POLICY NOTE Bhutan Resident Mission

The Demographic Dividend in Bhutan: Taking Advantage of Transition

NO. 2019-01







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INTRODUCTION

Bhutan, a small landlocked country in South Asia, went through a fundamental paradigm shift in 1959 when it abandoned its self-imposed isolation and embarked upon a path of modernization. Until then, it was a self-contained traditional rural society, relying on subsistence agriculture and without the modern advances of the rest of the world. Living conditions were challenging as infrastructure was lacking, health care relied on indigenous medicine, and learning was monastic and traditional. Life expectancy was extremely low; a child born in the 1950s could expect to live for only 36.1 years. During this period, Bhutan's total population was only 200,000, but it had been growing rapidly at a rate of about 3.1% annually—the highest in the region.

Since then, Bhutan has undergone dramatic demographic changes. The fertility rate—the total number of children born or likely to be born to a woman in her lifetime—fell from about 6 births per woman from the 1960s to the mid-1980s and to 1.7 births per woman in 2017, below the replacement level of 2.1. The drop in fertility was accompanied by a lengthening of life expectancy, which more than doubled to over 70 years in 2017 and is expected to continue to rise. The child dependency ratio—the number of children (aged under 15 years) per 100 working-age people, fell from 53.1 in 2005 to 38.3 in 2017, indicating that the share of the working-age population had become larger relative to the younger and older population.³

This demographic transition has opened a window of opportunity for Bhutan's economy to benefit from a larger workforce and a lower dependency burden.⁴ With appropriate policies to harness the potential of the increased supply of working-age population, a so-called "demographic dividend" of higher production and economic growth can be achieved.

This policy brief provides an overview of the concept of demographic dividend, presents a view of where Bhutan is in terms of reaping the gains from this population transition, and offers policy suggestions to better take advantage of it.

WHAT ARE DEMOGRAPHIC TRANSITION AND DIVIDEND?

Demographic transition. Countries undergo change in their demographic composition over time at differing rates and times and with varying impacts on the economy. Several factors are responsible. The transition from high fertility rates and high mortality rates, corresponding with a predominantly agrarian economic base, to low fertility rates and low mortality rates associated with urban industrial societies is termed

Dependency burden is measured as the ratio of combined population shares of the youth and the elderly populations to the total population.



J. Leigh & Associates. 2012. Bhutanese Cultural Profile. West End, Queensland: Diversicare.

² Royal Government of Bhutan. 2000. Bhutan National Human Development Report 2000. Thimphu.

³ Royal Government of Bhutan, National Statistics Bureau. 2018. 2017 Population and Housing Census of Bhutan. Thimphu.



"demographic transition." This evolution is attributed to advances in overall health services supplemented by improvements in food supply and nutrition, education, and technological advancements as the country's economy grows. The demographic transition leads to changes in the age structure of the population that are instrumental in creating the demographic dividend.⁵

Phases of demographic transition. The first phase of demographic transition is characterized by slow rates of population growth because high birth and high death rates counterbalance each other. This is followed by the early transition or second phase, when the population begins to increase as mortality rates fall. Toward the end of the early transition phase, fertility also beings to fall and the age structure of the population changes as the proportion of the working-age population—the most productive members—becomes larger relative to the young dependents and older population. During the late transition or third phase, fertility rates may start to fall to replacement level. The transition may continue into the post-transition or fourth phase where birth and death rates level off resulting in an increasing proportion of older population, a process known as population aging.⁶

Demographic dividend. The demographic dividend refers to potential impact on economic growth of shifts in a population's age structure to a larger working-age population, where productivity is highest, relative to the young and elderly. The economic life cycle hypothesis is an economic theory that states that life can be divided into three economic phases—young, old, and prime working age. It postulates that on average, the old and young members of a population consume more than they produce while people in their prime produce more through their labor than they consume.⁷

The first demographic dividend emerges when the support ratio—the number of effective workers relative to effective consumers—rises, resulting in rising per capita income. While transitory and varied, the first demographic dividend usually lasts for about 5 decades or more. Subsequently, as the population ages and the support ratio declines, economic growth can slow, thereby depressing average income per person and turning the first demographic dividend negative. This is referred to as a demographic tax.

