumulated. As a result, each worker will have more capital to work with in the future and production will rise further on account of that—giving rise to the “second demographic dividend.”

8. **From the perspective of the TGs, demographic change presents distinct, but also overlapping, challenges.** With the world approaching a ceiling of two billion children, the number of children continues to rise rapidly in pre- and early-dividend countries (accounting for 90 percent of global poverty). The combination of high fertility rates and youth dependency ratios may make poverty more persistent, contributing to poor health status among women and children, low investment in children, low labor productivity, and high un(der)employment. In contrast, concerns about shared prosperity are accentuated in late- and post-dividend countries, where population aging may pose a risk to the objective of producing broad-based growth. The demographic transition may proceed unevenly across the income distribution, potentially accentuating inequality between poor and rich households.

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<sup>2</sup> The demographic transition refers to the transformation of countries from largely rural, agrarian societies with high fertility and mortality rates to mainly urban industrial societies with low fertility and mortality rates.



9. **While demographic change may present challenges in addressing headwinds and capitalizing on tailwinds, these challenges represent also policy opportunities.** Demography is neither curse nor destiny, and is now widely viewed as susceptible to behavioral change and amendable to policy intervention—in contrast to earlier Malthusian views. Policymakers have room to influence how population dynamics will influence their development trajectory through policies that aim to shape demographic outcomes and those that cope with or adapt to a given demographic trend. With sound policies in place, demographic change may present an opportunity for developed and developing countries alike to make progress, regardless of whether they have young or old populations. The report will focus on the following policy areas:

- **Accelerate the fertility transition in pre- and some early-dividend countries.** Continued high levels of fertility may limit opportunities for raising per capita incomes and hinder access to non-income components of welfare such as health, education, and infrastructure. However, these demographic changes may eventually constitute a strong positive contributor to growth and poverty reduction if policy can encourage “interactive accelerators” that seek to, on one hand, lower fertility by improving public service delivery in health, education, and the empowerment of women and, on the other, create sufficient demand for labor.<sup>3</sup>
- **Employ a larger share of the growing labor force and productively invest accumulated assets in early- and late-dividend countries.** Realization of the potential demographic dividend in countries with younger populations will depend on implementing policies that enable growing working-age cohorts to make productive contributions to growth. Similarly, societies that are starting to age can mitigate potential demographic headwinds by facilitating increased savings, which can translate into rising investment in human and physical capital. Such interventions could contribute to growth, poverty reduction, and shared prosperity goals.
- **Foster healthy and active aging in late- and post-dividend countries grappling with a rising old-age share of the population.** Aging poses specific challenges that, in middle-income countries, are compounded by a concern of getting old before becoming rich.<sup>4</sup> A key objective for late- and post-dividend countries is to expand the economic and social participation of the elderly, raise the productivity of the working-age population and slow the shrinking of the labor force, while keeping public finances stable and encouraging growth and shared prosperity. The latter will require multi-dimensional interventions in health, education, social protection and labor market policies, which need to evolve with changing needs so that aging does not push more people into poverty.

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<sup>3</sup> Empowering women can be crucial for lower fertility rates (World Bank, 2015d).

<sup>4</sup> Rapidly aging middle-income countries face the challenge of climbing further up the income ladder while dealing with new epidemiological trends due to aging and less-healthy lifestyles (World Bank, 2015c, 2015e).

10. **The global diversity of demographic change is expected to produce important spillovers across countries, highlighting the scope for international cooperation.** With late- and post-dividend countries contributing to a third and almost a half, respectively, of global growth since 2000, it is clear that demographic headwinds in these countries pose wider risks for the global economy. Moreover, the asymmetry of demographic change across countries is likely to alter the comparative advantages of nations in the global marketplace. In this context, enhanced trade in goods and services, as well as increased investment across borders, would allow countries to benefit from a shift of labor-intensive production from its current centers, particularly in East Asia, to South Asia and Africa. Improved factor mobility, achieved through policies such as expanding opportunities for legal international labor migration, would help foster the delivery of non-traded services to aging populations using labor from countries with young populations. Intensive cooperation will also be required to address environmental challenges and climate change, which are inherently cross-national and will also be impacted by heterogeneous patterns of population growth and international migration.

## **Organization**

11. **The GMR will rely on an extensive collaboration with entities outside and inside the Bank and the Fund.** Regional multilateral development banks have been asked to provide a retrospective on how they supported countries making progress towards the MDGs and to reflect on lessons learned during the MDG cycle with a view towards the SDGs. Experts from academia and policy think tanks have been recruited as contributors and reviewers. Within the WBG, the GMR will draw upon ongoing work on the MDGs and the post-2015 agenda, led by the Office of the President's Special Envoy on MDGs, and the efforts on financing for development, led by the Development Finance and Innovation Vice-Presidency. The GMR will benefit from extensive consultation and collaboration with the Global Practices and Cross-Cutting Solution Areas, Regional Vice-Presidencies and Chief Economist Offices, and various units in DEC. In the Fund, the GMR will benefit from collaboration and contributions across departments.

## **B. Report Structure and Content**

12. **The report will be presented in two substantive parts, connected by an overview summarizing its findings and policy messages.** As per the mandate of the GMR, Part I will monitor global development progress. It will provide multi-dimensional perspectives on the TGs, identify the unfinished portions of the MDGs agenda, highlight implications of the unfinished agenda for the SDGs, and summarize the outlook for the world economy. Part II will examine the role of demography in shaping global development progress and vice versa. Linkages between the two parts will be drawn in the overview section and throughout the text.

## **Part I: Monitoring Global Development Progress**

13. **Part I of the GMR is structured into three Chapters (Table 1).** It examines the challenges of sustainably ending extreme poverty and sharing prosperity, focusing on measurement and policies (Chapter 1). It then discusses how these policy challenges connect to the multi-dimensional post-2015 agenda, as the world transitions from MDGs to SDGs (Chapter 2). It further looks at how the global outlook for growth may circumscribe the scope for global development progress, highlighting the role of demography (Chapter 3).

### **Chapter 1. Ending Poverty and Sharing Prosperity: Multi-Dimensional Perspectives**

14. **Chapter 1 will examine the progress towards sustainably ending extreme poverty and promoting shared prosperity, with a focus on measurement and policies.** The report will analyze the evolution of extreme poverty and shared prosperity in developing and developed countries, while considering throughout the sustainability dimension—economic, social, and environment. The running theme through Chapter 1 will be that progress on monetary indicators of the TGs depends on the ability of countries to advance on non-monetary dimensions. Separate sections will be devoted to measurement issues and policy suggestions.

15. **Generating the data to conduct the monitoring of the TGs remains a major challenge.** The most recent available data for poverty is 2011. However, the figures are being updated based on new calculations of purchasing power parity (PPP), and will be made available in time for the publication of the 2015 GMR. Data on shared prosperity is largely based on household surveys between 2006 and 2011, with adequate consistency for 86 countries. Expanding the datasets and extending their use to the analysis of non-income indicators of well-being among the B40 is an ongoing and necessary effort.

#### ***Ending Extreme Poverty***

16. **The World Bank Group has reinforced its commitment to end extreme poverty by 2030.** The share of the world's population living on less than \$1.25 per day (2005, PPP) fell from 36.0 percent in 1990 to 14.5 percent in 2011. Still, existing levels of poverty leave almost one billion people living in extreme poverty, and poverty rates are high in Sub-Saharan Africa. As a next step, the WBG has set a goal of ending poverty by 2030, understood as reducing extreme poverty to below 3 percent (reflecting the great difficulty of reducing poverty in some places, as well as the notion of “frictional poverty” as some people fall into poverty, even if temporarily).

**Table 1. Overview of Part I: Monitoring Global Development Progress**

Key Questions	Areas of Focus	Methodology / Background Work
<b>Chapter 1. Extreme Poverty and Shared Prosperity: Multi-Dimensional Perspectives</b>		
What progress has there been on the TGs?	The less-rosy growth outlook, as well as structural and contextual factors, pose challenges in reaching the poverty target.	Release of new poverty data based on 2011 PPPs and PRR methodology applied to 2030 poverty scenarios (World Bank, 2015).
What factors may complicate future progress?	To meet the challenge, countries need to grow, invest, insure, and secure to reduce poverty further.	Assessment of the incidence and depth of poverty using person-equivalent headcount measures of poverty (Castleman, Foster, Smith, 2015).
How to evaluate the TGs with greater focus on policy-relevant differences among the extremely poor and B40?	Many countries have achieved fast income growth in the B40 of their income distributions.	Assessment of multi-dimensionality of poverty and shared prosperity challenges.
How can policies contribute to continued progress?	Achieving average income growth is still key for shared prosperity, as is the need to address unevenness in non-income measures and, relatedly, the inequality of opportunity between the B40 and T60.	Review of the literature on inequality of outcomes and opportunity.
<b>Chapter 2. From Millennium to Sustainable Development Goals: Opportunities and Challenges</b>		
What has been the progress so far towards the MDG goals?	The MDG process has yielded substantial development progress, but a large unfinished agenda remains, particularly with respect to non-income goals.	Retrospective report card based on WDI, complemented by analysis of heterogeneity of MDG outcomes.
What are the implications of the unfinished MDG agenda for the SDGs?	The post-2015 development agenda will need to be more ambitious in several dimensions.	Contribution from the Special Envoy's Office on the MDGs, review of work on Financing for Development, and outcomes of the Third Financing for Development Conference in Addis Ababa.
<b>Chapter 3. Global Macroeconomic Performance and Outlook: The Prospects for Growth</b>		
What is the global outlook for growth?	Regional and demographic aspects are explored against the background of growth during the MDG-monitoring period.	Global outlook based on the IMF's World Economic Outlook.
How is the global outlook related to demographic change?	Global population aging may depress the potential growth rates in major economies.	Draw on Fund staff research on impact of demographic change on potential growth.

17. **The GMR will release updated poverty numbers based on the 2011 PPPs.** The monetary headcount ratios will be updated to reflect the latest household surveys as well as the purchasing power parity adjustment of 2011. The report intends to present the data aggregated by region, complemented by a detailed explanation of how the change in the PPP base year influences the results. Given that the previous release of 2005 PPP data led to large changes in the global poverty numbers (an increase of nearly half a billion people in 2008), a close collaboration has been set up with the Global Poverty Working Group so as to ensure that any changes will be well communicated.

