

THE CHANGES IN AGE STRUCTURAL OF POPULATION AND DOMESTIC SAVINGS: THE PERIOD OF DEMOGRAPHIC TRANSITION IN INDONESIA¹

Achmad Sjafii
Universiti Kebangsaan Malaysia
Email: achmadsjafii@gmail.com, Tel: (+601123892677)

Faridah Shahadan
Universiti Kebangsaan Malaysia
Email: faridah.shahadan@gmail.com, Tel: (+60192790188)

Doris Padmini Selvaratnam
Universiti Kebangsaan Malaysia
Email: dorisrobbert@gmail.com, Tel: (+60196682726)

Fikriya Shofiyah
Universitas Airlangga
Email: f.shofi@ymail.com, Tel: (+628573235828)

ABSTRACT

The Indonesian demographic changes during 1970-2012 had changed the age structure of the population significantly. The symptoms that appear are the decrease in rate fertility and mortality. Indonesia, likewise in most of the countries experienced declining of fertility and mortality rate. This will be followed by some positive impact on acceleration of economic. The decline in fertility rates has become one of the causes of the increased economic performance in several countries. The decline in fertility rate will lead to the increase of the percentage of the working-age population / **WAP** (15-64 year). The decline in the mortality rate due to population health, sanitation and nutrition, and healthy behaviours have resulted in an increase in life expectancy and productivity of labor. In the newly industrialized countries (NICs) as well as some developing countries shows that the decline in fertility has led to the increase in economic growth. This is possible because burden the 'young people' (0-14 year) to the WAP (is called 'young dependency ratio'/**DR_y**) becomes smaller. The smaller young dependency ratio has provided benefits for the economy performance. The increasing of WAP has encouraged economic growth through the accumulation of domestic savings and investment. WAP tends to be more productive in the economy, so they are more potential to save money than younger population and older population (65 <years). The shift of the structure from "young people" into the "WAP" structure has the potential to support the greater domestic savings. The objective of this study is to determine the causal relationship between the dependency ratio and the level of domestic savings in Indonesia. The method used is the Granger causality in time series data over the period 1962-2012. The results show the there is a one-way relationship of domestic savings to the population dependency ratio and not vice-versa.

Keywords: age structure of population, domestic saving.

¹ Paper presented at the 6th Kuala Lumpur International Business, Economics and Law Conference (KLIBEL)
18th – 19th Apr 2015, Hotel Putra, Kuala Lumpur, Malaysia.

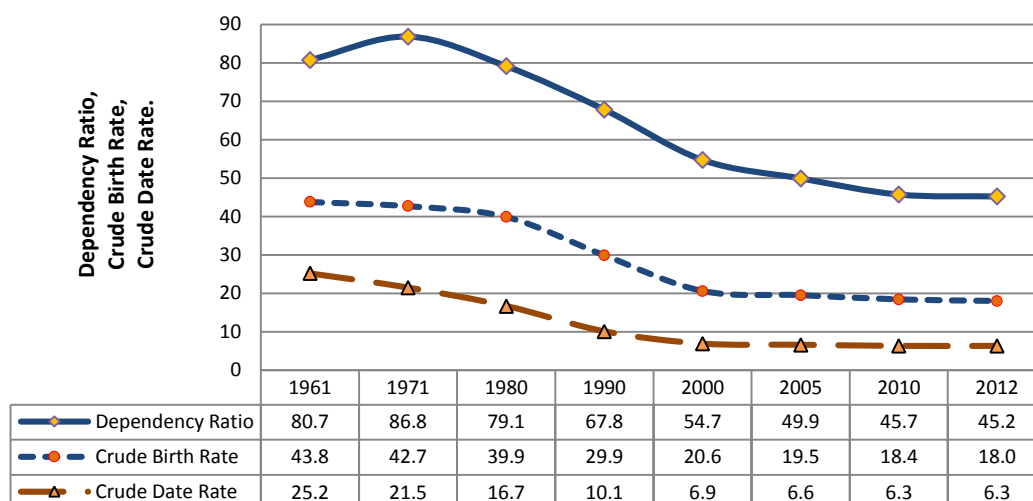
I. BACKGROUND

1.1. Age Structure Transition in Indonesia

Declining in fertility rate has occurred almost in the entire world in the last two centuries. At first, it occurred in high-income countries, and then in the middle-income and finally low income countries. Generally the experience of demographic changes both in developed and developing countries can be characterized by the decline in mortality and followed by fertility rate. The decline in fertility rate was followed by increase in percentage change of the working-age population. These conditions will cause burden the working-age population to young people became smaller. Bloom, et al. (1999); Birdsall, et al. (2001); McNicoll (2006); Fent, et al. (2008) explain that this condition will provides beneficial to economic growth.

