Research Bulletin –

Timor-Leste's Youth Population: A Resource for the Future

Introduction

Nearly everywhere in the world, fertility levels have declined with economic and social development, and the resulting changes in population age structure have provided a kick-start for economic growth, known as the "demographic dividend". The dividend period occurs when the number of children needing support goes down relative to the number of workers, while, at the same time, the number of elderly people remains small. With relatively few children and few old people, the proportion of the population in working ages reaches an all-time high, potentially ushering in a period of rapid economic growth.

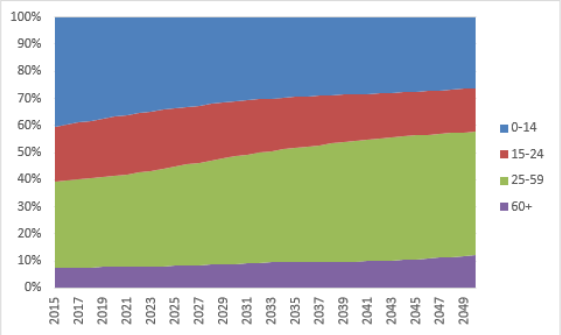
Timor-Leste has a large share of population of adolescents and young adults who can provide an important resource for economic growth. As of 2015, there were 244 thousand in the 15–24-year-old age group, about one-fifth of the total population (GDS, 2016a). The 10–24-year-old age group, with 400 thousand, accounted for one third of the population. The size and share, productivity, and labor force participation of this young population all have important implications for the nation's current and future economy.

Demographic change in Timor-Leste

Currently, Timor-Leste has a very young population. The share of children aged 0–14 was 40.4% in 2015, which is similar to the average of the African countries (41.0%). In Asia, the percentage is only exceeded by Afghanistan, according to the most recent UN data (United Nations, 2017).

In the coming decades, the age structure of Timor-Leste will change substantially in large part due to a fast decline in fertility (Figure 1). The rate of decline in fertility between 2003–2005 and 2013–2015 was -4.6% per annum, which was the fastest rate in the world. As a result, the size and share of children aged 0–14 will continue to decline to 29.8% in 2034 and to 26.3% in 2050. The number of youth aged 15–24 will peak around 2029 at 301 thousand and will then decrease slightly until 2050. The 60-and-older population of Timor-Leste is projected to increase slightly to 12% by 2050. The dominant change will be the expansion of the working-age population. The population aged 25–59 will steadily increase from 32.0% in 2015 to 45.7% in 2050.[i] The increase in the proportion of working-age people in the total population indicates that more people have the potential to be productive and contribute to growth of the economy, leading to a demographic dividend.

Figure 1. Population age structure in Timor-Leste, 2015-50.



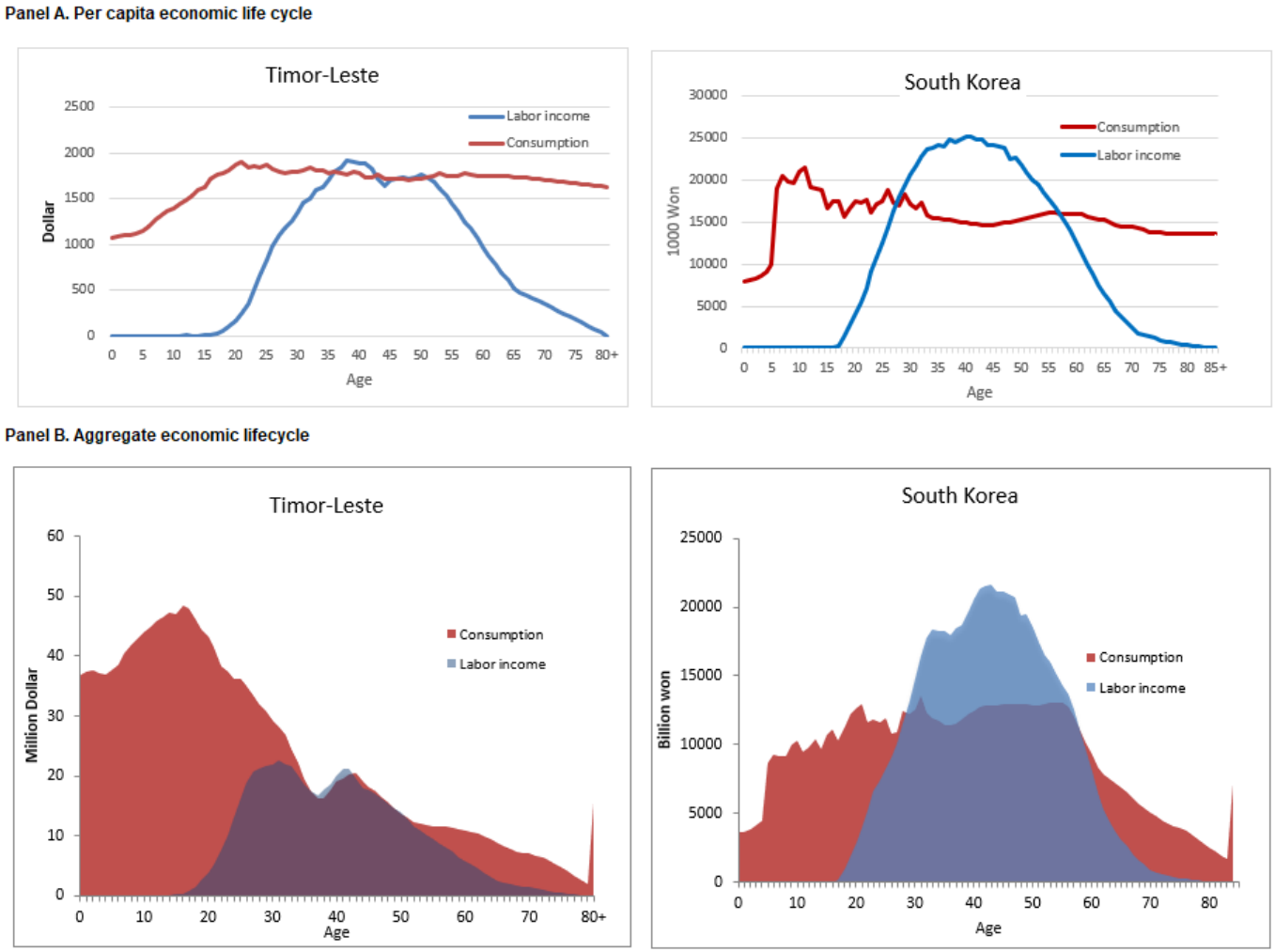
Source: General Directorate of Statistics, Timor-Leste. 2016c. Population Projections, 2015-2050.

