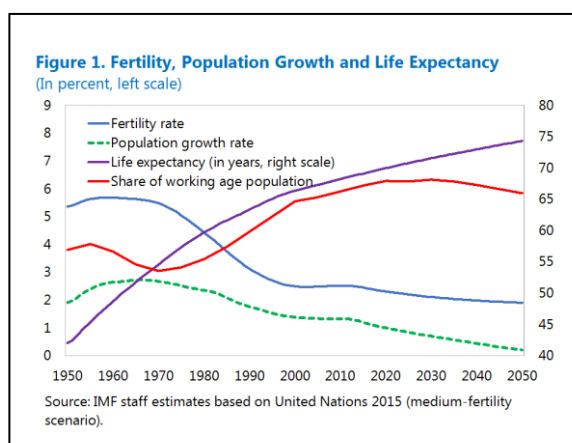


HARNESSING INDONESIA'S DEMOGRAPHIC DIVIDEND: OPPORTUNITIES AND CHALLENGES¹

With a young and growing labor force, Indonesia is set to enjoy favorable demographic trends for many years to come. This provides a window of opportunity to raise growth and support the country in addressing its development challenges. However, reaping the demographic dividend before aging starts to kick in, in less than 15 years, requires policies to raise productivity and create sufficient quality jobs to absorb the growing working-age population.

A. Demographic Trends in Indonesia

1. The fourth most populous country in the world, Indonesia's population continues to grow strongly. The country's population grew at 1.3 percent per year on average during 2000–16, reaching around 260 million in 2016. About 57 percent of the population lives in Java island, which has the lowest population growth (1.1 percent). Currently at 2.4 children per woman, fertility rate, while declining, is projected to remain above the replacement rate of 2.1 children per woman until 2030. As a consequence, despite a declining trend in population growth rate, total population is projected to rise to 296 million by 2030, also helped by a marked improvement in life expectancy (Figure 1).² Alongside population growth, urbanization has been rapid in recent decades. Urban population grew at 3 percent per year during 2000–16, while rural population declined by 0.2 percent.³



2. The labor force is projected to rise substantially in the coming decades. Indonesia is undergoing a demographic transition with a sizeable decline in infant mortality and a reduction in fertility rates. For instance, infant mortality declined by about half during the recent years, from 41.1 infant per 1,000 live births in 2000 to 22.8 in 2016 (Table 1). This has led to an increase in the share of working age population, defined as persons 15 to 64 years old, which grew by 1.6 percent or 2.5 million people per year during 2000–16. From 67 percent of total population in 2016, the share of working age population is projected to peak at about 70 percent in 2031.

¹ Prepared by Agnes Isnawangsih and Tidiane Kinda.

² Population growth has been declining in recent years, from 1.4 in 2000 to 1.1 in 2016.

³ About 55 percent of the population lives in urban areas.

3. These favorable demographic trends provide a unique window of opportunity to raise growth. With the number of workers growing faster than the number of dependents in Indonesia, the economy is set to benefit from a sizeable demographic dividend. Similar dynamics have provided strong tailwinds to growth and productivity in many other countries (IMF, 2015).

Table 1. Indonesia: Demographic Indicators

	2000	2005	2010	2016 1/
Population growth (percent)	1.4	1.4	1.3	1.1
Working age (15-64 years old)	2.1	1.6	1.4	1.2
Rural	-0.7	-0.1	-0.3	-0.4
Urban	4.3	3.1	2.9	2.5
In percent of total				
Working age (15-64 years old)	64.6	65.3	66.2	67.2
Rural	58.0	54.1	50.1	45.5
Urban	42.0	45.9	49.9	54.5
Population <30 years old	58.0	55.7	53.7	51.9
Total population (million)	211.5	226.7	242.5	261.1
Life expectancy at birth, total (years)	66.2	67.2	68.1	69.1
Fertility rate, total (births per woman)	2.5	2.5	2.5	2.4

Source: World Bank, Health Nutrition and Population Statistics; and BPS.
1/ or latest available data.