Period of demographic transition in Indonesia has been going over the last four decades (1970s to 2010s) and is still ongoing. These conditions have led to changes in the age structure of the population of Indonesia significantly. The changes are caused by decreasing both Crude birth rate (CBR) and the crude death rate (CDR), especially infant mortality rate (IMR). Trends CBR and CDR in Indonesia in the last four decades is shown in Figure 1.

Figure 1: Trend in Dependency Ratio, CBR, CDR, 1961-2012



Sources: Census, Indonesia Demographic and Health Survey, Various Years.

The decline in fertility rates have led to the proportion of young people/ POP_Y (<15 years) to the total population becomes smaller. Meanwhile, the situation is followed by the increase in the proportion of WAP. This causes ratio POP_Y (<15 years) to WAP (15-64) becomes smaller. The burden of POP_Y (<15 years) to WAP (15-64 years) is known as the young-dependency ratio (DR_Y).

In this period, the proportion of old population/ POP_O (65 <years) increased but at a slower rate. It looked from the relatively smaller contribution of the old population for dependency ratio/ DR_O . So, in the phase the number of WAP is greater proportion than POP_Y and POP_O . Thus, the overall dependency ratio (DR) gets smaller (Figure 1). Indeed, on one hand the number of WAP (15-64 years) has provided a great opportunity to boost economic growth because it can lead to the increase in labor supply, when it accompanied by the increase in the quality or human resources. The number of WAP will be an opportunity to obtain a demographic dividend if workers have adequate education and skills. (Choudhry dan Elhorst, 2010). However, the availability of job opportunities should be considered.

1.2. Dependency Ratio and Domestic Saving

Over changes in the age structure of the population which accompanied decreasing the dependency ratio,

Indonesia entered a period the "window of opportunity". This condition can provide potential benefits called "demographic dividend". Therefore demographic dividend is an opportunity under ideal conditions when the population dependency ratio is the lowest. Situations like this can provide great benefits if the WAP can be utilized optimally. At one time the dependency ratio will rise again, when POP_0 is rapidly increasing due to changes in age structure.

However, these benefits need to be accompanied by some preconditions. Bloom (2003) states that the preconditions to obtain demographic dividend are consists of several factors. These are including the adequate labor supply, the availability of domestic savings, and human capital for labor.

Window of opportunity arises due to the presence of the demographic transition process. In this period WAP increased while POP_Y decreasing. The POP_0 has been smaller. Young population groups not yet in production while the old population has not produce anymore. The working age population has the opportunity to the increase in output per capita (Van der Ven and Smits, 2011)

The large number of WAP in Indonesia (around 69 percent) accompanied dependency ratio at the lowest value that is 45, giving a positive signal that the Indonesian had treaded demographic transition. In this period, Indonesia is expected to obtain economic benefit demographic dividend. However, the large number of WAP needs to be followed by an increase in the quality of labor, labor market-oriented education, and availability of jobs. If these preconditions are not met, it will causes arise the problems include high unemployment, poor education and health. This situation will bring out a demographic disaster that makes the economy collapsed.

The window of opportunity is one result of the decline in the dependency ratio (DR). This can result in increasing the level of domestic savings. The domestic savings rate will increase along with the increasing proportion of WAP. This is in accordance with the Life Cycle Hypothesis which states that young people experience dissaving because they do not have income but require consumption. Likewise, the old population could not to save because they had not enough income to cover expenses. While WAP has ability to work and have an income greater than consumption, where the excess of incomes can be saved.

The children have not been able to contribute to the production. Increase in the proportion of them can reduce the level of domestic savings, while an increase in the proportion of elderly people can reduce the level of aggregate savings due to increase funds for retirement. On the other hand, an increase in the dependency ratio could increase the burden of government spending on health and education is needed to improve the quality of life (Apergis, 2012). Therefore, the age structure of the population has a special role in explaining the level of domestic savings.

This study uses Granger causality test to see the relationship between two variables that is the level of domestic savings and the age structure of the population represented by the dependency ratio of the population in Indonesia in 1962-2012.

