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Demographic Dividend in Indonesia: Prospect for Economic Development and the Challenge Ahead

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Abstrak-Secara demografis, Indonesia telah mengalami "transisi demografi" dalam masyarakat, di mana penurunan angka kematian dan pertumbuhan penduduk yang cepat menyebabkan angka pertumbuhan penduduk yang lebih lambat sebagai hasil dari program yang dibuat oleh pemerintah. Namun, penduduk Indonesia masih tumbuh dibanding negara-negara lain di Asia. Fenomena khusus ini jelas terlihat dalam pertumbuhan ekonomi Indonesia. Hari ini Indonesia berada di fase kesuburan tinggi. Hal ini penting untuk mempertanyakan apakah perekonomian Indonesia akan mampu mempertahankan tingkat pertumbuhan yang sama di tahun-tahun mendatang. Makalah ini membuat upaya untuk mempelajari dua isu terkait; tren dan isu-isu sejarah demografi Indonesia dan apa saja tantangan dan peluang yang terbentang di melihat kondisi demografis Indonesia.

Kata kunci: ledakan penduduk, pembangunan ekonomi

Abstract-Demographically, Indonesia has transformed itself from a "demographic transitional" society, where reductions in mortality led to rapid population growth and subsequent reductions in fertility led to a slower population growth as the result of programs made by government, fertility has declined to below-replacement level, and rapid population ageing is on the horizon, however, Indonesia's population is still growing than any other countries in Asia. This particular phenomenon is clearly visible in Indonesian economic growth. Today Indonesia is in the phase of high fertility, high mortality and low natural growth. It is important to question whether Indonesian economy will be able to sustain the same rate of growth in the coming years. The paper makes an attempt to study two related issues; the trends and issues of Indonesia's demographic history and what are the challenges and opportunities that lie ahead for Indonesian Economy vis-a-vis its negative demographic dividend /demographic debt.

***Keywords*:** demographic dividend, economic development

1. Introduction

The effect of age structure on economic growth has always remained a topic of discussion. An increase in the young working age group is beneficial for the economic growth of any country. However, age structure does not remain constant. Individual's economic behavior varies at different stage of life; changes in country's age structure can have profound effect on its economic performance.

This phenomenon can be explained in terms of Demographic Dividend. It refers to gains or losses in per capita income brought about by changes in a population's age structure. It is expressed as the commonly used "dependency ratio" which is the ratio of the dependent age population (such as 0-14 years and 60 and above) to the productive – age population (such as 15-59 or 20-59) (Bloom et al., 2003).

With the increase in population, Indonesia's agriculture, energy, supplies, urban infrastructure, education and housing all have come under increasing stress. Chronic air and water pollution problem are now apparent in rural and urban areas throughout the country.

Why should one worry about these demographics changes? The aging of Indonesia's population represents a crisis because its arrival is imminent and predictable and its ramifications will be massive and enduring. Indonesia's economic boom relied on a young and productive labor force, which a crucial role in helping the economy to take off.

Over the past decades, Indonesia enjoyed a productive population age structure, with working-age people making up a large part of its population while retired and pre working–age people constituted a relatively small fraction. Indonesia has clearly enjoyed significant gains in output per effective consumer as a result of the first dividend. Whether or not Indonesia will enjoy a second dividend remains to be seen. Demographic change offers an opportunity for significantly more rapid economic growth, but only if the policy environment is supportive. It would be a serious error, however, to reach any welfare conclusions about demographic change in general, and fertility decline in particular.

As the population continues to age in the coming decades, Indonesia will need to establish a sustainable social system to safeguard its society and make some critical policy adjustments. Indonesia is becoming old before it becomes rich." The government needs to undertake a variety of policy adjustments such as the transition from the pay system to a fully funded pension system and public education programs to make society better informed and prepared for an aging population.

Creating more work opportunities in the labor market and raising the retirement age will reduce the dependency of older people on social pensions, by prolonging the number of years in the workforce. Including rural to urban migrant workforce in the pension system will also enhance the total premium and financially support the transformation of the pension system.

2. Research Method

This is a qualitative study of public documents, congressional hearings, and a review of literature and case studies on the demographic issue, security and evolution of development in recent decades. Comparing demographic condition and public policy to view the current situation. The first step in developing this framework is exploring the importance of the demographic dividend and the factors necessary to cultivate a greater appreciation of the opportunity and threat. The second step is gaining insight into a working collaborative government through analysis of the security in wider form. Finally, an analysis of the public policy provides a framework around which to develop a new model for facing the demographic dividend.