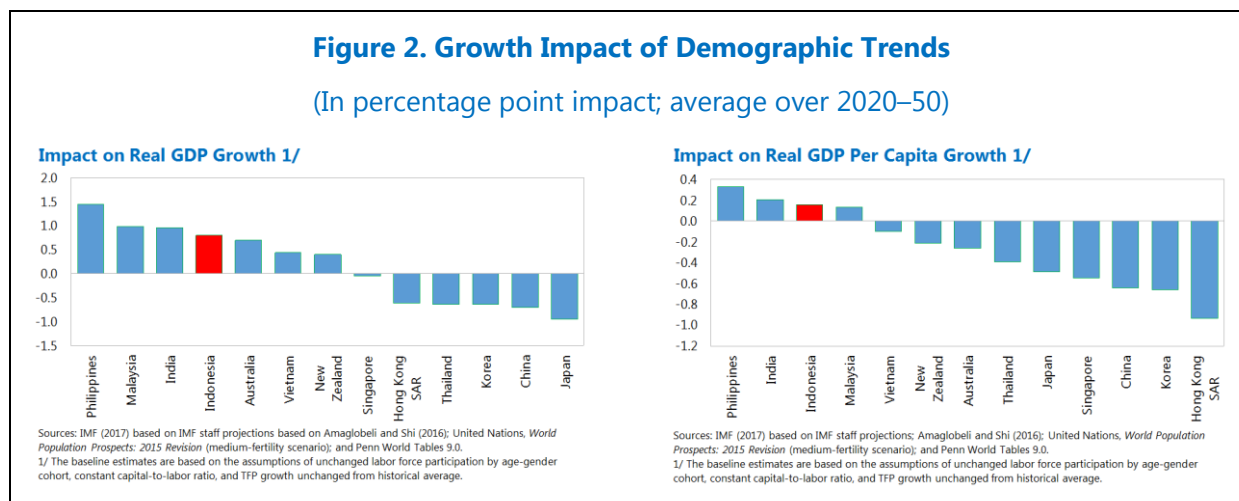
B. Tailwinds from Demographic Dynamics

4. Demographic trends can impact growth through various channels. These include the size of the labor force, productivity, and capital formation. The rising share of the working age population provides the most direct channel for higher incomes in a growth accounting framework. We rely on estimates from IMF (2017), which assesses long-term output using a production function approach with capital and labor as inputs.⁴ Under this approach, population growth affects output through aggregate labor and capital. The impact of demographic changes on growth is obtained by the difference of estimated output between a hypothetical status quo scenario, which assumes constant population size and age structure, and the UN's medium-term fertility scenario.

⁴ This estimation rests on a number of assumptions: (i) unchanged total factor productivity growth (based on the historical average); (ii) unchanged age- and gender-specific labor force participation rates (and employment rates); and (iii) constant capital-to-effective-labor ratio. See IMF (2017) for more details. The methodology follows the approach of Aiyar, Ebeke, and Shao (2017), building on the work by Feyrer (2007). The baseline model fits the growth in real output per worker on the share of workers aged 55+ years and the combined youth and old dependency ratios, with decade (10 years) and country fixed effects.

5. Indonesia’s growth is set to have a sizeable tailwind from demographic trends.

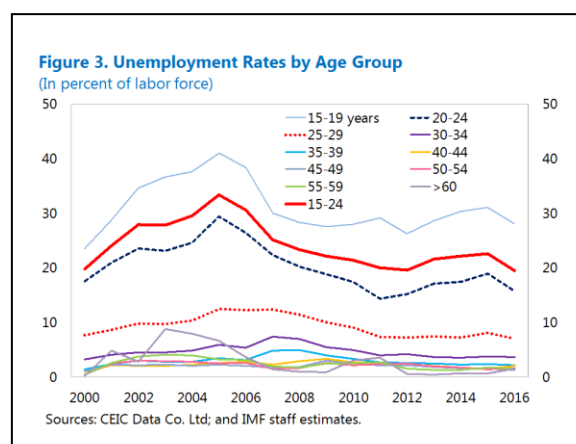
Demographic trends in Indonesia, characterized by the rising working age population, are expected to increase annual real GDP growth by close to 1 percentage point of GDP during the period 2020–2050.⁵ This is substantial and ranks the country relatively well compared to peers in the Asia region, many of which are set to endure a reduction of real GDP growth due to adverse demographic trends (Figure 2). In per capita terms, Indonesia is among a handful of comparable Asian countries set to benefit from a boost in per capita GDP growth thanks to favorable demographics. During the period 2020–2050, demographic trends are expected to increase Indonesia’s annual per capita GDP growth by close to an additional 0.2 percentage points of GDP.