18. **A number of factors are likely to complicate poverty reduction going forward:**

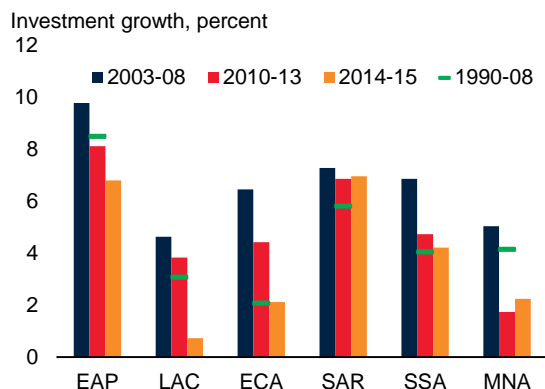
- **While growth remains key for poverty reduction, it is not expected to be strong enough to end extreme poverty by 2030.** History suggests a strong association between economic growth and poverty reduction—the example of China being a case in point. In the medium term, however, growth is likely to be less buoyant on account of legacy factors following the global financial crisis (Figure 1) as well as demographics—a theme to be explored further in Chapter 3. Over the longer term, however, rather optimistic growth scenarios will be required to achieve the poverty target through growth alone (Figure 2). This suggests the need for targeted interventions and transformational policies to complement the poverty-reducing effect of growth.<sup>5</sup>
- **The emerging concentration of poverty in poorly diversified economies and fragile and conflict-affected states poses additional complications.** While poverty incidence has fallen worldwide, it remains high in Sub-Saharan Africa and South Asia, accounting for the bulk of the global poor (Figure 3 and 4). By 2030, most of them are expected to live in poorly diversified natural resource-based (NRB) economies, fragile and conflict-affected states (FCS), or both (Figure 5), where poverty eradication may be more difficult.<sup>6</sup> Growth of capital-intensive natural-resource sectors may not generate enough jobs. The persistence of poverty among exporters of crops, such as cocoa, coffee, and cotton, may be raised by natural disasters. Fragility and conflict pose further challenges by depleting assets, reducing their returns, and affecting the intensity of their usage.

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<sup>5</sup> Projections show that if inequality continues on present trends, the developing world will need to grow at exceptional rates in order to achieve the 3 percent poverty target by 2030. Therefore, ending global poverty will require not just a focus on overall levels of growth, but particular attention to the nature and patterns of growth (World Bank, 2015a).

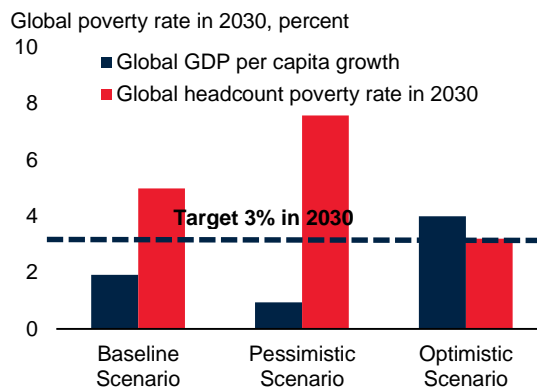
<sup>6</sup> Inchauste et al., 2014; Inchauste and Saavedra-Chanduvi, 2014; Loayza and Raddatz, 2010; World Bank, 1990.

**Figure 1. Weak investment may constrain future growth**



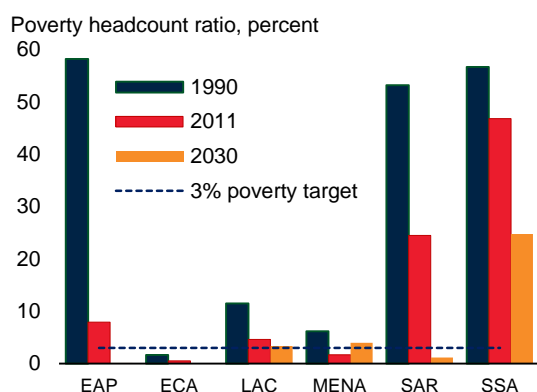
Note: Regions are listed using World Bank region acronym.

**Figure 2. Reaching the poverty target will require fast growth**



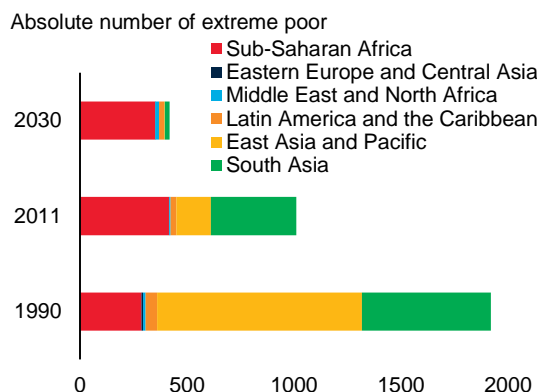
Note: Growth is the aggregate for developing countries. Poverty estimates based on growth assumptions in World Bank (2015b).

**Figure 3. Poverty incidence falls, but remains high in SSA**



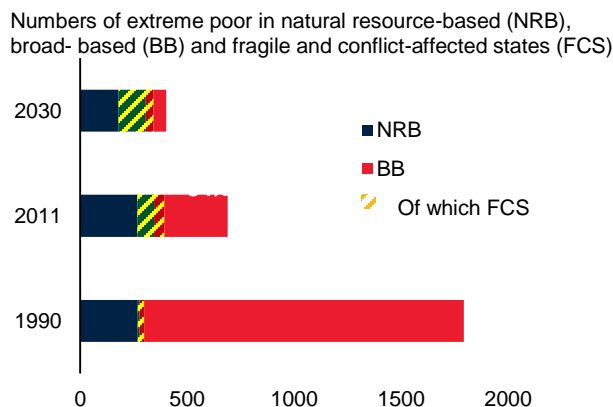
Note: Regions are listed using World Bank region acronyms.

**Figure 4. Most of the global poor will therefore reside in SSA**



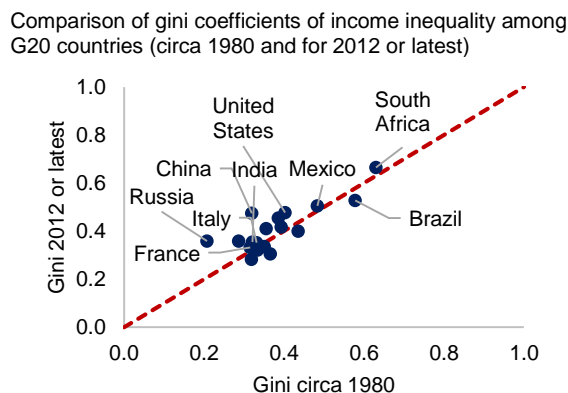
Note: The poverty numbers for 2030 are based on growth projections (low base case) in World Bank (2015b).

**Figure 5. Poverty is especially persistent in undiversified and conflict-affected countries**



Note: Yellow lines indicate the share of NRB and BB countries that are also FCS, defined according to the 2013 WBG classification.

**Figure 6. Intra-country inequality is up in most G20 countries**



Sources: World Bank (2014a); PovcalNet; World Bank *All the Ginis* dataset; and World Bank staff estimates.

19. **To aid poverty reduction in these more difficult situations, it is essential to recognize that not all extremely poor populations are the same.** While the advantage of monetary headcount measures may be their simplicity and salience, the extremely poor are not all the same. There are important differences in the intensity of poverty they experience. Some may have a shortfall that is 50 percent of the poverty line; others may be just below. As a measure of progress, the usual headcount measures do not differentiate between the two. Extremely poor populations also experience different breadths of poverty when it is measured in all its dimensions. Recognizing the broad scope of poverty enables better monitoring, analysis, and design of policy actions, which together become all the more relevant as the world sets its sight on the challenging task of ending extreme poverty by 2030.

20. **The GMR will evaluate differences among the extremely poor by gauging its intensity using person-equivalent headcount indicators and multi-dimensional poverty measures.** Given that persistent pockets of poverty are likely to remain, it is important to identify and characterize them. The report will argue that alternative lenses expanding on depth and breadth may usefully complement the monetary headcount ratio. First, following Castleman, Foster, and Smith (2015), person-equivalent headcount measures will be calculated. These go beyond ordinary headcounts by accounting for the intensity of poverty. Second, new multi-dimensional poverty methods will be presented that zero in on the multiple deprivations of the poor (both monetary and non-monetary, such as poor access to education and health) through censored headcount ratios—ratios of those both poor and deprived in a given dimension. Together with headline aggregate poverty measures, these create a coordinated dashboard that complements traditional dashboards in directing policies toward the poor.<sup>7</sup>

21. **Shifting from measurement to policies, the GMR will present a four-pronged strategy to end poverty, emphasizing the need to “grow, invest, insure, and secure.”** First, to *grow* more quickly, NRB countries should diversify their economies, dampen the volatility of growth, and link growth with jobs, whereas in FCS countries, efforts to revive the nexus between growth, jobs and poverty reduction are key. Second, governments should *invest* more in health and education, especially of women and children, target improvements in agricultural productivity and the informal sector, and respond to the evolving needs to sustainably urbanize. Third, to *insure* better against shocks, policies should arrest degradation of the global commons, and finance safety nets tailored to the level of development. Fourth, to *secure*, investments in inclusive growth for FCS countries should go hand-in-hand with investments in peace-building institutions to sustain peace and deliver basic services to the poor. In FCSs that are also NRBs, policies that share wealth fairly from natural resources will be important too.

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<sup>7</sup> While the consumption aggregates that underpin monetary poverty incidence indicators capture many important economic dimensions of well-being, some dimensions such as health, education, social inclusion, and empowerment are difficult to incorporate (World Bank, 2015a). Traditional dashboards gauge the context of multidimensional poverty—the deprivations experienced by an entire population, both poor and non-poor.