3. Result and Discussion

Policymakers, researchers, and other stakeholders optimistically discuss the demographic dividend. Most view the benefits as imminent and within grasp. However, many of the least developed countries will be challenged to achieve this economic benefit without substantially lowering birth and child death rates - a process referred to as the "demographic transition." While child survival has greatly improved in developing countries, birth rates remain high in many of them. To reach their full economic potential, these countries must act today to increase their commitment to and investment in voluntary family planning.

The demographic dividend is the accelerated economic growth that may result from a decline in a country's mortality and fertility and the subsequent change in the age structure of the population. With fewer births each year, a country's young dependent population grows smaller in relation to the working-age population. With fewer people to support, a country has a window of opportunity for rapid economic growth if the right social and economic policies developed and investments made.

3.1. Reflection of the History and Opportunity

In the first millennium, Indonesia had a dynasty by the name of Syailendra dynasty which was responsible for constructing and building the biggest Buddhist temple in the world. This was around the seventh and eight centuries. Then move on to the second millennium we had a dynasty by the name of Majapahit which was also responsible for basically driving governance in the right way for Indonesia and the great region of Southeast Asia.

The questions that lingers between young Indonesian, what is Indonesia gonna be doing in the third millennium? Indonesia became Independent in 1945, and there is gonna be a shift in terms of how economies around the world. We know in the year 2000, the top 5 economies in the world are the US, Japan, Germany, French, and the UK. Whereas in 2010, the top 5 economy was US, China, Japan, Germany, and French.

Fortunately, Indonesia can be able to maintain growth of population or demographic profile. Today, Indonesia demographic profile is such that 60% of Indonesia’s population is younger than 39 years old, 50% of Indonesia’s population is younger than 29 years old.

And at the rate that Indonesia is producing every day, Indonesia will be able to maintain that demographic profile in that by the year 2025 Indonesia will still have that demographic profile or those same percentages. This is fantastic! Fantastic as long as the government infuse education into these guys. This basically relates to the third part of the vision of the protagonist country, such as Indonesia.

Yet population ageing, with the appropriate policy and institutional arrangements, may bring Indonesia a new demographic dividend. The demographic dividend, as previously discussed, quantifies the effects of changes in the support ratio, assuming unchanged output per worker, the structure can influence the processes that lead to the creation of wealth. A possibility—one that has been realized in other South East Asian economies—is that population ageing will lead to rapid accumulation of capital. When this occurs, the capital intensity of the economy will raise labor productivity or output per worker. Traditionally, the effect of population on capital deepening is considered in the standard neo-classical economic model that assumes that the saving rate is constant (Bloom et al., 2003).

3.2. Population Trends in Indonesia

Indonesia, with a current population of 241 million persons, is an important example for illustrating the high-priority policy areas in the area of demography and population dynamics. Indonesia is the fourth most populous country in the world. It is the eighth country in terms of adding most people to the global population by 2050, the fourth outside of Africa (after India, Pakistan, USA), adding a total of more than 66 million. Much of this future growth will be concentrated in urban areas, the infrastructure and social services of which are already struggling due to rapid urbanization in recent decades.

A substantial upsurge in the population, especially among the urban poor, would compound these problems. Part of the population growth until 2050 might be attributed to Indonesia’s stalled fertility decline, that is, the fact that the number of children born per woman stopped declining in the late-1990s. Fertility has remained above replacement level, at levels possibly as high as 2.6 children per woman. Interestingly, however, even under the assumption that fertility levels would instantly drop to replacement fertility (and remain a replacement until 2050), Indonesia would add about 70 million—just about the same as under the current UN medium fertility projection—to the global population.

3.3. Problems to Solve: Mathematical Facts

Indonesia only has less than 20.000 Ph.D.’s, China has more than 500.000 Ph.D.’s today. India has more than 500.000 Ph.D.’s today. And India produces about million engineers per year in close to a million doctors per year. Indonesia is only producing 700 Ph.D.’s per year, it will take 2022-2030 that Indonesia only has 60.000 Ph.D.’s. Still much lower than India has, than what China has. India and China will be producing larger number of educated people in the next few decades.

Indonesia needs to have a hard infrastructure. Today, Indonesia only has 350.000 km of roads, whereas China has about 4.5 million kilometers of roads. India has 4.5 million of kilometers of roads. Indonesia has got to be able to dream that in the next 20 years, that Indonesia can create at least 150.000 kilometers of roads, at least 150.000 km of railroads, at least 1.500 gigawatts.