The economic lifecycle in Timor-Leste

Changes in the size of the population and the age structure of the population have a profound implication for the economic performance of a country because of a fundamental feature of the economic lifecycle. In all modern societies, there are periods of dependency at the beginning of life and at the end of life because children and the elderly consume more resources than they produce through their labor. On the other hand, working-age adults as a group produce more through their labor than they consume.

The National Transfer Accounts (NTA) project provides a detailed measure by age of how much people consume and produce and how the gap in their consumption and production is funded through other sources, in a manner consistent with national income and product accounts (Lee and Mason, 2011 and http://www.ntaccounts.org). Using NTA data, the economic lifecycle is represented by labor income and consumption by age for Timor-Leste and the Republic of Korea (South Korea) in Figure 2.

Figure 2. Labor income and consumption by age in Timor-Leste (2014/15) and the Republic of Korea (2012): per capita and aggregate.



Source: Timor-Leste: National Transfer Accounts of 2014/15. Republic of Korea: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

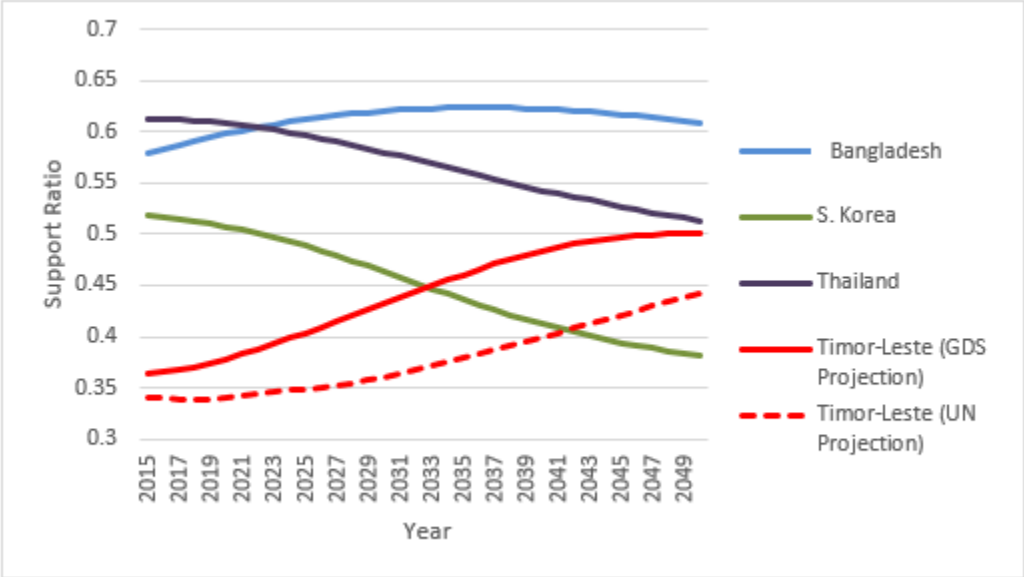
The per capita economic lifecycle varies by age because of individual characteristics and behaviors, institutions, and market forces. Productivity increases as children benefit from human-capital investments. Subsequently, productivity declines as health deteriorates and disability increases. Labor force participation, hours worked, and unemployment all vary with age as does their influence on the labor-income profile. Consumption is influenced by preferences, prices, interest rates, income, and public institutions. Both profiles depend on many other historical, cultural, political, social, and economic factors. The education consumption of South Korea is so high that there appears to be an education peak. In South Korea, the combined share of education and health care for young people aged 10–24 is 40% of their average per capita consumption, while it is only 13% in Timor-Leste. In Timor-Leste, there is a wide gap between labor income and consumption, creating huge deficits. It appears that wide gap in Timor-Leste is filled by government transfers and operating surplus from oil revenue.