## *Promoting Shared Prosperity*

22. **The second Twin Goal articulates the WBG’s commitment to promote shared prosperity.** The indicator being used to operationalize the goal is the average income growth of the B40 of the population in each country. The goal of shared prosperity represents a practical compromise between fostering economy-wide economic growth and a concern for inequality and the sustainability of growth in well-being. The goal gives more explicit attention to inclusive growth than has been the case in the past and paves the way for a focus on inequality, not only of opportunity but also of final outcomes. While the chosen indicator of shared prosperity focuses on average income growth among the B40, the concept itself is broader in that it aspires to achieve a *sustainable* increase in the *well-being* of the poorer segments of society. The concept thus recognizes both the *inter-temporal* and *multi-dimensional* nature of the challenge, requiring a focus on shared well-being across individuals over time. This in turn requires forms of sustainable development that fully account for environmental degradation and natural resource depletion as well as, crucially, their close interrelation with poverty (World Bank, 2015a).

23. **The increased interest in shared prosperity has taken place against the background of rising concerns globally about the distribution of income and wealth.** While the rapid rise of emerging market countries, especially China, has reduced income inequality between countries in recent decades, within-country inequality seems to have noticeably increased over the last three decades in many countries (Figure 6).<sup>8</sup> Indeed, measured as the gap between the richest 10 percent and the poorest 10 percent, income inequality in OECD countries is at its highest level in 30 years, with the richest 10 percent earning 9.5 times the income of the poorest 10 percent (compared to a ratio of 7 to 1 in the 1980s). Attention has recently also focused on top 1 percent (wealth) inequality, which has also risen in many countries. Overall, the increased interest in distributional issues has spawned a growing literature on the relation between growth, poverty, and inequality, wherein the notion of shared prosperity fits prominently.<sup>9</sup>

24. **While cross-country comparisons of shared prosperity need to be treated with considerable caution, the world seems to be making progress.** Shared prosperity is a country-specific goal with no explicit target. Yet, cross-country comparisons may highlight how countries are performing relative to each other. Over the last decade, the world seems to have made progress in shared prosperity, as measured by the monetary indicator of the average growth of income or consumption of the B40 of the income distribution. Per capita income (or consumption) of the B40 grew faster than the overall average in 58 out of the 86 countries for which there were adequate data, and grew by 5 percent or more annually in almost a third. However, comparisons of shared

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<sup>8</sup> The Gini coefficient is available for a larger number of countries and for more years. Lakner and Milanovic, 2013; Cingano, 2014; Atkinson, Piketty, and Saez, 2011.

<sup>9</sup> Chen and Ravallion 2013; Ravallion 2012; Milanovic and van der Weide, 2014; Cingano, 2014; Berg, Ostry and Zettelmeyer, 2012; Yoshida, Uematsu, and Sobrado 2014; World Bank 2014c; Piketty, 2014.



prosperity across countries should be interpreted with caution as, for example, indicators of well-being may not be strictly comparable and timing differences in household surveys may occur.

**25. Building on recent work, the GMR will seek to further articulate and clarify the concept of shared prosperity.**<sup>10</sup> The concept of shared prosperity is far from new, as indicated by its early use by Kuznets in discussions of growth and inequality and its early invocation by McNamara (1972).<sup>11</sup> Yet, its operationalization have raised questions about the relation between shared prosperity and inequality as well as the role of non-income aspects in its measurement. Against this backdrop, the report will: (1) interpret the shared prosperity indicator as an “income standard” that measures the size of the distribution using a representative income; (2) clarify how shared prosperity is linked to various inequality measures, well-being, and inclusive growth; (3) discuss the impact of shifting from a goal of maximizing growth to maximizing the mean of the B40, emphasizing that this goal focuses on the “right” inequality (at the bottom of the distribution) rather than the “wrong” inequality (at the top); (4) discuss the role of shared prosperity indicator as a headline figure among the many other related income standards that might be used for monitoring purposes, robustness, and analysis; and, (5) examine how shared prosperity links to multidimensional inequality and the inequality of opportunity.

**26. Policies to foster shared prosperity need to be well tailored to country circumstances given the large differences of the B40 across countries.** The B40 encompasses a wide range of income levels and poverty rates, depending on the specific country. For example, in 26 low-income countries, the entire B40 population (and more) was extremely poor, with between 41 and 88 percent living below the \$1.25 poverty line in 2011.<sup>12</sup> In contrast, the B40 in China and South Africa are comprised of not only the extremely poor, but also a substantial share of the moderately poor (income of \$1.25-\$4 a day). Finally, in the Russian Federation, there is virtually no extreme poverty, and while the B40 comprises some moderately poor, it is mostly made up of the vulnerable population (income of \$4-\$10 a day). Given the differences described above, there is no universal blueprint for shared prosperity; each country has to tailor policies to suit its contextual circumstances.

**27. Taking this caveat in mind, the GMR will explore a variety of policy messages.** First, the report will adopt a comprehensive perspective on shared prosperity, taking into account the multi-dimensional aspects of well-being. In addition to income growth, prosperity is therefore shared when the B40 also enjoy non-income aspects of well-being, such as educational attainment, access to services, personal safety, and gender equality. Early investments in human capital (including early childhood development) foster equality of opportunity to access productive jobs and improve living standards. Second, shared prosperity hinges on inclusive growth across income levels. Its ingredients include building human and capital assets of the B40, institutions that

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<sup>10</sup> The report will refer extensively to World Bank, 2015a.

<sup>11</sup> Kuznets, 1955.

<sup>12</sup> World Bank, 2014.

improve access to markets, and sharing resources through tax and transfer policies to reinforce universal social protection and social insurance systems. Third, for sustained progress, the global commons must be preserved. This requires containing the negative spillovers of climate change through environmental protection, investments in disease and disaster control technologies, and national cooperation to facilitate international migration to benefit labor-scarce and labor-surplus economies.<sup>13</sup>

## **Chapter 2. From Millennium to Sustainable Development Goals: Opportunities and Challenges**

28. **Chapter 2 of the GMR will undertake a retrospective on the MDGs, highlighting that substantial progress has been made, though a large unfinished agenda remains.** The MDG No. 1 target of halving the number of people living on less than \$1.25 per day between 1990 and 2015 was met in the aggregate five years early in 2010. In addition, several other MDGs have been met. These include MDG No. 3 on gender parity in primary school enrollment, and the MDG No. 7 targets on achieving access to safe drinking water and improving the lives of at least 100 million slum dwellers. Outcomes in other areas are lagging in many countries. For example, progress on reducing maternal mortality in 88 countries out of 144 for which data are available is deemed seriously off-track, implying that the target will have been missed in 2015 and is unlikely to be met by 2030. Similarly for infant mortality, where 77 countries are deemed seriously off-track. Efforts to improve sanitation and reduce the prevalence of undernourishment are also challenged by realities on the ground. These critical areas, among others, require renewed focus and enhanced effort as a matter of urgency.

29. **The report plans to undertake a systematic analysis of the MDG outcomes achieved so far.** Building on a detailed MDG Report Card, the report plans to undertake a global analysis of the outcomes so far, not only taking a snapshot in the current year but also examining the pace of progress in recent years. It plans to examine the heterogeneity of success in the MDGs across regions, countries, income levels, and possibly other typologies, including demographic type and whether the country is dependent on natural resources or is a FCS. To the extent feasible, the within-country dimension will also be explored. The report will further draw inferences from the differential performance across indicators, especially income versus non-income based indicators.

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<sup>13</sup> The GMR will draw on recent work within the WBG on: (1) the “asset-based approach” used in ECA to analyze the proximate sources and policies to address inequality, focusing on the long-term productive capacity of households as well as the importance of the macroeconomic environment; and (2) the “life-cycle approach” used in SAR to deepen the understanding of the roles of circumstances at birth, opportunities during the youth years, and both mobility and support throughout life (Rama and others, 2015).

30. **Looking ahead to the SGD agenda, the GMR will elaborate on how the proposed goals are connected to the MDGs and the TGs, and how they build on one another.** The development goals have helped galvanize the international community towards a common purpose of accelerating poverty reduction and promoting shared prosperity. A multi-dimensional perspective on development has resulted.<sup>14</sup>

- **The commitment to ending extreme poverty is the first pillar of these development goals.** This commitment evolved from MDG No. 1's goal of halving the number of people living in poverty in 1990 by 2015, to the WBG goal of reducing this figure to 3 percent by 2030, and to the related SDG goal of "eradicat[ing] extreme poverty for all people everywhere."<sup>15</sup> MDG No. 1 also included an indicator on the share of poorest quintile in national consumption, but this component has received relatively little attention.
- **With distributional issues attracting increasing attention, the WBG committed to the goal of shared prosperity.** This commitment is part of an effort to frame development goals that are universal (applying to developing and developed countries alike). The goal is made tractable with the specification of a target, focusing on the growth of the average incomes of the B40 in each country, which is relatedly being proposed as an SDG target of sustaining the "income growth of the B40 of the population at a rate higher than the national average." Other features share a similar consistency. It is apparent that the SDGs are not an expanded list of development goals, but rather constitute a more complete articulation of the complexity of development.

31. **The report will also discuss some early lessons from the MDG process for the post-2015 SDG agenda.**<sup>16</sup> A key lesson from the MDG experience is the importance of ensuring adequate implementation arrangements. In the case of the MDGs, these were only put in place several years after the Millennium Declaration, which meant that the effective period of time to make systematic efforts towards the MDGs was far shorter than the headline span of 15 years. Implementation of the SDGs will benefit greatly from building on the systems established for the MDGs. Progress towards the SDGs will also be helped by the broad recognition that in addition to strengthening policies and institutions, substantial finance needs to be mobilized beyond the needed scaling up of official development aid.

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<sup>14</sup> These challenges are discussed in greater detail in World Bank (2014a, 2014c).

<sup>15</sup> Open Working Group, 2014.

<sup>16</sup> The report will reflect on gaps and lessons, drawing on inputs and reports produced by the regional Multilateral Development Banks, and other parts of the WBG, including IEG's assessment on Results and Performance of the World Bank Group 2014, ongoing work on the MDGs and the post-2015 agenda led by the Office of the President's Special Envoy, and the efforts on financing for development led by the Development Finance and Innovation Vice-Presidency.