The math is easy, if we’re accumulating the GDP at USD 720 billion to about USD 9 trillion in 2030, the accumulation of the GDP will be at least 60 trillion US dollar. If Indonesia take 5% of that GDP, just the theoretical ratio of spending the infrastructure, we would have USD 3 trillion to spend in infrastructure. That money will be enough to build the roads and railroads that Indonesia has to in the next 20 years.

Indonesia consumes steal only 30 kilograms per capita per year, South Korea consumes 1200 kilograms of steal per capita per year, for any nation who would like to be concern as modern nation, and it has to be consuming 500 kilograms of steal per capita per year.

The other one is the digital. Indonesia penetration of the broadband is only 18%, much lower than what we have in Korea, much lower than what we have in India, or the other South East Asian Countries. But the telephony or mobile penetration grade is much higher rate close to 80%. Those facts indicated that Indonesia has to be able to find another strategies to overcome the problems.

3.4. Strategic Policies

The Indonesian government and the younger generation in the country are being urged to prepare for the so-called demographic bonus, which is predicted will occur in 2025-2035, when the number of people within the productive age bracket is higher than the number of elderly people and children. Deputy Head of the family empowerment division at the National Population and Family Planning Board (BKKBN), Sudibyo Alimoeso, said the percentage of Indonesians within the productive age group in 2025-2035 would be relatively high.

Indonesia must make use of demographic bonus to break free from middle income trap. The demographic bonus phenomenon which is beneficial for Indonesia will not last long. The government must capitalize this demographic bonus. Indonesia is losing competition with several developing countries, such as Vietnam, which has overtaken Indonesia in the coffee and electronic sectors. Vietnam can export US$30 billion per year only from Samsung," Vietnam also already has free access to the European Union and the US.

The current demographic conditions in Indonesia are ripe for taking advantage of such a "demographic bonus" or "demographic dividend". In fact, favorable conditions have been in place for some time but the window of opportunity will start to close after another decade or so. "The demographic dividend refers to the accelerated economic growth that begins with changes in the age structure of a country's population as its transitions from high to low birth and death rates" (Gribble and Gemner, 2012).

The UN Population Division's estimates and projections for Indonesia's population by three age groups: infants and children (age 0-14years), those in working ages (15-64 years), and the elderly (65 years and older). We see the total population 0-14 peaks around 2010 and then declines, and under the assumptions used by the UN (medium variant) will continue to decline for the rest of the century. The population aged 15-64 is expected to continue to grow until mid-century. Meanwhile the number of people 65 and older will rise considerably during the century, so that by around 2060-70 there will, for the first time ever in Indonesia, be more people over-65 than children under-15.

The demographic transition affects labor supply in a couple of ways. The first is the automatic effect of more people of working age means, other things remaining equal, that there will be more people looking for work. Providing the labor market can absorb more workers, per capita production increases. If it cannot, then the large number entering the work force who remain unemployed can become a potent source of social and political instability. Other things being equal, policies which foster labor market flexibility will increase the numerator in the economic support ratio, and will therefore help in taking economic advantage of the demographic dividend (Hayes, 2014)

A decreasing dependency ratio in a national population does not automatically produce an acceleration of economic growth. A whole suite of institutional arrangements and policies needs to be in place if the change in dependency ratio is to translate into a positive change in economic support ratio; and even then, those with jobs need to be adequately productive, and the increase in wealth, at least in part, needs to be invested in future development if it is to contribute to sustained economic growth. With qualifications like these in mind not all experts are convinced that the concept of demographic dividend is especially useful (e.g. Crespo Cuaresma et al. 2013) (Crespo et al., 2013).

The concept of a demographic bonus or dividend has received a fair amount of public attention in Indonesia in recent years and local policy makers are familiar with the basic idea. However discussions in the media are limited in scope and tend to concentrate too narrowly on the concept of favorable dependency ratios, especially regarding the relatively large cohort about to enter the working ages over the next 10 or 15 years. These discussions acknowledge this cohort needs to be educated, skilled and employed if Indonesia is to reap a dividend, and there is also an appreciation that if the jobs are not available there could be widespread instability and lower economic growth.

There is little sense in many of these discussions, however, of how the demographic dividend fits within broader patterns and trends in population dynamics, or how the potential benefits might engage with existing patterns of asset transfers between age groups and generations. Moreover attention is often focused on the 2020-2030 decade (when the total dependency ratio will be at an all-time low), with little consideration of how changes in the dependency ratio have already been favorable for several decades, or of the potential effects over a longer time span.