The economic lifecycle to a large extent reflects population age structure. The two lower panels in Figure 2 show the aggregate values for consumption and labor income by all individuals at each age. The dominant influence of population age structure is apparent in this aggregate graph. Due to its large young population aged 0–14, the child deficit dominates in Timor-Leste. On the other hand, the old-age deficit is more prominent in South Korea.

Declining fertility can boost Timor-Leste's economy

The NTA project estimates how population age structure affects economic performance in terms of a support ratio – the effective number of workers divided by the effective number of consumers (Box 1). Figure 3 shows the economic support ratio for 4 selected Asian countries, Bangladesh, South Korea, Thailand, and Timor-Leste. In Timor-Leste, the support ratio in 2015 was 36 effective workers for every 100 effective consumers. Along with Niger, this is the lowest level of support ratio among NTA member countries. This results from a very large population of dependent children compounded by low per capita labor income compared with consumption levels. This suggests that in Timor-Leste, the room for resources to be channeled into saving and investment is extremely low.

Figure 3. Support Ratio in Asia, 2015–2050, Timor-Leste compared with 3 Asian economies



Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

Many Asian countries have almost completely passed through the window of opportunity for realizing a demographic dividend. South Korea had 52 effective workers for every 100 effective consumers in 2015. However, this will rapidly decrease to 38 effective workers in 2050 (due to the rapidly growing old population in South Korea), which is close to the current level of support ratio in Timor-Leste. Thailand passed its peak as well, presenting a declining support ratio until 2050 (Vietnam, not shown in the figure is similar). For Bangladesh, the support ratio will slowly increase until 2036, then decline thereafter.

The good news is that Timor-Leste's current very low support ratio is expected to rise rapidly over the next few decades due to a rapid decline in fertility, producing a higher support ratio that will continue until 2050—making a significant contribution to economic growth. Thus, Timor-Leste is in a good position because it can learn from the experience of successful examples such as Thailand and South Korea and avoid the situation of countries where the opportunity has been missed, such as Myanmar or Sri Lanka.

Box 1. The economic support ratio and the demographic dividend

The effective number of workers weights the population at each age by multiplying by the labor income profile at each age which adjusts for age-related productivity and labor force participation. In similar fashion, the number of consumers weights the population at each age using the consumption profile to adjust for age-related differences in needs or tastes. A support ratio of 0.5, for example, means that each worker is, on average, supporting himself or herself plus one other consumer. If the support ratio goes up, each effective worker is supporting fewer effective consumers, which frees up resources that can be used to raise per capita consumption or saving and investment or both. In Timor-Leste, the support ratio in 2015 was 36 effective workers for every 100 effective consumers, suggesting that each worker should support himself or herself plus almost two other consumers.

How a country's economic support ratio changes over time depends on the speed and size of changes in its population age structure. The age profile of labor income and consumption affects the economic support ratio as well.

The support ratio measures the effect on consumption of changes in population age structure while holding constant other factors such as productivity, transfers, and assets. Thus, each percentage point increase in support ratio allows a percentage point increase in consumption, and vice versa. Thus, the demographic dividend is calculated in terms of a rise or fall in the support ratio.

It is also very important to remember that a demographic dividend is not automatic, and favorable changes in population age structure do not guarantee rapid economic growth. Strong growth in the support ratio is advantageous only if sufficient employment opportunities are available to absorb new workers into the economy.

Currently, Timor-Leste is at risk of missing a demographic dividend because children are not receiving the necessary investments in their health and education that successful demographic dividend countries have made.

It should also be noted that the support ratio of Timor-Leste based on GDS projections (GDS, 2016c) is quite different from that based on UN population projections (UN, 2017). The difference between the two measures is largely due to different assumptions on fertility. The total fertility rate (TFR: the average number of births per woman over her reproductive life given current age-specific birth rates) estimated by the UN in the 2017 revision of World Population Prospects was 5.9 live births per woman for 2010–2015, as the UN relied on the estimate from the 2010 Census. The GDS estimate for the same period is 4.7 live births per woman, which is much lower than the UN projection (GDS and UNFPA, forthcoming). This lower rate of fertility is confirmed by the 2016 Demographic and Health Survey estimate of 4.2 for 2014–2016 (GDS and ICF, 2017). Therefore, significant (greater than expected) progress has been made in delaying childbearing and reducing fertility in Timor-Leste. As Timor-Leste has one of the highest fertility rates in the world, accurate collection of data on demographic transition is extremely important in projecting future support ratios.

A demographic dividend accelerates when the share of child population declines

The demographic dividend is calculated in terms of a rise in the support ratio, which stems from an expansion of the working-age population combined with a decline of the child population. Table 1 shows the demographic dividend for 13 Asian economies. According to the GDS projections (medium fertility scenario), the demographic dividend is 1.16 percentage points per annum for Timor-Leste between 2015 and 2030, highest among the 13 Asian economies. According to the UN projections, a demographic dividend will begin within a few years which will push economic growth by 0.36 percentage point per annum during the same period. Bangladesh, India, Indonesia, Lao PDR, and the Philippines will also enjoy a positive demographic dividend during the same period, but the magnitude will be smaller than that for Timor-Leste. On the other hand, all East Asian countries and some Southeast Asian countries such as Thailand and Vietnam will face an economic headwind from demographic change. Thus, compared to all the other Asian economies in the regions, Timor-Leste is in an excellent position if it can take advantage of the opportunity.