### Chapter 3. Global Macroeconomic Performance and Outlook: The Prospects for Growth

32. **Chapter 3 will provide the broad macroeconomic backdrop, against which countries will pursue key development goals.** It will discuss recent global economic performance and provide the latest macroeconomic outlook and risks to this outlook based on the IMF's *World Economic Outlook* projections.

33. **A point of emphasis concerns the likely evolution of potential growth.** While global growth is expected to pick up in the near term, the medium-term outlook is expected to remain less buoyant compared to periods prior to the global financial crisis. Advanced countries, which were already experiencing slowing potential growth prior to the crisis, are expected to see a muted recovery, whereas in emerging economies, potential growth began to decline after the crisis and is expected to remain soft.

34. **The expected weakening in potential growth will be related to demographic trends, especially aging in major middle- and high-income countries.** Clearly, demography is not the only factor with a dampening effect on potential growth. Other factors include the sluggish recovery of investment post-crisis and the declining prospects for productivity gains. But with close to 80 percent of global GDP growth contributed by rapidly aging or aged societies, demographic pressures can be expected to continue playing a key role in dampening the structural growth capacities of these economies—barring policy adjustments. The weaker growth environment is in turn expected to spill over into the rest of the world, dampening trade and compounding the effects of an already-weaker responsiveness of trade to GDP.<sup>17</sup>

35. **Conversely, demographic trends in countries that are in a less-advanced stage of the demographic transition may present new opportunities for growth.** Many developing countries enjoyed growth dividends from demographic trends over the last 50 years, and in turn these dividends supported progress towards the development goals. As will be explored more fully in Part II on demography, many countries in Sub-Saharan Africa may experience a sharp increase in the share of the working age population over the next two decades. With the right set of policies, this trend may provide a significant positive dividend for growth and development in the region.<sup>18</sup>

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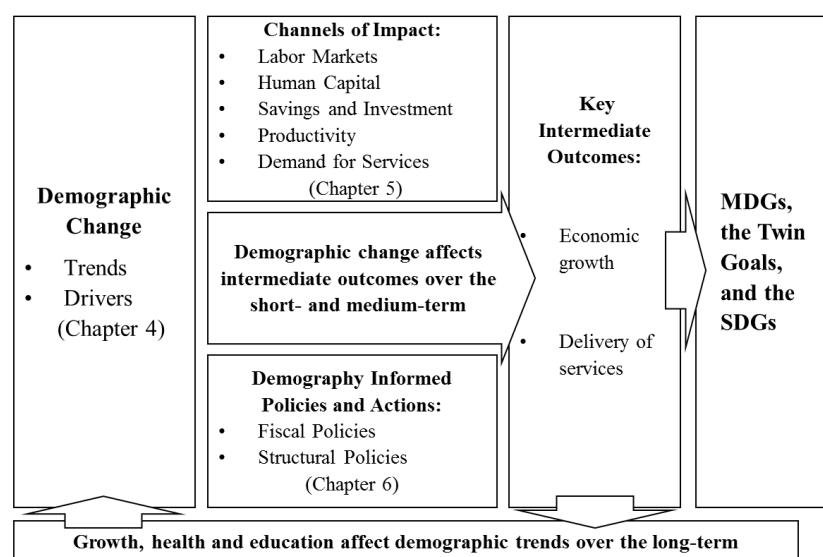
<sup>17</sup> International Monetary Fund (2015b) expects post-crisis potential growth to be lower than before the crisis. Looking forward, potential growth in advanced economies is projected to increase marginally from an average of 1.3 percent during 2008-14 to 1.6 percent during 2015-20, while still remaining well below the average pace of 2.25 percent during 2001-07. In contrast, potential growth in a group of key emerging economies is in fact expected to decline from about 6.5 percent during 2008-14 to 5.2 percent during 2015-20. The projections on global growth contributions of aged and rapidly aging societies are based on ongoing GMR work. The weaker responsiveness of trade to GDP is documented in World Bank (2015b).

<sup>18</sup> International Monetary Fund (2015a) and World Bank (2015d).

## Part II. Demographic Change and the Development Goals

36. **The world has been going through a profound demographic transition.** The share of the young in the total population is falling, while that of the elderly is rising. Moreover, given expected population trends, the total number of children in the world is expected to remain roughly constant at two billion in the years ahead. Another trend is the declining growth of the global labor force: from 1.5 percent over the last 15 years to just 0.8 percent in the next 15 years. While these changes play out with significant heterogeneity at the country level, they affect countries either directly or as a result of cross-country interactions.

**Figure 7. Linkages between Demography and Development**



Source: GMR team's elaboration.

37. **Part II examines how demographic change differs across countries, how it interacts with the development goals, and how policies can ameliorate outcomes.** The linkages between demography and development are complex (Figure 7). Demographic change affects key intermediate outcomes of development, such as the pace of economic growth and the delivery of services to poor people, and these intermediate outcomes influence demographic change. The structure of Part II reflects these linkages (Table 2): Chapter 4 will examine demographic patterns and drivers, highlighting long-term underlying characteristics and processes; Chapter 5 will analyze the impact of demographic change on intermediate outcomes over the short and medium term through the lens of the development goals; and Chapter 6 will examine how demography-informed policies and actions can lead to better outcomes.

**Table 2. Overview of Part II: Demographic Change and the Development Goals**

Key Questions	Areas of Focus	Methodology / Background Work
<b>Chapter 4. Demography in Motion: Trends and Patterns</b>		
How do demographic trends and patterns vary across regions and countries?	The world is undergoing a significant demographic transition, but the direction, pace, and patterns of change vary starkly across regions and countries.	Stylized facts and econometric analysis of drivers based on demographic typology.
How do the drivers of demographic change differ across countries?	The drivers of demographic change (health, education, women empowerment, income, etc.) vary significantly across countries, but important commonalities exist.	Examination of cross-country heterogeneity of drivers of change.
<b>Chapter 5. Demography and Development: A Two-Way Street</b>		
What are the main channels by which demographic change impacts the development goals?	<p>Poverty may be reduced by raising growth through its impact on labor, savings and investment, human capital, and productivity.</p> <p>Poverty and shared prosperity are also affected directly at the household and family level and across the income distribution.</p> <p>The development goals are further affected through the impact of demographic change on delivery of key services, such as education and health.</p>	<p>Econometric analysis of impact of demographic variables on selected development goals and household survey analysis of B40 and T60 demographic patterns.</p> <p>Review of the literature on the impact of demographic change on fiscal issues and at the household level. Application of empirical approaches to growth in understanding demographic impacts.</p>
<b>Chapter 6. Demography, Policy, and Achieving Development Goals</b>		
How does demographic change affect the global economy?	Differentiated demographic trends will affect the global economy through interactions that create scope for international cooperation.	Analysis using global and country-level CGE models, micro simulations, and “National Transfer Account” approaches, complemented by a review of major policy areas related to demography, including labor markets, demand for services, migration, and fertility.
How can policies contribute to growth and progress towards the development goals in an era of profound demographic change?	<p>Country-level policy opportunities and challenges will be to:</p> <ul style="list-style-type: none"> <li>• Accelerate the fertility transition in pre- and some early-dividend countries.</li> <li>• Employ growing labor force and productively invest accumulated assets in early- and late-dividend countries.</li> <li>• Foster healthy and active aging in late- and post-dividend countries grappling with a rising old-age share of the population.</li> </ul>	Analysis of the impact of demography in a comprehensive and forward-looking manner, covering global, regional and country scenarios and the role of policies within and between countries.

## Chapter 4. Demography in Motion: Trends and Patterns

### *Demographic Patterns*

38. **The world is in the midst of significant demographic changes.** Rising life expectancy in the first half of the previous century gave impetus to world population growth with little effect on the age structure. In the second half of the century, these trends were accompanied by a dramatic drop in fertility, which resulted in slower population growth, a lower share of young people, and a rising share of the elderly. Global population growth remains sustained by momentum in developing countries, with the total population predicted to approach eight billion by 2030 and nine billion by 2050 (Figure 8). The age structure of the global population is changing fundamentally, as reflected by the total dependency ratio (TDR), which is rising again for the first time in decades (Figure 9).<sup>19</sup>

39. **Given the considerable heterogeneity at regional and country levels, it is useful to differentiate among four demographic types (Map 1).** The typology differentiates between countries past the demographic transition (post-dividend), late in the transition (late dividend), early in the transition (early dividend), and not yet in the transition (pre-dividend).<sup>20</sup> During the early stages of the demographic transition, countries have the opportunity to realize a “first demographic dividend” as declining fertility translates into fewer children and eventually leads to a temporary boost in the labor supply relative to the population of dependents. More workers may thereby lead to higher per capita output and savings. To the extent that savings are productively converted into domestic investment, more capital (human and physical) may accumulate. As a result, each worker will have more capital to work with in the future and production will rise further on account of that. This gives rise to the “second demographic dividend.”

40. **Most countries have reduced or are reducing their fertility rates to replacement levels.**<sup>21</sup> Post-dividend countries reduced fertility rates to replacement levels by 1985 and these rates have generally not increased since then (Figure 10). Fertility rates in early- and late-dividend countries are either already below replacement levels, or are on track to be so by 2050.

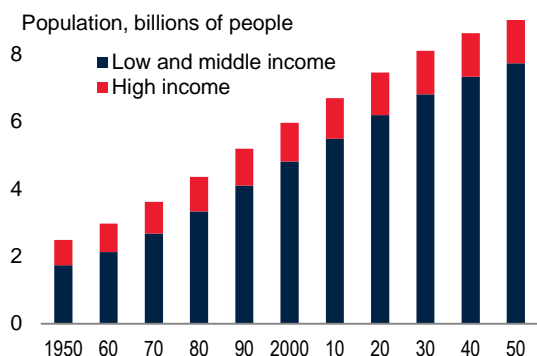
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<sup>19</sup> The total dependency ratio is the ratio of the number of children (less than 15 years old) and aged (over 64 years old) over the total number of people of working age (people between the ages of 15 and 64).