6. The rising working population provides unique economic opportunities but also comes with numerous challenges. These include the need to create sufficient quality jobs to absorb the rising labor force and preparing for aging in the long term.

C. Challenges Ahead

7. Youth unemployment remains stubbornly high. Compared to the average unemployment rate of 5.6 percent, youth (15–24 years old) unemployment is significantly higher at 19.4 percent and varies across age groups (Figure 3).⁶ Fresh graduates have difficulties finding a job, particularly those with



⁵ This estimate could be viewed as a lower bound given the relatively high youth unemployment and existing room to improve labor force participation rate, particularly for women.

⁶ Informal employment remains still high at 58 percent.

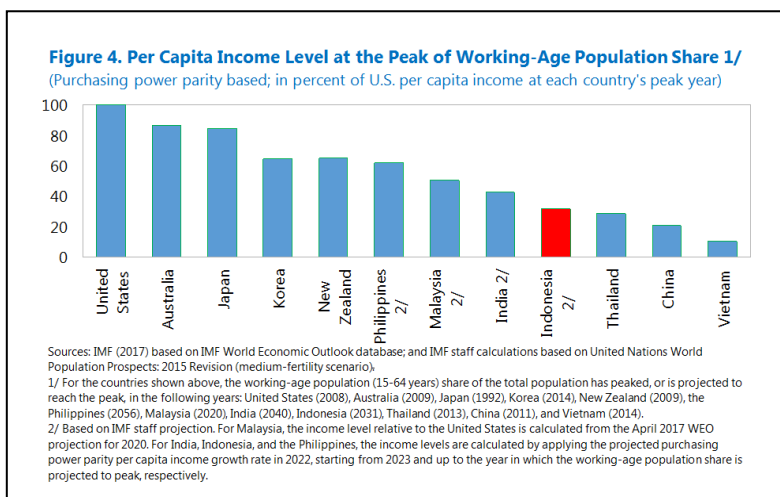
tertiary education. Geographically, overall unemployment is highest in Java island, ranging from 8.9 percent in West Java to 2.7 percent in Yogyakarta, and lowest in Bali (1.9 percent).

8. Gender disparity in labor participation has decreased but continues to persist. Female labor force participation rate improved from 48 percent in 2005 to 51 percent in 2017. However, it remains much lower than the 83 percent labor force participation rate of male. About a third of women have part-time jobs compared to less than 20 percent of men. Most female workers operate in the service sector (52 percent) and in agriculture (32 percent).

9. Despite recent improvements, the quality of education remains low. Skill shortages are prevalent with under-qualified workers filling many positions (Allen, 2016). Indonesia's performance in various international education assessment programs has uncovered issues related to the quality of mathematics, science and literacy education. There are also significant disparities in education quality across regions, with the eastern parts of Indonesia lagging even further behind.

10. Indonesia should seize the window of opportunity to reap the demographic dividend, as aging is projected to start kicking in less than 15 years. Asia overall and Indonesia are aging much faster compared to the past experiences of advanced economies. While in the United States, it took more than 50 years for the old-age dependency ratio to increase from 15 percent to 20 percent, this transition took 28 years in Australia and 26 years in Europe. However, for most Asian countries, a similar transition happened or is expected to in less than 15 years (IMF, 2017). Indonesia's old-age dependency ratio is projected to increase from 15 to 20 within 11 years. Such a rapid speed of aging means that the current favorable demographic trends should not lead to complacency.