Between 2030 and 2050, the demographic dividend will be over for most Asian countries. The demographic dividend will almost disappear for the Philippines and Indonesia. It will turn negative for Bangladesh and India, suggesting that demographics will become a burden as they currently are in Thailand, Japan or South Korea. In Timor-Leste, the window of opportunity will still be open until 2050. However, based on the GDS projections, the demographic dividend will be only 0.08 percentage point in 2050 and will turn negative between 2050 and 2055.

Table 1. The demographic dividend in Asia, Timor-Leste compared with 12 Asian economies

Country and survey year	Period	
	2015-2030	2030-2050
Bangladesh 2010	0.47	-0.10
Cambodia 2009	-0.04	-0.21
China 2007	-0.97	-0.73
India 2004	0.32	-0.04
Indonesia 2012	0.10	0.04
Lao PDR 2012	0.75	0.30
Japan 2004	-0.51	-0.73
South Korea 2012	-0.74	-0.96
Philippines 2011	0.16	0.03
Thailand 2011	-0.37	-0.61
Taipei, China 2010	-0.67	-1.28
Vietnam 2012	-0.58	-0.46
Timor-Leste 2014/15	1.16	0.75

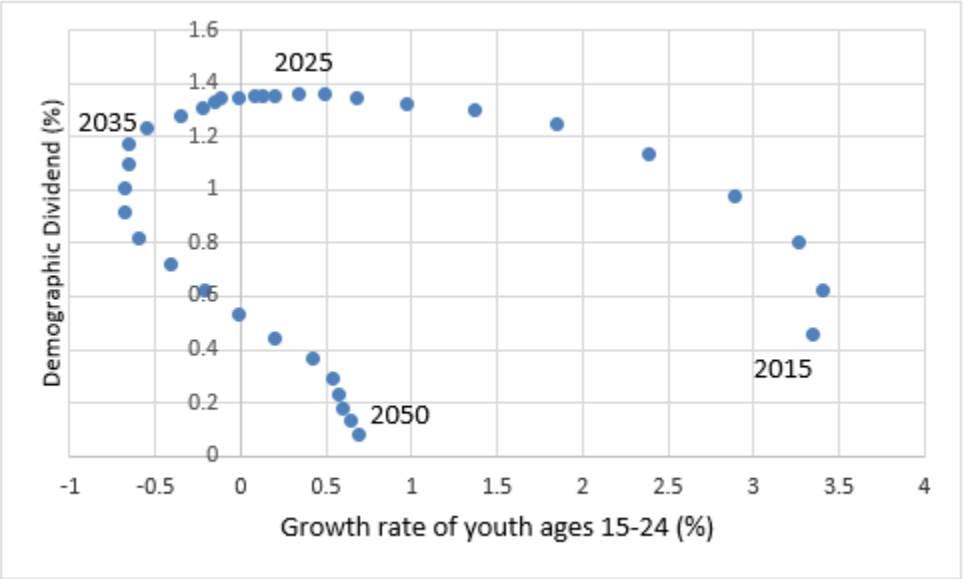
Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

The demographic dividend has a non-linear connection to growth in the youth population. Figure 4 plots the demographic dividend against the growth of youth aged 15–24 in Timor-Leste between 2015 and 2050. The detailed pattern varies from country to country, but in the case of Timor-Leste, there will be an acceleration in demographic dividend when the growth of the youth population slows down during the dividend period. This can be understood through the concept of population momentum. As infant and child mortality rates decline, a larger share of every birth cohort is surviving to adulthood. As these larger cohorts enter the reproductive ages, they produce even larger cohorts of children and then youth.

Fertility decline will soon put an end to this period of rapid growth in the child and youth populations, producing a strong demographic dividend. At first the youth population will grow more slowly, and then it will actually begin to decline as fertility rates drop more.[ii]

It is very important to remember that a demographic dividend is not automatic, and favorable changes in population age structure do not guarantee rapid economic growth. Strong growth in the support ratio is advantageous only if sufficient employment opportunities are available to absorb new workers into the economy.

Figure 4. Demographic dividend and growth in youth population aged 15–24. Timor-Leste, 2015–2050.