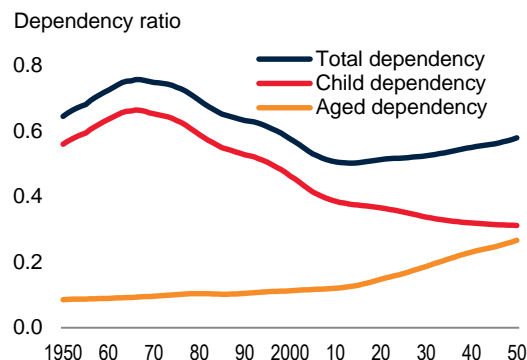
<sup>20</sup> The demographic transition refers to the transformation of countries from largely rural, agrarian societies with high fertility and mortality rates to mainly urban industrial societies with low fertility and mortality rates. The typology classifies countries as follows: pre-dividend (falling dependency ratio between 2015-2030, total fertility rate above 4 births per woman in 2015), early dividend (falling dependency ratio between 2015-2030, total fertility rate below 4 in 2015), late dividend (rising dependency ratio between 2015-2030, total fertility rate above 2.1 in 1985) and post-dividend (rising dependency ratio between 2015-2030, total fertility rate below 2.1 in 1985).

<sup>21</sup> Replacement fertility rates are considered to be 2.1 births per woman.

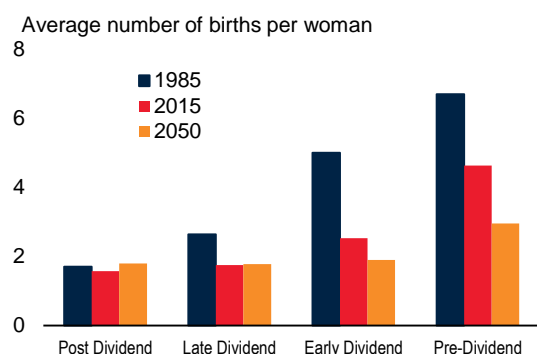
**Figure 8. Global population growth is (and will be) primarily driven by developing countries**



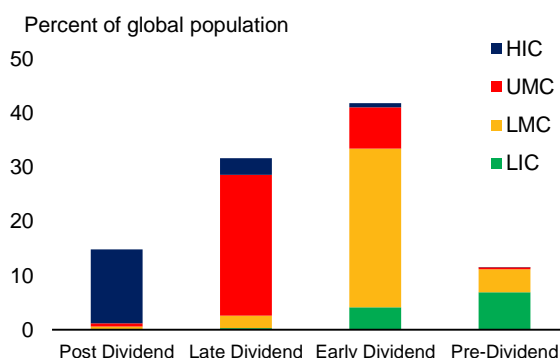
**Figure 9. Following a five-decades decline, the global total dependency ratio is rising again**



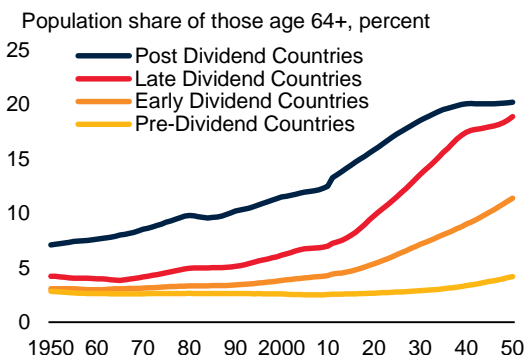
**Figure 10. In most countries fertility will have converged to replacement levels by 2050, with exception of current pre-dividend countries**



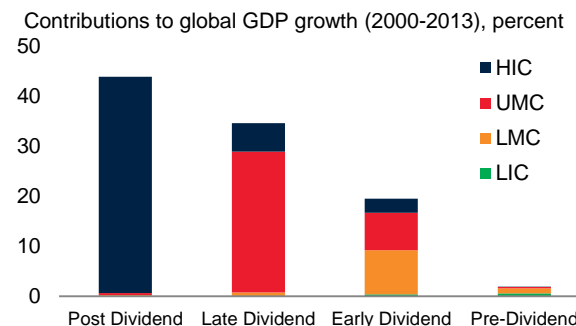
**Figure 11. Early- and late-dividend middle-income countries make up most of the world's population**



**Figure 12. Late-dividend countries are aging rapidly and converging to the demographic profile of post-dividend countries**



**Figure 13. Aging pressures may affect global growth, as late- and post-dividend countries have been key global growth engines**

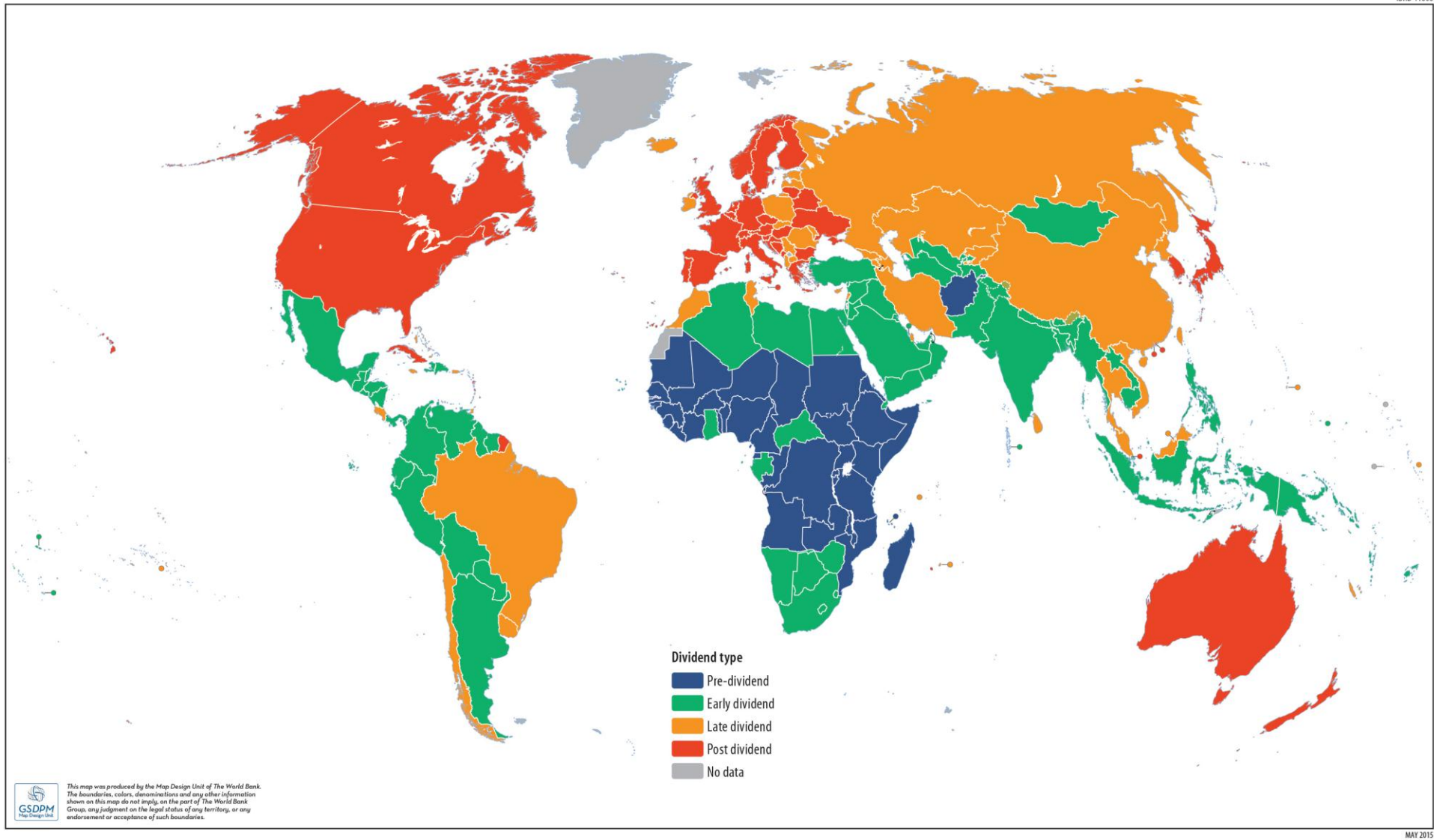


Sources: United Nations (2013); World Development Indicators (2015); PovcalNet; and World Bank staff estimates

Note: Developing countries are low- and middle-income countries as defined by the World Bank Group. The child and aged dependency ratios are the ratio of children and aged to the working age population, respectively. HIC = high-income countries, UMC = upper-middle-income countries, LMC = lower-middle income countries, and LIC = low-income countries.



Map 1. The World through the Lens of the Demographic Typology



Sources: World Bank

These countries account for 87 percent of the global population (Figure 11). Pre-dividend countries are also steadily reducing their fertility rates, but the progress is slow and it is expected that there will still be more than 2.95 births per woman by 2050. About two-thirds of these countries are low-income countries in Sub-Saharan Africa.

41. **Late-dividend countries are rapidly converging to the demographic structure of post-dividend countries, which could potentially pose a challenge for global growth.** Late-dividend countries are aging much faster than other countries, and are expected to have almost the same population share of aged (65 and older) as post-dividend countries by 2050 (Figure 12). This matters greatly for the global economy as late- and post-dividend countries accounted for 17 and 69 percent, respectively, of global GDP in 2013 and 43.9 percent and 34.6 percent of global growth over 2000-13 (Figure 13). These countries will need to adapt to age-related pressures and may need to find new ways to maintain growth in the face of aging.

### *Drivers of Demographic Change*

42. **To better understand the patterns discussed above, the second part of Chapter 4 will also examine the underlying drivers of demographic change.** This discussion will focus on the main drivers of fertility, mortality, and migration, identifying the drivers most important for specific countries, regions, and demographic types.