The support ratio is a useful measure for analyzing the changes in population age structure because it incorporates both the population age structure and specific age patterns of production and consumption that comprise the life cycle. It measures the direct impact of changing age structure on economic growth. During the period of positive and rising support ratio, countries are likely to experience a demographic dividend, while during periods of declining and negative ratios, they are likely to incur a demographic tax.





ADB. 2011. Asian Development Outlook 2011 Update: Preparing for Demographic Transition. Manila; and D. E. Bloom, D. Canning, and J. Sevilla. 2002. The Demographic Dividend: A New Perspective on the Economic Consequences of Population Change. RAND.

D. Grover. 2014. Demographic Transition Model Blog Series. Population Education. 14 October. Washington, DC; and J. N. Gribble and J. Bremner. 2012. Achieving a Demographic Dividend. Population Bulletin. 67(2). p. 16.

R. Lee and A. Mason. 2006. What Is the Demographic Dividend? *Finance and Development*. 43(3). pp. 16–17; Investopedia. Life Cycle Hypothesis. https://www.investopedia.com/terms/l/life-cycle-hypothesis.asp.



Possible second demographic dividend. The potential for a second demographic dividend arises where the population comprising largely older working-age people is confronted by a long retirement period and therefore has an incentive to save and invest to finance consumption during retirement, inducing accumulation of wealth (footnote 8). To achieve the second dividend, policy makers need to focus on encouraging savings and providing access to finance; and strengthening their financial systems to ensure that they are sound, secure, inclusive, and sufficiently diverse to enable investment opportunities for nonbank financial institutions.9

WHERE IS BHUTAN IN THE DEMOGRAPHIC TRANSITION?

Rapid fertility decline. Bhutan has transitioned from a situation of high fertility, high mortality, and a high child dependency ratio, to low fertility, low mortality, and a low child dependency ratio. Favorable government policies, including instituting family planning in the health care system early on and the issuing of a Royal decree on population planning, led to a slight fall in the fertility rate from about 6 children per woman in the 1960s to the mid-1980s, and to 5.5 children per woman in the 1990s. Fertility then drastically declined to 2.5 births per woman in 2005, and by 2017 it had dropped below replacement level to 1.7 (refer to table). Like the high-income countries of East Asia, Europe, and North America, Bhutan is therefore nearing the completion of its demographic transition. Bhutan's life expectancy is now slightly higher than that of neighboring countries in South Asia and its fertility rate is lower.

Life Expectancy at Birth and Fertility Rate, 1950-2050

Country/ Region	1950		1975		1990		2000		2005		2017		2025		2035		2050	
	LE	FR																
Bhutan	36.0	6.7	43.2	6.7	54.8	5.0	61.4	3.8	66.3	2.5	70.2	1.7	72.8	1.7	75.0	1.7	77.6	1.7
South Asia	37.3	6.0	52.7	5.3	59.4	4.1	63.9	3.2	65.9	2.5	69.4	2.4	71.5	2.2	73.2	2.0	75.5	1.9
Europe	63.7	2.7	71.1	2.0	72.7	1.6	73.8	1.4	75.3	1.6	77.2	1.6	78.3	1.6	81.3	1.7	83.3	1.7
East Asia	43.8	5.6	65.5	2.9	70.5	1.8	72.3	1.6	73.7	1.6	76.6	1.7	79.3	1.7	80.7	1.7	82.9	1.7

FR = fertility rate, LE = life expectancy.

Note: Life expectancy is measured in years. The fertility rate is the average number of children born to women in their reproductive years.

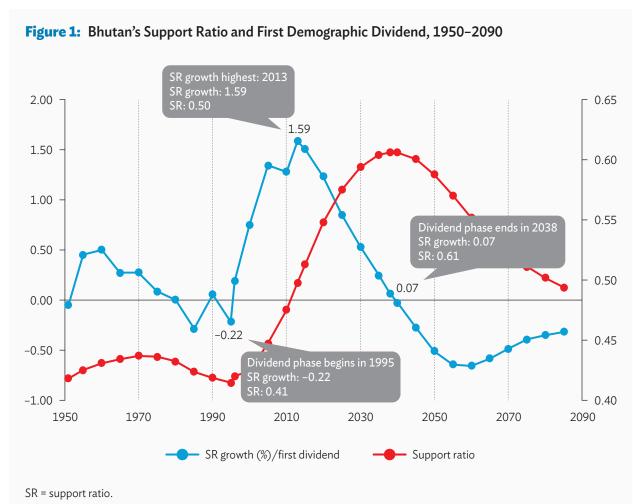
Source: Department of Economic and Social Affairs of the United Nations Secretariat, Population Division. World Population Prospects: The 2019 Revision. https://population.un.org/wpp/.