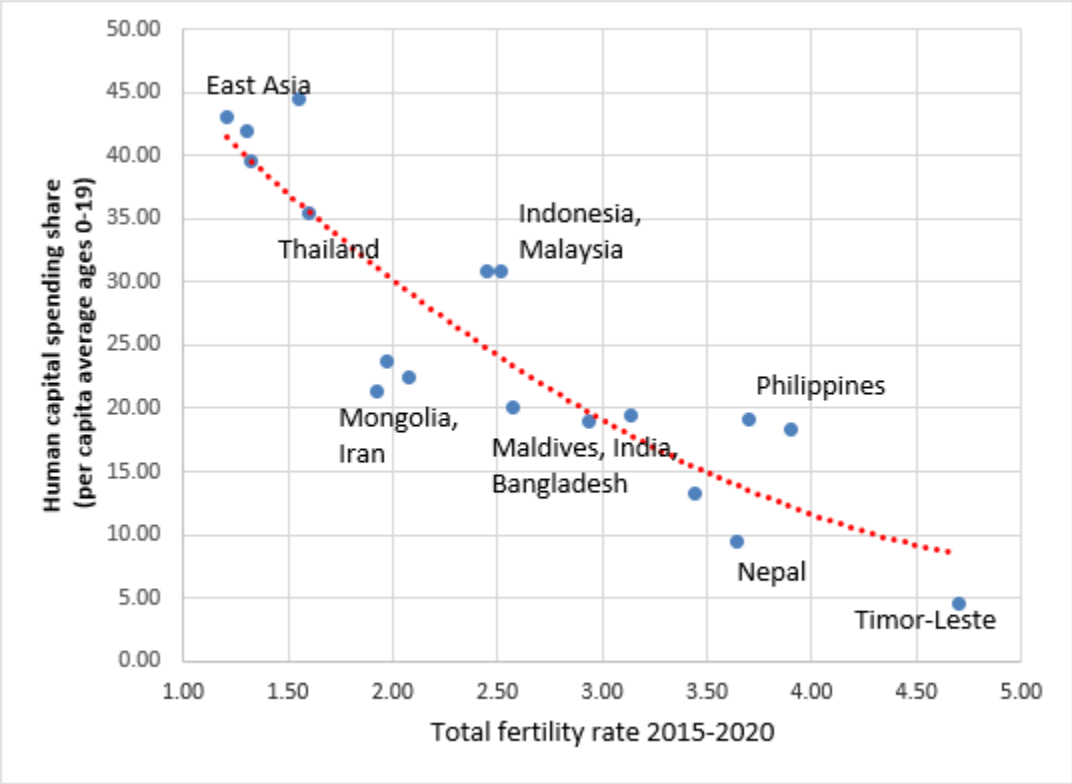


Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

Declining fertility can boost investment in human capital

Potentially, Timor-Leste can enjoy a demographic dividend based on further investment in human and physical capital. Economic theories of fertility suggest that as economies develop and incomes rise, families will choose to have fewer children (quantity), but to spend more on each child (quality) (Becker and Lewis, 1973). Figure 5 compares per capita human-capital spending (education plus healthcare) per child aged 0–19 as a share of consumption with TFR, and shows the strong trade-off between quantity and quality of children predicted by the theory. In two economies where fertility is about 3 live births per woman—India and Bangladesh—human-capital spending is about 20% of the average consumption by those aged 0–19. Among Asian economies with lower fertility—including Japan, South Korea, Taipei, China and Thailand—human-capital spending on children is particularly high, about 40–45% of their consumption. Timor-Leste is lagging behind with its high fertility rate of 4.7 and human-capital spending of less-than 5% of consumption by those aged 0–19.

Figure 5. Human capital spending per child compared with total fertility rates



Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

Note: Human-capital spending is total spending per child given per capita health spending for children aged 0–19 in the base year. The value includes both public and private spending. To facilitate comparisons across economies at very different levels of development, human capital spending in Figure 5 is expressed as a fraction of the average consumption for children aged 0-19.

Special features of youth labor income in Timor-Leste

The economic contribution of young people depends both on their rate of employment and their productivity, measured in terms of the aforementioned labor income. Staying longer in school, which is associated with delayed entry into the workforce, should lead to lower labor income for adolescents and young adults but higher labor income in later years. Indeed, comprehensive data from the NTA show wide variation in the relationship between labor income for young adults and the income of prime-age workers (Table 2).

Compared with the average labor income of an adult aged 30–49, per capita income of young people aged 15–19 and 20–24 is relatively low in Japan, South Korea, and Thailand, for example. This is as expected because a relatively high proportion of young adults in these countries are full-time students. Labor income for Timor-Leste is lowest among young people, however, even though Timor-Leste has lower levels of school enrollment. This suggests that many young people in Timor-Leste are not in school but they are also not earning much income either. Low labor income for this large portion of the population will have a strong negative impact on a demographic dividend, undermining efforts to achieve economic growth.

Table 2. Labor income for young people as a percent of labor income for the 30–49-year-old age group, Timor-Leste compared with 12 Asian economies.

Country and survey year	Per capita labor income (% average annual labor income of a prime-age (30–49) adult)		
	Age 15–19	Age 20–24	Age 25–29
Timor-Leste 2014/15	2.5	22.3	62.4
Japan 2004	3.1	27.6	54.9
Korea 2012	3.7	30.7	67.5
Taipei, China 2010	7.6	46.0	86.3
Thailand 2011	8.9	37.6	72.4
Philippines 2011	13.9	61.1	92.0
India 2004	14.6	39.1	68.8
Lao PDR 2012	15.0	42.0	77.1
Indonesia 2012	15.3	48.3	74.6
China 2007	16.7	60.3	105.4
Vietnam 2012	23.3	65.6	114.2
Bangladesh 2010	28.8	53.6	76.4
Cambodia 2009	46.3	91.1	111.2

Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

Note: Percentage rates of over 100 for the 25–29-year-old age group are correct, as the values are relative to the values for the 30–49-year-old age group

Many young people are not employed, not in school, or training

The low labor income of young adults might be related to low education, insufficient training, or insufficient employment. Other factors affecting youth employment, including demand for labor, attitudes toward gender, and age at marriage and childbearing also play important roles.