43. **The report will analyze improvements in health, education, women's empowerment, and income as key drivers of total fertility rates.**<sup>22</sup> As mortality and infant mortality rates fall, there is lagged impact on total fertility rates. The intuition is that since more children are surviving infancy and childhood, parents will reduce the number of births to maintain the same net number of children.<sup>23</sup> In contrast, higher education (especially of the mother) and household income are negatively correlated with fertility. There is also evidence of a “quality and quantity” decision that households make regarding children, which suggests that rising per capita income drives fertility declines because the positive income effect on fertility was dominated by a negative substitution effect as a consequence of increasing the opportunity cost of raising a child.

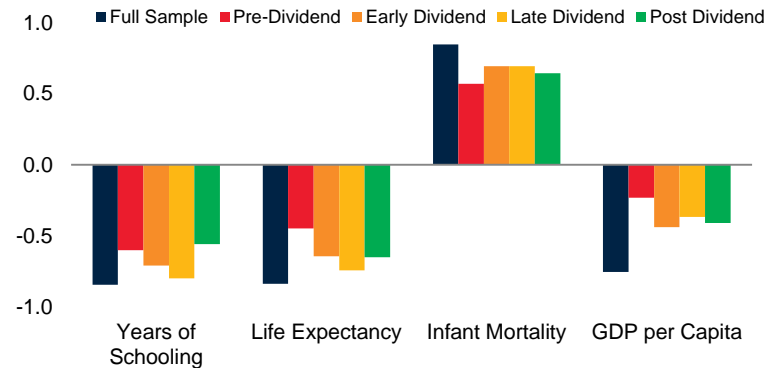
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<sup>22</sup> See Becker (1960) and Becker and Lewis (1973) on incomes; Galor (1999, 2005, 2012) and Galor and Weil (2000) on education; and Soares (2005) and Acemoglu and Johnson (2007) on health.

<sup>23</sup> Reher (2011).

**Figure 14: Correlations between total fertility rate and key drivers of fertility vary across country types, but also show common patterns**

Correlation coefficient between total fertility rate and selected variables



Source: Staff estimates.

Note: Data from Penn World tables; United Nations (2013); World Development Indicators (2015); Murtin (2013). All estimates significant at the 5% level. Infant mortality rate and GDP per capita are in logs. GDP = gross domestic product.

44. **While the impact of education, income, and health on fertility varies across countries of different demographic types, important commonalities exist (Figure 14).** Pre-dividend countries are known to be experiencing persistently high fertility rates, and understanding the drivers of fertility can help examine why the fertility decline has stalled.<sup>24</sup> In contrast, post-dividend countries and some late-dividend countries are experiencing fertility rates that are below replacement level, even as policy makers grapple with measures to increase fertility.

45. **The chapter will also examine the institutional and policy factors that can influence different drivers of fertility.** These would include stronger reproductive rights and ensuring adequate access to reproductive health, which can lower the unmet need for family planning.<sup>25</sup> There are numerous other policies that are a central part of holistic development programs and have the added benefit of also being closely associated with falling fertility rates.

<sup>24</sup> For example, most high-fertility pre-dividend countries are in Sub-Saharan Africa and there are a range of factors that offer explanations. For example, infant mortality rates are still high in many countries, and as such are less associated with fertility declines. The forthcoming World Bank report *What Will it Take to Harness a Demographic Dividend in Africa?* offers a comprehensive review.

<sup>25</sup> United Nations (2014) provides a comprehensive analysis of the global unmet need for contraception.

46. **The evolution of mortality rates will be discussed in the context of improvements in health, such as access to vaccination, improvements in hygiene and sanitation, and better preventive care.** Higher incomes and education are also strongly correlated with mortality rates and life expectancies. As life expectancies rise in a given country, for example, the aged will account for a greater share of the total population, with implications for net intergenerational transfers within the society.<sup>26</sup> Also, improvements in life expectancy stemming from new technologies introduced by the health industry and pharmaceuticals in advanced economies may have spillovers to health outcomes in developing countries.

47. **Demographic changes can also incentivize international migration, encouraging migration from younger to aging countries.** Both push and pull factors underpin migration decisions. Push factors include issues like diminished security, as seen most clearly in the context of migration from FCS countries. Pull factors suggest that people move because of expectations of higher wages, higher probability of employment, and better access to services.<sup>27</sup> In the context of international migration, research suggests that high wage differentials between the U.S. and Mexico have traditionally been the cause of northern migration. The surge of undocumented migration from Mexico during the 1980s resulted from the increase in the relative size of Mexico's working age population and the greater volatility of Mexican wages relative to the U.S.. Finally, demographic factors can also indirectly generate push or pull factors. Excess supply of labor (relative to domestic demand and employment opportunities) in an origin country can depress domestic wages and incentivize workers to move to markets where there is an excess demand, whereas shortages may create the opposite effect.<sup>28</sup>

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<sup>26</sup> Lee et al. (2014) uses income and consumption data by age cohort to construct fiscal support ratios to examine how intergenerational transfers are affected by age structure and the type of public pension systems.

<sup>27</sup> See Massey et al. (1998). From an economic perspective, migration occurs because of spatial differences in the supply and demand of labor. This is the basis of the Harris-Todaro model of rural-urban migration that explains the migration decision as being based on expected income differentials between rural and urban areas (Harris and Todaro, 1970). In this model, migration from rural areas to urban areas occurs if the rural wage rate (i.e., the rural marginal productivity of labor, MPL) is less than the urban wage rate (i.e., urban MPL) times the urban employed-labor force ratio (i.e., the ratio of total employed to total employed plus those seeking jobs). Conversely, migration from urban areas to rural areas occurs if the urban wage rate is more than the rural wage rate times the urban employed-labor-force ratio. Wage differentials between sending and destination regions have also been documented as a pull factor for international migration (Hare, 1999; Mayda, 2010; Hanson and Spilimbergo, 1999).

<sup>28</sup> Authukorala's (2006) review of East Asian migration provides several examples of this in the context of undocumented migrant workers from high-population countries travelling to Thailand during periods of economic expansion in the latter, when demand for labor was high.

## Chapter 5. Demography and Development: A Two-Way Street

48. **Chapter 5 looks at how demographic change may impact development goals.** First, it will examine how demographic change has the potential to reduce (increase) poverty by boosting (stifling) economic growth--through its impacts on labor supply, savings and investment, human capital, and productivity. Second, it will examine how demographic change can directly affect poverty and shared prosperity at the household and family level. Third, it will explore how demographic change affects the demands for different types of services and thereby also autonomously affects fiscal balances. This, in turn, brings in considerations about trade-offs between the quantity versus quality of service provision.

49. **First, the link between demography and growth will be explored, with a special focus on how it can help reduce poverty and share prosperity.** Growth in the working-age population share has been associated with higher per capita income growth (Figure 15).<sup>29</sup> The causality underpinning this association is complex and occurs through multiple pathways, including through the labor supply, savings and investment, and human capital.<sup>30</sup> The chapter will extend existing empirical work by analyzing which among these channels show the strongest association with economic growth as well as the outcome variables of the development goals. This will be achieved by including demographic variables to the latest empirical growth models from the literature.<sup>31</sup> The robustness of the relationships will be tested across different types of countries, classified by region, income, and demographic type. Moreover, the report will examine how policies and institutional changes may affect the nexus between demographic change and economic growth.

50. **The report will stress the importance of a growth-enabling institutional environment.** First, in countries where the working-age population is decelerating or even shrinking (high-income countries, some EAP countries, and ECA), the key concern will be how to generate new engines of growth and how to create the conditions that make this possible. This concern is of particular importance in countries that have not yet reached high-income levels, which may get old before they get rich and thereby may face increasing difficulty climbing the income ladder (Figure 16). Second, in countries where the working-age population will continue to increase (countries in SSA and SAR), the rise in potential labor supply (Figure 17) creates an opportunity

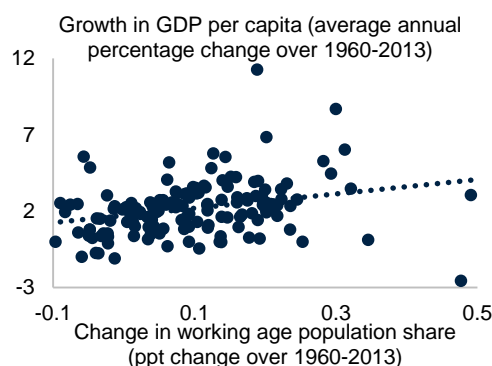
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<sup>29</sup> Bloom and Williamson, 1998; Bloom et al., 2000; Bloom and Canning, 2004; Higgins and Williamson, 1997; Eastwood and Lipton, 2011; Kelley and Schmidt, 1995, 2005, 2007.

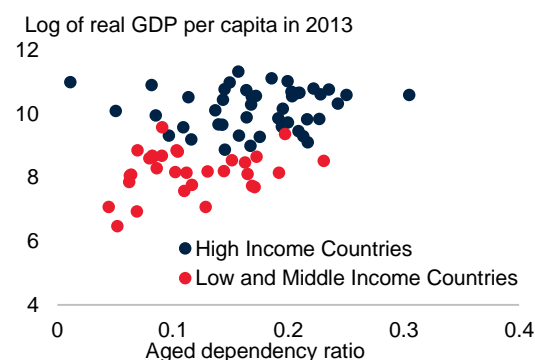
<sup>30</sup> National private savings rates have been found to depend on the age composition of the population: individuals are typically net savers when they are working age, but tend to be predominantly consumers when they are young or old. Empirically, declining dependency ratios tend to boost domestic savings and investment (Loayza et al., 2000).

<sup>31</sup> Demographic variables identified in Bloom and Canning (2004) will be applied to the growth model of Rajan and Subramaniam (2008). For robustness, the report also replicates Bloom and Canning (2004) and IMF (2004).