11. In the long-term, Indonesia can grow old before becoming rich. The rapid speed of aging implies that Indonesia, similarly to many Asian economies, may face the prospect of becoming old before becoming rich. Figure 4 illustrates this by comparing each country's per capita income relative to the United States when the share of working age population reached its peak or is projected to peak.



For example, Thailand, China, and Vietnam have already reached their peaks. At the year of the peak, each country's per capita income was still significantly below the U.S. level, from 10 percent of U.S. per capita income in Vietnam to 29 percent in Thailand. In Indonesia, the share of working age population is projected to peak in 2031. At that time, Indonesia is projected to have only 32 percent of the U.S. per capita income (Figure 4). This contrasts with the case of some advanced Asian economies such as Australia and Japan, which were much wealthier at the same aging stage.

12. Aging can also have a drag on productivity growth and put pressure on public finances. Aging can reduce productivity growth through a depreciation of knowledge or age-related declines in physical and mental capabilities. IMF (2017) estimates that the projected workforce aging in Indonesia will reduce real GDP growth by 0.1 percent per year during the period 2020–50, through a decline in total factor productivity growth. At less than 1 percent of GDP from 2015 to 2050, the projected increase of age-relating spending (pension and health spending) remains relatively modest in Indonesia, thanks to a still favorable demographics. However, coverage remains limited and future expansions are likely to increase spending pressure.

D. Implications for Policies

13. Given Indonesia’s favorable demographic trends, policies should focus first on maximizing the demographic dividend. Reaping the demographic dividend requires appropriate policies to raise productivity and create enough quality jobs for the growing working-age population. Investing in human capital early on, including education and health care, is essential to improve the productivity of the workforce and increase the size of the demographic dividend. Aiyar and others (2016) show that policies such as broadening access to health services, improving workforce training, and promoting innovation via higher R&D to adapt to a changing global environment may increase productivity growth and lower the negative productivity impact of an aging workforce. Facilitating the development of globally competitive labor intensive sectors, including by streamlining regulations, nontariff measures and FDI restrictions, could help absorb the large and rising labor force (IMF, 2015). If done in the early phases of the demographic transition, these investments can speed up the transition and help Indonesia reaps larger benefits.

14. It is important for macroeconomic policies to account early on for the potential effects of aging. The current fiscal framework, with a deficit ceiling of 3 percent of GDP, provides a strong policy anchor. Enhancing revenue mobilization would provide additional fiscal space to accommodate the cost of higher spending in education and health needed to increase the productivity of the rising labor force. Additional fiscal space could also support important structural reforms to maximize the demographic dividend. Essential structural reforms include labor market reforms, such as promoting labor force participation of women. Expanding the availability of childcare facilities and promoting flexible employment can be particularly important in that regard.

References

- Aiyar, S., C. Ebeke, and X. Shao, 2016, "The Impact of Workforce Aging on European Productivity," IMF Working Paper No. 16/238 (Washington: International Monetary Fund).
- Allen, Emma R., 2016, "Analysis of Trends and Challenges in The Indonesian Labor Markets," ADB Papers on Indonesia No. 16 (Manila: Asian Development Bank).
- Amaglobeli, D., and W. Shi, 2016, "How to Assess Fiscal Implications of Demographic Shifts: A Granular Approach," *IMF Fiscal Policy Paper, How-to-Note* No. 16/02 (Washington: International Monetary Fund).
- Feyrer, J., 2007, "Demographics and Productivity," *Review of Economics and Statistics*, Vol. 89 Issue 1, pp. 100–09.
- International Monetary Fund, 2017, *Regional Economic Outlook, April 2017: Asia and Pacific—Preparing for Choppy Seas*, World Economic and Financial Surveys (Washington).
- , 2015, *Regional Economic Outlook, April 2015: Sub-Saharan Africa—Navigating Headwinds*, World Economic and Financial Surveys (Washington).