According to International Labour Organization projections (2015), of every ten children of secondary school age, six or seven are enrolled in secondary school in the Philippines, and seven are enrolled in China, Indonesia, and Thailand. In Timor-Leste, secondary enrollment rates are lower. Indeed, based on 2015 Census data, only three-in-ten children of secondary school age are estimated to attend secondary (Table 3: Panel A). Another important feature for Timor-Leste is the big difference between the gross attendance ratio and the net attendance ratio [iii], which indicates the large extent of delayed enrollment and grade repetition in Timor-Leste.

Workforce participation is one of the most important factors affecting the lives of young people in Timor-Leste. In developed countries with high levels of secondary and tertiary education, entry into the workforce tends to be delayed. Among young people in Timor-Leste, however, both school enrollment and labor force participation are low. According to the 2015 Census, while youth constitute about one-third of the working-age population, they make up only about 14% of the labor force. About 20.3% of youth aged 15–24 are not in employment and not in education or training (NEET). The indicator is also much higher for females (23.7%) than for males (16.8%) (Mehran and Crisanto, forthcoming).

The youth unemployment rate is 12.3%, and it is very much higher in urban areas (24.7%) than in rural areas (8.4%). By contrast the national average unemployment rate is lower, at 4.8% (9.2% in urban areas and 3.3% in rural areas), demonstrating that unemployment is a greater problem for youth, especially urban youth. Unemployment rates should be interpreted with caution, however. Young people often work part-time, in temporary jobs, or as unpaid household laborers. If these types of work are included in employment estimates, then the total number who are unemployed or underemployed may be substantially higher.

All these indicators imply that young men and women in Timor-Leste are not fully employed even when they are not enrolled in school. The transition from school to work may be particularly difficult in Timor-Leste because of the lack of strong employment creation in general plus several youth-specific factors. These factors include a deficit of opportunities in the market and policy design concerning job creation that disproportionately affect youth, growing numbers of new entrants into the labor force, and the lack of skills required to match the changing nature of labor demand.

Table 3. Schooling and labor market indicators for young people in Timor-Leste. 2015.

Panel A. Schooling indicators

Age	Male			Female		
	At School	Left School	Never Attended School	At School	Left School	Never Attended School
15	82.5	8.7	8.8	84.0	7.0	9.0
16	80.3	10.6	9.1	81.3	9.1	9.6
17	77.6	13.4	9.0	77.6	12.8	9.6
18	72.0	17.3	10.7	69.7	18.4	11.8
19	66.7	22.2	11.1	60.7	27.4	11.9
20	55.7	31.0	13.2	46.7	37.2	16.1
21	50.8	36.9	12.3	43.2	43.4	13.4
22	44.0	42.6	13.4	36.4	49.0	14.6
23	39.3	47.8	12.9	32.2	53.3	14.4
24	35.6	51.3	13.2	26.4	57.4	16.2

	Secondary					
	Gross Attendance Rate			Net Attendance Rate		
	Total	Male	Female	Total	Male	Female
Combined	76.3	77.1	75.5	32.8	29.9	35.9
Urban	120.6	124.3	117.0	54.2	57.9	58.0
Rural	54.0	54.6	53.5	22.1	24.2	24.4

Panel B. Labor market indicators

	Combined	Male	Female
Youth labour force participation rate (%) 15-24	23.8	25.9	21.7
Urban	15.6	17.7	13.4
Rural	28.7	30.7	26.7
Youth unemployment rate (%) 15-24	12.3	14	10.3
Urban	24.7	25.9	23
Rural	8.4	10	6.5
Youth NEET (%) 15-24	20.3	16.8	23.7
Youth NEET (%) 15-29	22.3	17.1	27.4

Source: Mehran and Crisanto (forthcoming).

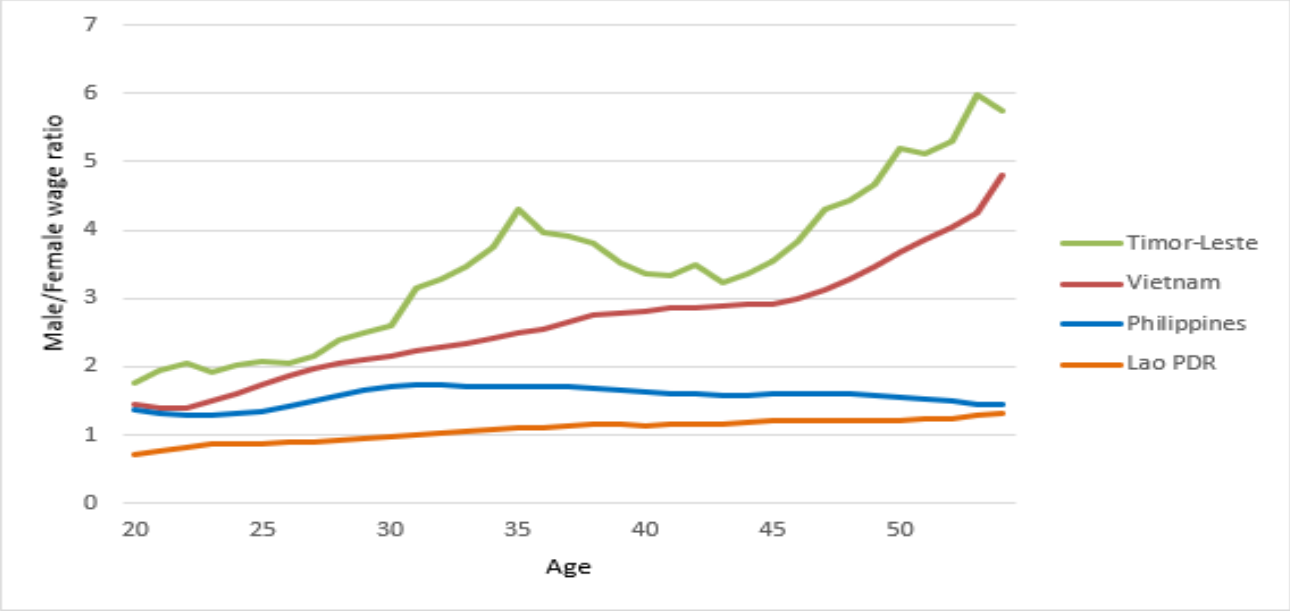
Note: The labor force participation rate is the number of 15–24-year-old employed and unemployed people divided by the population aged 15–24. The unemployment rate is the number in the labor force but not employment divided by the labor for