A. Mason. 2007. Demographic Transition and Demographic Dividends in Developed and Developing Countries. Proceedings of the United Nations Expert Group Meeting on Social and Economic Implications of Changing Population Age Structures.









Source: A. Mason. 2011. Demographic Transition and Demographic Dividends in Developed and Developing Countries. Place of Publication; and Department of Economic and Social Affairs of the United Nations Secretariat, Population Division. World Population Prospects: The 2019 Revision. https://population.un.org/wpp/.

Changing support ratio. Changes in age structure continue to be very important once low mortality and fertility has been achieved because they alter the balance between the population of productive age—the group that produces more than it consumes—and the dependent age group that consumes more than it produces. Figure 1 plots Bhutan's support ratio and its growth from 1950 to 2017 and their projections until 2090. The growth in the support ratio is used to measure the first demographic dividend.

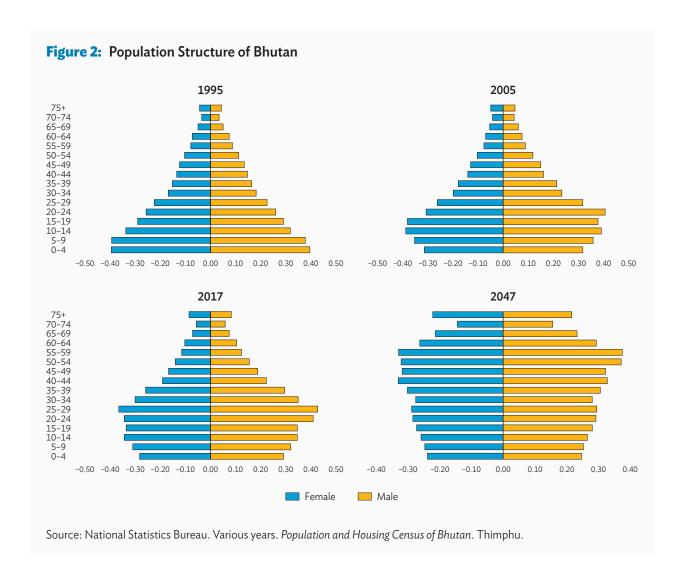
From the 1950s to the 1990s, Bhutan's population was predominantly young with the share of young population aged 0–24 years exceeding 60% of the total population (Figure 2). The support ratio also declined before 1995 as the youth dependency burden increased because of the reduction in mortality that accompanied improved overall health services and nutrition. In the same period, the proportion of older population aged 65 and above was very low, ranging from 2% to 3%.











Duration of the dividend period. After 1995, as the demographic transition continued, the support ratio began to increase, giving rise to the first dividend phase. During this phase, the proportion of working-age population rose to more than 50% of the total population. Bhutan's first demographic dividend is expected to last until 2038 as the support ratio continues to rise. After 2038, the dividend is expected to steadily decline and turn into a demographic tax. The fall in the support ratio is expected to be commensurate with an expected increase in share of the population aged 65 and above from 2.8% in 1990 to 6.9% in 2025, and expected to reach more than 15% by 2050. The demographic dividend peaked in 2013 and is expected to last for 43 years. This is shorter than the average expected dividend period of other South Asian countries, which are projected to last for more than 50 years (footnote 10). This difference could be attributed to the more rapid decline in the fertility rate in Bhutan than in other countries.

A. Mason, S. H. Lee, and D. Park. 2011. Why Does Population Aging Matter So Much for Asia? Population Aging, Economic Growth, and Economic Security in Asia. ADB Economics Working Paper Series. No. 284. Manila: Asian Development Bank.