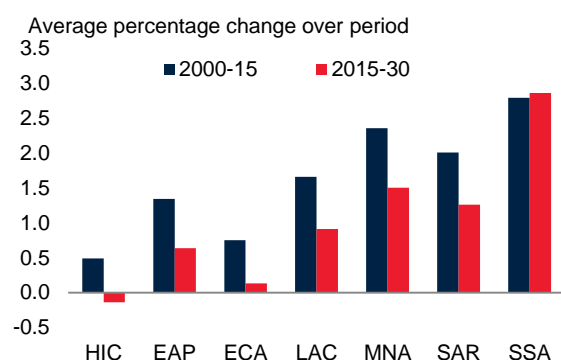
**Figure 15. A rising working age population share correlates with GDP per capita growth**



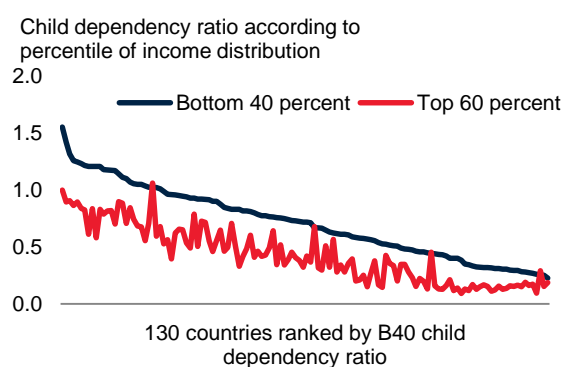
**Figure 16. Rapidly-aging developing countries may become old before they become rich**



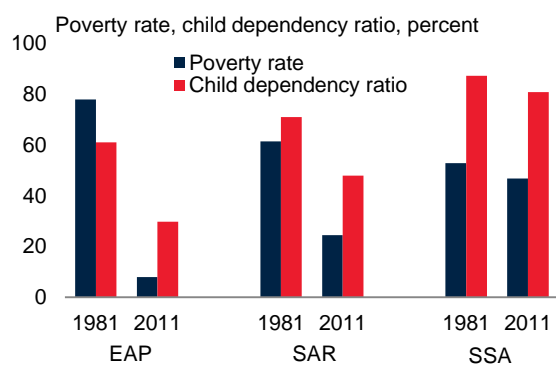
**Figure 17. Working-age population growth is likely to slow everywhere, except in SSA**



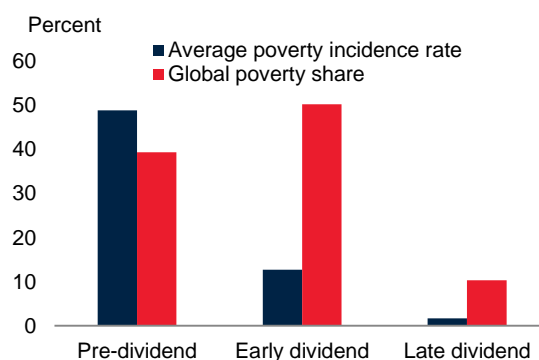
**Figure 18. Within countries, the T60 has lower child dependency ratios than the B40**



**Figure 19. Lower child dependency ratios are associated with lower poverty rates**



**Figure 20. Pre- and early-dividend countries make up most of global poverty**



Sources: United Nations (2013), World Development Indicators (2015), PovcalNet and World Bank staff estimates

Note: Data for Figure 18 are from household surveys, as close as possible to 2007 but spanning 2001-2010. The sample covers 130 countries. GDP = gross domestic product, HIC = high-income countries, EAP = East Asia and Pacific, ECA = Europe and Central Asia, LAC = Latin America and Caribbean, MNA = Middle East and North Africa, SAR = South Asia, SSA = Sub-Saharan Africa. Data for Figure 20 are from PovcalNet based on \$1.25/day poverty line (2011).

to grow more rapidly. Whether this opportunity will translate into sustained growth will depend on an enabling institutional environment.<sup>32</sup>

51. **Second, the chapter will focus on the role of the family in intergenerational investment and redistribution, and therefore poverty alleviation and shared prosperity.** Parents face trade-offs: consumption in the present, savings for future consumption (e.g., retirement age), and investing in children's human capital. Depending on country circumstances, notably its social protection systems, families come under additional budgetary pressure as the population ages. Families may be faced with making major intra-household transfers to both children for education and to the elderly for consumption. From the perspective of resource allocation, this decision is taken at the household level, which is the unit of analysis that will be used in the GMR.

52. **Child dependency ratios appear to differ dramatically depending on whether households are part of the B40 or T60 of income distribution.** B40 households tend to have higher child dependency ratios than T60 households in almost all countries (Figure 18). Richer households have higher life expectancy, lower fertility rate, and higher human capital investment than lower income households. Thus, higher child dependency ratios among the poorest are consistent with the association between fertility, education, income, and life expectancy. At the household level, if the dependency ratio changes, then the income per capita is directly affected. Lower child dependency ratios thus associate with lower poverty (Figure 19) and have direct implications for shared prosperity. At the national level, the pattern holds and higher income country groupings generally have lower child dependency ratio.

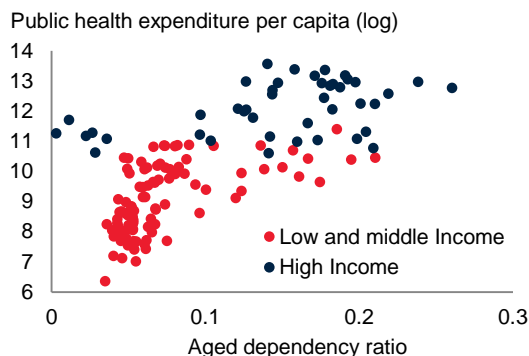
53. **The report will also emphasize how the challenge of eradicating global poverty is increasingly associated with early stages of demographic transition.** Approximately 90 percent of global poverty is currently concentrated in pre-dividend or early dividend countries (Figure 20). Preliminary projections suggest that by 2030 global poverty will be mostly concentrated among pre-dividend countries. For example, Nigeria and the Democratic Republic of Congo have poverty rates above 60 percent and fertility rates of around 6 children per women.

54. **Third, the relationship between demographic change and fiscal outcomes will be examined as governments need to meet the challenges of changing population structures in the next 15 years.** The fiscal pressures imposed by demographic change thus depend on whether the country's dependency ratios are rising or falling. Countries with aging populations and rising dependency ratios will have to contend with higher future demand for pensions and health services (Figure 21). In contrast, countries with high child dependency ratios and rising working age

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<sup>32</sup> The report will draw on several World Bank Group regional reports on aging and demographics. The report will also draw on lessons learned from the East Asian demographic dividend phenomenon, when economies were credited with leveraging their favorable demographic changes by attracting FDI and absorbing their labor supply into skill-intensive export sectors (Bloom and Williamson, 1998).

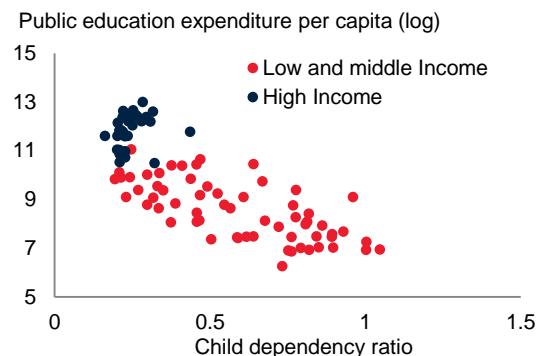
**Figure 21. Health expenditure per capita is positively associated with aged dependency ratio**



Source: Staff estimates.

Note: Data from World Development Indicators and United Nations (2013).

**Figure 22. Education expenditure per capita correlates positively with child dependency ratio**



population shares will need to invest more on education and human capital (Figure 22). In several countries, current pension systems are not designed to support the larger number of beneficiaries generated by longer life expectancies. Aging in these countries would require reforms in their pension systems that go beyond the minimal age requirement for retirement. Many pension systems also have gender-specific minimum age requirements to draw benefits, with the minimum age for women being lower than for men. These differences do not reflect the differences in life expectancies between genders.<sup>33</sup>

**55. This chapter will emphasize that rising life expectancies require healthy aging, and explore its fiscal implications.** Healthy aging is particularly important in societies experiencing both structural changes in their population and longer expected lifespans. The rising life expectancy tends to increase the overall morbidity rates among older cohorts of a population, since the prevalence of chronic degenerative disease tends to increase with age.<sup>34</sup> This morbidity compression has often been associated with concerns about rising healthcare costs in developed countries. Increases in preventative care and disease prevention, however, can offer ways to reduce disease prevalence among older age cohorts, thereby reducing potential future healthcare costs.<sup>35</sup>

<sup>33</sup> Renga et al. (2010) documents gender-biased pension systems in 33 European economies and finds that female pensioners run higher poverty risks as a consequence of the inequalities existing between men and women in the labor market—differences which are mirrored, often in the form of indirect gender discrimination, by pension systems.

<sup>34</sup> See Howse (2006), Jagger et al. (2007), and Robine et al. (2009) for discussions of how improvements in life expectancy have been associated with morbidity compression in developed countries.

<sup>35</sup> See Pammoli et al. (2010) and Meijer et al. (2013) for review of health care costs of aging. World Bank (2015c) offers examples from ECA of how healthcare costs for the elderly can be reduced through preventative care.



## Chapter 6. Demography, Policy, and Achieving Development Goals

56. **Chapter 6 will examine how policies can improve development outcomes in light of demographic change.** The nature of the policy challenges varies across countries depending on the direction, intensity, and speed of the projected demographic change. The most important policy areas are related to labor markets, education, health, pensions and other social transfers, international migration, and measures affecting (raising or reducing) family size. Most of these policies have significant fiscal implications, pointing to the need to maintain fiscal sustainability. Independently of demographic context, the sustainable achievement of the TGs and the SDGs is facilitated by strong economic growth that is economically, socially, and environmentally sustainable.