There is a wide gap by gender and place of residence

An important issue in Timor-Leste is the wide gap by gender and by place of residence. The schooling and employment indicators have shown the gender gap. As a result, in Timor-Leste, women's labor income is much lower than that of men, regardless of age. Although this pattern can be observed in many countries, the gender gap in labor income seems to be particularly large in Timor-Leste compared with Lao PDR and the Philippines, and to a lesser extent Vietnam, where the NTA data are available (Figure 6).

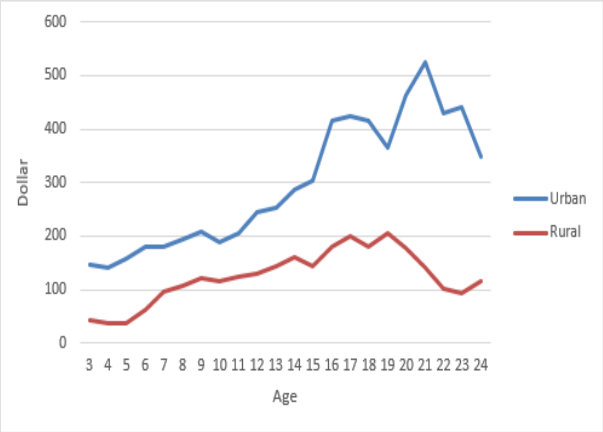
A particular concern for Timor-Leste is also the wide gap in human-capital spending between urban and rural areas. Figure 7 shows that spending on children's education and health is consistently higher in urban areas. The gap gets wider after age 14. Given that 72% of all 5–19-year-olds lived in rural areas in 2015, under-investment in rural children is a serious oversight that needs to be addressed if Timor-Leste is to achieve a demographic dividend. The implications of this are that Timor-Leste is at risk of missing a demographic dividend because children are not receiving the necessary investments in their health and education that successful demographic dividend countries have made.

Figure 6. Labor income for men and women, Timor-Leste, Lao PDR, Philippines, and Vietnam



Source: National Transfer Accounts database. www.ntaccounts.org. Accessed October 1, 2017.

Figure 7. Human capital (education plus health) spending in Timor-Leste by place of residence, ages 3–24.



Source: National Transfer Accounts of Timor-Leste, 2014/15.

Policy recommendations

Policies that affect Timor-Leste's large population of young people will have a strong influence on future economic growth.

Timor-Leste currently appears to face a problem of demographic and economic origins. The proportion of the population that are children is large, meaning that scant income is sparsely spread. Furthermore, the support ratio is very low because labor income is low compared with consumption levels. If revenues from the nation's oil industry decline, it will become more difficult to free-up resources to raise consumption levels. However, the good news is that due to rapid fertility decline, a window of demographic opportunity is beginning to open for Timor-Leste. This is an opportunity that will last a few more decades.

Unfortunately, this opportunity is not automatic. Other countries of the region only achieved the "Asian miracle" through careful policy choices. A combination of factors matter, but particularly high savings rates interacting with high levels of human-capital investment. Therefore, policy decisions on education and healthcare will have enormous consequences for the future prospects of the youth of Timor-Leste. To achieve a demographic dividend, jobs need to be made available for these young, healthy, educated people. This will involve fostering a diverse economy, including rural development, so that all eggs are not in one basket.

Across many countries, for adolescents and young adults, there is often a trade-off between education and labor income, but this does not appear to be the case in Timor-Leste, where many young people are not in school, but also not earning much income. Although increasing, enrollment rates in secondary education are low, while youth unemployment is very high. Differences in gross and net attendance rates indicate a high level of delayed enrollment and grade repetition, which is also a concern. In order to prepare Timor-Leste's youth for achieving a demographic dividend, the government needs to ensure that more children are enrolled and attend school and for longer, including in rural areas. This is especially the case for girls, since they have a high likelihood of leaving the school system as they get older, suggesting that they have lower tertiary attendance rates than boys. Girls who attend university marry later and have smaller completed families because they delay their childbearing, too. Thus, retaining girls in education has a double benefit for achieving a demographic dividend.