Some commentators tend to “reify” the concept, as if it were the label of something tangible; they worry more about measuring the dependency ratio to one or two decimal places, or how it may vary from province to province, than about the more important issue of whether any of the policies are in place to effect a causal link with economic growth. It is a positive sign that the demographic dividend is used as an organizing principle in parts of the Government’s latest Development Plan (RPJMN 2015- 2019). Table 1 shows policies to harness the demographic bonus.

BAPPENAS defines the demographic bonus as the accelerated economic growth affected by the changing population structure marked by a decline in the dependency ratio. The document further recognizes that the changing population structure can only produce an economic bonus so long as it is accompanied by increasing labor supply, savings, and human capital.

Table 1. Policies to harness the demographic bonus in RPJMN 2015-2019 [Source: BAPPENAS (2015: 3.13)]

Development Aspect	**Strategic Policies**
Social, cultural, and religious environment	Maintain fertility decline, Increase social health insurance, Expand universal secondary education, Increase access and quality of tertiary education, Increase skill training of labor force through qualification and competence; increase the number of training institutions and the relevance of education system with labor market, Increase entrepreneurship, youth character education. Household savings Policy makers need to consider incentives to encourage those in the peak earning years to save and build assets to protect their standard of living when they retire. Whether the ambitious infrastructure and human resource plans envisaged by the Government of Joko Widodo are realized or not could well depend on whether aggregate domestic savings grow quickly enough and are well invested in the country’s future.
Economy and Employment	Optimize the global cooperation that consider social and cultural dimension, Expand employment, Increase investment climate and export promotion, Increase the synergy of industrial policy directions, Increase the labor market flexibility and decent work, Human capital deepening and workers education, Increasing women’s participation in the labor force. Labor market The labor

Development Aspect	Strategic Policies
	market needs to be as flexible as possible if it is to absorb the large cohort entering the working ages in the next 25 years. Policies need to be flexible regarding terms of employment, minimum wages, flexi-hours (especially important for couples with young children), etc., while at the same time protecting the rights of employees.
Natural resources and environment	Guarantee food supply by considering the change in consumption pattern and local culture of the community, Guarantee energy supply for industry; science and technology, Science and technology to increase workers' productivity, Increase the tax incentive for research and development.
Politics, law and security	Increase labor force participation at regional level, Guarantee the rights and participations of the people in economic development (inclusive growth), and Increase the protection for workers and international cooperation. Health A nation's prosperity goes hand-in hand with improved population health. The health sector in Indonesia needs to adjust to the changing age structure of the population, with more services for the treatment and prevention of chronic life-style diseases. The large numbers of people smoking and the current shifts towards an unhealthy high-calorie diet are not consistent with taking maximum advantage of demographic dividends. New public health campaigns and services are needed. Family planning and reproductive health services need to be upgraded. More attention also needs to be given to the social determinants of health inequality.
Regional, land use, and infrastructure development	Develop growth centers that consider the labor force structure and interconnectivity between regions, Spatial planning to anticipate urbanization, Increase infrastructure to support mobility and productivity. Education A high-quality work force is essential for future prosperity, but educational facilities and services are still remarkably low Tertiary education (university and vocational training) needs to be expanded if tomorrow's work force is to be skilled and innovative, and universal access needs to be achieved if development is to take full advantage of Indonesia's rich and diverse cultural heritage.

4. Conclusion

As a general point, government policy makers and public intellectuals need to extend the debate about the demographic dividend in at least two directions. First, the discussion about dependency ratios in Indonesia needs to be complemented with more systemic discussion of economic support ratios and their consequences. This is essential if the discussion is to move beyond vague references to the potential benefits of the demographic dividend, towards an evidence based discussion of the actual macro- and micro-economic benefits, and towards a careful assessment of what policy interventions are needed in order to protect and expand these benefits. An important component of the necessary analysis is already underway at Bappenas as part of the large international project on National Transfer Accounts, but much additional analysis is needed. Second, the discussion needs to be extended to embrace a longer time frame, so as to include the issues now seen as comprising a second demographic dividend by some experts. Although the two dividends can be perceived as sequential the reality is that they overlap, and it is certainly not too soon for policy makers to begin considering the second. This is especially relevant for Indonesia since most economists agree it is a lack of investment in infrastructure and human capital during the last decade which is currently serving as a brake on the country's economic development. Improving productivity is key to future growth. A skillful exploitation of the second dividend, particularly at a time when Indonesia's consuming classes are already growing rapidly has the potential to make a massive change to domestic savings and investment.

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