In Bhutan's 43-year demographic dividend phase demographic dividend could have attributed an estimated 1.6 percentage points to economic growth each year. Conversely, the falling support ratio after the early 2040s is expected to have a depressing effect on growth and productivity.

Varying regional success at reaping dividend. Many countries have reaped benefits from the demographic dividend. East Asian countries, such as the People's Republic of China, the Republic of Korea, and Singapore, experienced a seven-fold increase in their gross domestic product per capita with a 20% increase in working-age population between 1965 and 2010. Their focus on human capital (particularly education and health), physical capital, a stable macroeconomic environment conducive to investments, and higher labor participation rates, enabled the favorable outcome. Latin American countries also experienced a similar increase in working-age population during the same period but only a two-fold increase in gross domestic product per capita. Weak economic policy and a failure to attract sufficient investment were the main factors behind Latin America's inability to reap a substantial demographic dividend. Therefore, it is imperative not to miss this window of opportunity and to harvest the demographic dividend.

Population aging. The below-replacement fertility rate and sharp increase in the share of the older population—over 15% in 2050 from 2.8% in 1990—indicate that Bhutan is well into the advanced stages of demographic transition. As countries complete the demographic transition, the share of the old-age population increases relative to working-age population, giving rise to a bulge in the elderly cohort known as population aging. As the share of the older population increases, old-age dependency rises and the first dividend comes to an end, eventually turning negative and dragging down growth. Population aging is a global phenomenon, with the global share of population aged 65 years and above increasing from 6% in 1990 to 9% in 2019 and projected to increase to 16% by 2050. The countries of East Asia, Latin America and the Caribbean, and Southeast Asia have experienced the fastest aging in their populations.¹²

CONVERTING POTENTIAL TO GROWTH

Realizing the potential demographic dividend that results from a changing population age structure is not automatic. Rather, the extent to which a country can convert this potential into actual growth depends on its policy response. Given that Bhutan is already halfway through its dividend phase, with only about 2 decades remaining, the country must seize the opportunity to fully realize this potential. The right policies should include investing in human capital, implementing growth-promoting economic policies and improving governance, and preparing for population aging.

¹² United Nations Department of Economic and Social Affairs. 2019. World Population Ageing 2019 Highlights.





M. Abrigo, A. Mason, R. Lee, and S. H. Lee. 2017. Support Ratios and Demographic Dividends: Estimates for the World. Population Division Technical Paper No. 2017/1. New York: United Nations Department of Economic and Social Affairs; and P. Drummond, V. Thakoor, and S. Yu. 2014. Africa Rising: Harnessing the Demographic Dividend. Washington, DC: International Monetary Fund



Investing in Human Capital

Bhutan's rapid demographic transition has been the result of early implementation of favorable family planning policies in concert with investment in public health-care services and free education. The country has benefited economically from the transition to a high share of working-age population relative to the young and the elderly. To convert the demographic dividend to economic growth and sustain the growth momentum, it is ever more imperative to intensify Bhutan's human capital development in order to capitalize on the remaining dividend period. The expanded working-age population must therefore be provided with adequate education and vocational skills that match market needs to enhance their employability. At the same time, more employment opportunities must be created to absorb the increased labor supply. Scaling up of investments to build human capital through vocational and skills development training is particularly important to respond to the changing labor market. This must be complemented by implementing flexible labor policies that encourage labor reallocation and mobility, including policies that enable women—particularly those with young children—to work, to capitalize on the increasing share of women participating in the labor force. It is also critical to improve the quality, efficiency, and financial sustainability of the free basic health-care system. The private sector could be engaged to help provide health-care services.

Implementing Growth-Promoting Economic Policies and Improving Governance

Investments in human capital must be accompanied by sound economic and governance policies that foster job creation and private investment. Since employment in the public sector is necessarily limited because of fiscal constraints, the private sector needs to provide job opportunities for the burgeoning working-age population. Economic diversification could be propagated through high-potential sectors, such as tourism, information and communication technology, agribusinesses, and cottage and small industries, to absorb the increasing share of working-age population.