However, high levels of schooling do not guarantee economic success. The difficulties that young people apparently face in joining the workforce may mean that the potential benefits from earlier investments in their health and education are not fully realized. Jobs must be available that match the skills of a more-educated work force. Expanding job opportunities will be

an important component of economic growth, increasing employment, and benefiting young workers in particular. The Timor-Leste government should ensure that the skill-set matches the opportunities. The government must invest in a broad spectrum of educational and vocational opportunities and use data including the available sub-national-level population projections to ensure that adequate opportunities are available to meet demand at the right time. The government may face challenges in creating jobs, but by not doing anything, a demographic dividend cannot be achieved and a potential resource will become a major problem.

There is an unusually wide gap in education and workforce participation between men and women and between urban and rural areas. Girls are as likely as boys to gain a secondary education but are much less likely to be enrolled in university or college. Young female workers also earn much less than their male counterparts. In addition, spending on the education and healthcare of children is much higher in urban than in rural areas.

The Government should use disaggregated data (age, sex and geography) within the framework of the Sustainable Development Goals (SDGs) to achieve a demographic dividend. In particularly SDGs 3 (health), 4 (education) and 5 (gender equality) will provide a critical measurement and monitoring framework to achieve the reductions in inequality that will be necessary to achieve a demographic dividend.

Finally, it is very important to seize opportunities early on. A demographic window of opportunity may appear remote in relation to immediate economic concerns in Timor-Leste because it can last a few decades. However, the young of today will be the prime-age adults in a few decades. Improving educational systems, labor markets, and employment opportunities now is a pre-condition for realizing a demographic dividend that will then go on to last until the middle of the 21st Century.

Acknowledgement

This bulletin is based on a research note prepared by Sang-Hyop Lee, Professor of Economics at the University of Hawaii at Manoa and Adjunct Senior Fellow at the East-West Center and Sidney Westley, Communication Specialist at the East-West Center, for an NTA workshop held in Dili, Timor-Leste, on 14–16 November 2017. Professor Lee wishes to acknowledge Director Silvino Lopes, Systems and Reports of the General Directorate of Statistics, Mr. Nick McTurk, Census Technical Specialist, UNFPA and Mr. Roderick T.J. Buiskool, Youth Programme Intern, UNFPA for their support in preparing this bulletin.

Further reading

Becker, G. and H. G. Lewis (1973). "On the Interaction between the Quantity and Quality of Children." Journal of Political Economy 81(2): S279-288.

General Directorate of Statistics (GDS) (2016a). Timor-Leste Population and Housing Census 2015: Population Distribution by Administrative Area - Volume 2 (Population by Age and Sex). Available at: http://www.statistics.gov.tl/category/publications/census-publications/2015-census-publications/volume-2-population-distribution-by-administrative/2-population-by-age-sex/

General Directorate of Statistics (GDS) (2016b). Timor-Leste Population and Housing Census 2015: Population Distribution by Administrative Area - Volume 3 (Social and Economic Statstics). Available at: http://www.statistics.gov.tl/category/publications/census-publications/2015-census-publications/volume-3-social-and-economic-characteristics/

General Directorate of Statistics (GDS) (2016c). Population Projections, 2015-2050 (forthcoming).

General Directorate of Statistics (GDS) and ICF (2017). Timor-Leste Demographic and Health Survey 2016: Key Indicators.

General Directorate of Statistics (GDS) and United Nations Population Fund (UNFPA) (forthcoming). Thematic Report Volume 6. Analytical Report on Fertility.

International Labour Organization (2015). Labour Force Estimates and Projections: 1990-2050 (2015 edition). Available at http://www.ilo.org/ilostat-files/Documents/LFEP%20Methodology%202015.pdf

Lee, R. and A. Mason, principal authors and editors (2011). Population Aging and the Generational Economy: A Global Perspective. Cheltenham, UK, Edward Elgar.

Mehran, F. and F. Crisanto (forthcoming). Census Analytical Report on Labour Force, Timor-Leste 2015

UN Department of Economic and Social Affairs (2004). World Population to 2300.

United Nations (2017). World Population Prospects: The 2017 revision.

Endnote

[i] The increasing pattern of working-age population does not depend on how we define the working-age group (i.e., 15–64, 20–59 vs. 25–60).

[ii] Rapid growth in the support ratio and rapid growth in the number of labor force entrants are not equivalent concepts, either. The support ratio rises because the total number of workers is rising, not just because the number of young workers or the total number of children is declining. An approach has also been proposed that a demographic window of opportunity does not start to open until the population under 15 drops below 30% (UN Department of Economic and Social Affairs, 2004. World Population to 2300). According to this approach, a demographic window of opportunity starts in 2034 in Timor-Leste. This arbitrary approach is not consistent with the concept of the demographic dividend as the share of the working-age population rises well before 2034, creating the conditions for a demographic dividend. Over the demographic transition, growth in the working-age population and decline in the child population both play an important role in producing a demographic dividend. As is explained next, an increase in human capital for young people plays another significant role in boosting a demographic dividend.

[iii] The gross attendance ratio is the total number of students divided by the population in the age group targeted by that schooling level. The net attendance ratio excludes students who are younger or older than the targeted age groups from the numerator. Thus, the difference between the two measures indicates the extent of delayed enrollment and grade repetition.