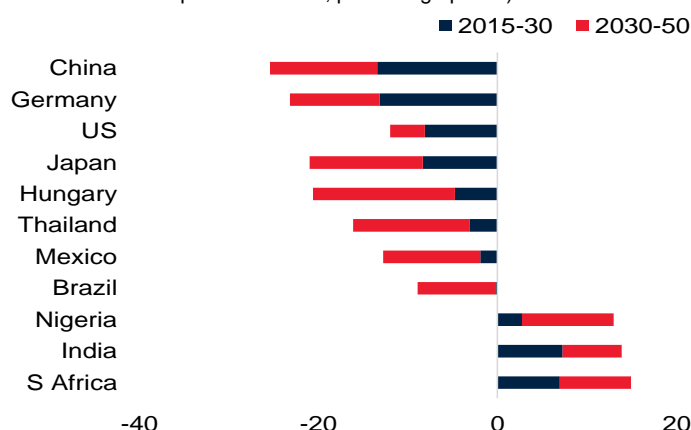
57. **The impact of demographics on economic development is not deterministically positive or negative, and depends on the degree to which countries adopt policies to take advantage of demographic trends at home and in other parts of the world.** The policy challenge is to prepare for the evolving demographic landscape of the future. Individually, countries need to address the specific yet multi-dimensional challenges of demographic headwinds or tailwinds. Collectively, all countries—whether aged, aging, or with still-young populations—can exploit the stark contrasts that exist between them and benefit from arbitrage opportunities through trade, migration, and capital flows.

58. **The analysis will make three novel contributions to our understanding of the relationship between demographics and achieving development goals.** First, the analysis will show that across the four country groups described earlier, progress in broad regions and different countries is influenced by demographic change, considering demographic drivers (operating by influencing human capital, labor supply, savings, and government spending) and interactions in the global economy via trade, migration, and capital flows. Second, it will study the effects, at the country level, of policies that specially address demographic concerns. Third, it will address the role of policies affecting cross-country flows of goods, services, migrants, and capital.

59. **A combination of methods will be used: global and country level CGE modeling, micro simulations, analysis based on “National Transfer Accounts” (NTAs), and descriptive analysis of major policy areas related to demography.** The global CGE model LINKAGE will be used to model alternative scenarios for demographic change. It will assess how changing population patterns and the policy changes they spawn (education reform, increasing female labor force participation, extending the retirement age and others) will affect the development goals. The impact of demographic change may be felt at the regional level and in major countries and country groups (due to linkages between countries). LINKAGE will be paired with the Global Income

**Figure 23: Demographic developments have widely different fiscal implications across countries**

Changes in fiscal support ratios over 2015-30 and 2030-50 (projected tax revenues relative to public transfers, percentage points)



Source: National Transfer Accounts (NTA); UN Population Division.

Notes: Fiscal support ratios are based on NTA age profiles and medium-fertility population projections and relate transfer outflows (taxes) to inflows (benefits). All values are relative to 2015.

Distribution Dynamics (GIDD) to look at the impact of demographic change on poverty for the world and shared prosperity at the country level by 2030 and 2050.<sup>36</sup> The country-level analysis (implemented through MAMS) will similarly be linked to GIDD and will offer a more detailed policy analysis tailored to the country typology introduced in the previous chapter.

60. **The fiscal dimension of demographic change will be a key focus.**<sup>37</sup> As a result of changes in the age structure, many high-income countries may experience fiscal pressures, while many developing countries may register fiscal windfalls providing the demographic dividend is harnessed. The fiscal implications of demographic change will be analyzed on the basis of National Transfer Accounts (NTA) analysis using the fiscal support ratio (Figure 23, see note for definition). The NTA analysis will be also applied to analyze the fiscal impacts of various policies such as extension of the retirement age and reforms of the pension system in countries with different demographic characteristics.

<sup>36</sup> GIDD is based on a recently developed micro-simulation approach; see Bourguignon and Pereira da Silva (2003), Ferreira and Leite (2003, 2004), Chen and Ravallion (2003), and Bussolo, Lay, and van der Mensbrugghe (2008), and Ahmed et. al. (2014).

<sup>37</sup> A comprehensive treatment is provided in Bogetic and others (2015).

61. **Policies targeting demographic outcomes may be classified on the basis of whether they adapt to or strive to influence projected demographic change.** Policies in the first group seek to address the consequences of projected changes in the age composition of the population, most importantly by implementing measures that consider the evolving needs of and contributions from different age groups. In contrast, policies in the second group strive to shape the future age composition of the population by influencing fertility and international migration. On balance, in terms of influencing the achievement of the TGs, SDGs, and other major development indicators by 2030, policies that facilitate adaptation are more important—for most countries, the ability to influence the age composition in 2030 is quite limited. However, if a longer time perspective is considered, policies that aim at accelerating the transition towards a more favorable population age structure become much more relevant, especially if we consider that these target the poorest countries with high fertility.

62. **For pre-demographic dividend countries to reap a sizeable demographic dividend, policies are required to both hasten the transition to lower population growth and enable the labor force to be productively employed.** A faster demographic transition will make the short-term benefits of demographic change much larger, and the medium- and long-term benefits even larger. Policies in three key areas would help to accelerate the fertility transition and increase the demographic dividend: (i) reductions in child mortality, (ii) increases in female education, and (iii) improved access to comprehensive family planning services together with measures that increase women's empowerment. Improvements in these three areas are desirable regardless of the potential economic payoffs, but they should receive even higher priority than they do today. To take advantage of the supply-side potential released by the demographic transition, the second set of policies would enable an economy to absorb the growing labor force in good jobs. The type of such policies and their prioritization need to be tailored for each country, depending on the state of its demographic transition and its economic environment.

63. **For countries with growing working-age population shares and rapid labor force growth, the main challenge is to absorb the labor force in productive, income-generating employment—thereby spurring rapid growth, poverty reduction, and shared prosperity.** Policy areas that may contribute to these objectives include the following:

- **Labor.** The analysis considers measures that mobilize the potential labor force into productive employment. They must be inclusive, reaching out to women and other groups that may be marginalized.
- **Health and education.** Expansion of access and quality of education and health services with multiple objectives at different levels. Priorities include raising skills in sectors for which rapid growth is projected (including export-oriented sectors) and at bringing vulnerable groups into the labor market, including youth and girls in rural areas. The fact that a lower total dependency rate (due to lower youth dependency) generates a fiscal dividend may create fiscal space for educational expansion.

- **Business and investment environment.** Growth promotion via improvements in the business climate, public investment (including infrastructure), and FDI, especially if it can be employed as a tool to develop export-relevant country capabilities and strengthened links to world markets in promising sectors.
- **Financial sector.** Financial sector development aimed at lifting household savings rates, thereby contributing to higher levels of productive investment and helping households prepare for retirement.
- **Migration.** Expansion of the opportunities for legal migration from countries with rapid labor force growth to countries where labor force growth is slow due to aging. Further encouragement of remittances (inter alia via reduced transactions costs), and development-promoting links between migrant communities and their home countries.

64. **For countries with a declining working-age population share due to a growing population share of the elderly, the main challenges are to slow the exodus from the work force and keep public finances sustainable.** To this end, the chapter will analyze the following policies:

- **Labor.** Create incentives for the elderly to work beyond the time of their retirement, and for other groups with low current labor force participation rates (often women, thereby advancing the gender agenda). Incentives in the form of taxation, pensions, child care, and the flexibility of working arrangements may improve outcomes.
- **Health.** Adapt health services and long-term care programs to promote healthy aging in light of the non-communicable disease epidemic (which is also affecting demographic dividend countries).
- **Productivity.** Promote productivity growth for the increasingly scarce labor force, particularly in sectors like health services, which are expected to grow rapidly due to an aging population.
- **Migration.** Attract immigrants in younger age groups to raise the labor force and, over time, maintain a more balanced age composition for the population.
- **Social protection.** Manage sustainable schemes for pensions and social transfers in support of shared prosperity and poverty eradication.
- **Fertility.** Support families to achieve their desired family size by promoting policies that reduce financial and other barriers to having more children.

65. **Beyond policies that can be implemented at the national level, strengthened international cooperation in a number of areas may improve prospects for all countries.** In the international arena, the analysis will address:

- **Migration.** It will look at international migration between countries with different demographic projections, and how this can mitigate the challenges of changing working-age population shares.
- **Trade.** Enhanced trade in goods and services will play a role by permitting countries to benefit from changing patterns of comparative advantage. There is a window of opportunity for labor-intensive exports from low-income countries with relative labor abundance.
- **Investment.** The accumulation of wealth in post-demographic dividend countries (as a result of changing public policy towards pensions) has increased the appetite for riskier, but potentially more profitable investments in other countries. Policies that encourage international investment can be a win-win policy for rich and developing countries, as capital chases new opportunities.
- **Environmental sustainability.** Changing population dynamics, including demographic changes that lead to increased urbanization and international migration, have implications for sustainable service delivery and climate and disaster risk management. Changing demographics will create new environmental challenges that should begin to inform policy before irreversible impacts are generated. The nature of these challenges will vary by country and region, yet in almost all cases, will require close cross-border collaboration.

### C. Organization

**Team.** Philip Schellekens will be the lead author and manager of the report. Lynge Nielsen will lead the team from the IMF. The core team includes: Syud Amer Ahmed, Vandana Chandra, Marcio Cruz, Allen Dennis, Christian Eigen-Zucchi, Hans Lofgren, Maryla Maliszewska, Eugenia Moran-Suarez, Israel Osorio-Rodarte, Bryce Quillin, Fabian Mendez Ramos (all World Bank, DECPG), Sibabrata Das, Paulo Drummond, Davide Furceri, John Wakeman-Linn, Peichu Xie and Vimal Thakoor (all IMF).

**Supervision.** Kaushik Basu (Senior Vice President and Chief Economist), Indermit Gil (Director, DECDP), Ayhan Kose (Director, DECPG), all World Bank; and Seán Nolan and Rupa Duttagupta (all IMF).

**Advisers.** James Foster (George Washington University); Michele Gagnolati (World Bank); Homi Kharas (Brookings Institution); Ronald Lee (UC Berkeley); Andrew Mason (U. Hawaii); and Warwick McKibbin (Australian National University).

**Collaboration.** Inside the World Bank, an extensive consultation is under way with the Global Practices and Cross-Cutting Solution Areas under the auspice of the Office of the Chief Economist for the GPs and CCSAs, Regional Vice-Presidencies and Chief Economist Offices, and various units in DEC. Inputs will be provided in addition by the Office of the President’s Special Envoy on MDGs and the Development Finance and Innovation Vice-Presidency. Inside the Fund, contributions will be sought from all departments. Outside the Bank and the Fund, the report will draw on contributions from various Regional Multilateral Development Banks.

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