Economic diversification must be complemented by the practice of good governance, thereby promoting transparency and accountability and reducing corruption, and the updating of the legal system with contractual laws and setting of financial standards to create a more supportive business environment. More needs to be done to improve private sector participation.¹³ Better synchronization of policies affecting private sector participation in different sectors would encourage stronger private sector growth including foreign direct investment.

¹³ World Bank Group. 2019. Doing Business 2020: Comparing Business Regulation in 190 Economies. Washington, DC.







Preparing for Population Aging

To address population aging, the government must redouble efforts to strengthen the overall old age support system. Consumption at old age is financed by private transfers or family support, public transfers, and personal savings. ¹⁴ With a system of strong social capital, old age consumption in Bhutan has been primarily secured through family transfers and support with children taking care of aging parents and grandparents helping with childcare. However, as is the trend in all Asian countries, urbanization and nuclearization of families is weakening the informal traditional support system in Bhutan, which may put additional pressure on public transfers and underscores the need for personal savings.

Public transfers for old age consumption include publicly funded programs such as health care, education, public pension, and other social welfare programs. Bhutan is predominantly a welfare state with strong public transfer programs for young and old. The government must also plan health care for the elderly, which will become increasingly important and expensive. Thus, continued strengthening of the Bhutan Health Trust Fund is needed to ensure financial sustainability and minimize funding uncertainties of free basic health services. Further, to ensure wider social security coverage, the pension coverage should also expand from currently salaried employees in the public sector to include the informal, private, and self-employed individuals. It is also necessary to ensure the long-term sustainability of the pension fund given its pay-as-you-go defined benefit structure where pensions for retirees are paid by the contributions of the working-age population.¹⁵

The strong social protection policies must be complemented by policies to incentivize personal savings, investment, and wealth accumulation to fund retirement. Investment and wealth accumulation for old age, in turn, lead to higher productivity and output. This second demographic dividend is usually permanent and therefore has a higher impact on economic growth than the first one (footnote 7). Thus, Bhutan must focus on strengthening its financial market, including long-term capital markets, to diversify investment opportunities for nonbank financial institutions and encourage personal savings and wealth accumulation.

¹⁵ J. Alonso-Garcia et al. 2018. Adequacy, Fairness and Sustainability of Pay-as-You-Go-Pension Systems: Defined Benefit Versus Defined Contribution. *The European Journal of Finance*. 24(13). pp. 1100–1122.





J. X. Jiang, R. Lee, and A. Mason. 2016. Demographic Dividends, Human Capital, and Saving. The Journal of the Economics of Ageing. 7. pp. 106-122.





CONCLUSION AND POLICY RECOMMENDATIONS

Bhutan is undergoing a rapid demographic transition as a result of well-implemented health and education policies that have led to significant increases in life expectancy and literacy rates, and a steep reduction in fertility. Consequently, the country has benefited economically from a favorable population age structure with an increased supply of working-age people and a low dependency burden. However, as the demographic transition continues, the share of the old-age population will increase relative to the prime working age, turning the demographic dividend into a demographic tax. Bhutan is halfway through the dividend phase and still has the opportunity to make further progress through following policies.

- (i) Bhutan must continue to invest in human capital by promoting quality education and investment in skills development to enhance the employability of the youth. It must also focus on improving the quality, efficiency, and financial sustainability of its health-care services.
- (ii) Investments in human capital must be complemented by the implementation of growth-promoting policies and strong institutions that attract investment and foster private sector development; and flexible labor markets that create jobs to harness the potential of an increased supply of workers.
- (iii) Bhutan must strengthen its public transfer systems such as pension, health care, and overall social security. The government must promote policies that incentivize savings and investment to be able to take full advantage of the second demographic dividend through accumulation of assets, capital deepening, and increased productivity. To help workers save and invest, financial markets and institutions should be sound, secure, and inclusive. It is also imperative to develop investment markets for pension funds to ensure their sustainability and deepen the capital market to increase investment opportunities for other nonbank financial institutions.





The Demographic Dividend in Bhutan

Taking Advantage of Transition

Bhutan has made significant socioeconomic progress including raising per capita income and consumption, partly thanks to its favorable demography. This policy brief provides an overview of the concept of demographic dividend. It presents a view of where Bhutan is in terms of reaping the gains from its population transition and offers policy recommendations to better take advantage of it.

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