To achieve the objectives of this paper, three hypotheses have been made, the first hypothesis, there is a one-way causality of the population dependency ratio against savings; the second hypothesis, there is a one-way causality from savings against dependency ratio; and the third hypothesis, there is a two-way causality between saving the dependency ratio.

II. LITERATURE REVIEW

2.1 Theories

Life Cycle Hypothesis

Life Cycle Hypothesis (1950s) was developed by Modigliani, Ando and Richard. This hypothesis helps to link the consumption and savings behavior by considering the demographic aspects. Life cycle hypothesis (LCH) emphasizes on the choice of how to keep stabilized living standards in the face of changes in a life cycle. The Life Cycle Hypothesis states that the average propensity to consume is greater in both young and elderly individuals. They are borrowing against future income (in the case of young individuals) or using savings (as with aging or retired individuals). Working-age population on the other hand, has a greater propensity to save and a lower propensity to consume, enhanced by a typically higher income.

This hypothesis states that income varies systematically over a person's life. While saving rate someone moves in accordance with the income of his life (Mankiw, 2000). This means that the level of disposable income is closely related to the age of a person during their life cycle. This implies that the level of savings move when the dynamics of one's income relative to the average income for life.

There is a link between domestic savings and demographic aspects, particularly related to population age groups, including young population group (<15 years), working-age population (15-64 years) and elderly group (65 years and over). Working-age population is a group of people can save money as well as to collect funds retirement. Thus, their savings rates tend to be higher relatively. Conversely, the young population and elderly can save little relatively, mainly because their income is low (Yasin, 2007).

Therefore, the life cycle hypothesis reflects that increased savings by a higher percentage in the working age population, and at a low position on the young and elderly populations. This hypothesis also argues that factors such as the old dependency ratio, a decrease in the fertility rate, life expectancy, and income levels are also likely to be a determinant of savings (Yasin, 2007). Moreover, this hypothesis also mentions that the aggregate savings depends on the level of economic growth and variables such as age distribution in the population (Dornbush et al., 2001).

From Window of Opportunity to Demographic Dividend

Interesting phenomenon in the demographic transition is economic implications such as supply labor, labor productivity, domestic savings and capital formation, expenditures for human resources. All of them contribute to economic growth (Bloom and Williamson, 1997; Bloom, et al, 2003; Mason, 2005; McNicoll, 2006; Fent, et al., 2008; Lee, et al, 2012; Song, 2013).

The effect of demographic transition can be caused by an increase in the number of productive age population and decreased the proportion of young population. This has implications for reducing the amount of investment for the fulfilment of their needs, so that costs can be converted to stimulate economic growth, which in turn can improve the welfare of nation.

Singariya (2012) stated that the demographic dividend as the increase in the level of economic growth due to the increasing number of people of working age in the population. United Nations Economic Commission for Africa (2013) asserts that economic growth is a consequence of changes in population structure. This phenomenon occurs due to a decrease in fertility rates and increasing the working age population in age structure of population.

Bloom (2003) stated that there are three important variables are closely related to the demographic dividend, including:

1. Supply of labor

Demographic transition could affect the supply of labor in two ways. First, there is the addition of the baby-boom entering childbearing age 15-64 years so that there is an abundant population of working age. This is in line with the declining fertility rate continuously. Second, women are allowed to enter the labor market due to a decrease in the number of family size. This effect is strengthened by the fact that they had been grown up in a small family and tend to get a better education.

2. Domestic Saving

The number of aggregate savings could be resources for investment which is the foundation for economic growth. The potential for savings is in the working age population, especially groups of people aged 40s. Working-age population tends to have a higher economic output, so the potential for increasing higher savings. While the young people and the elderly consume more than they produce.

3. Human Capital.

Demographic transition characterized by a decreasing mortality rates and increased life expectancy at older age groups. Along with the increase in life expectancy parents tend to choose to educate their children to a more advanced level. The parents know that there is an opportunity for children to benefit from educational investment. The results of investment in education is that the labor force as a whole to be more productive, promoting higher wages and have better living standards.

2.2 The Previous Studies

Changes in population age structure known as the "demographic transition" led to shifts the number of children the fewer but better educated (Prettner and Prskawetz, 2009). The condition causes the available working-age population and increasing labor productivity in the future. This condition can be expected to accelerate technological progress and economic growth (Becker, 1993). Labor productivity is also related with the level of investment (both in physical capital and human capital), and demographic factors through its effect on savings. Increased life expectancy makes the need for pension funds is increasing, leading to increased domestic savings. While low fertility rates have contributed to the better education (Bloom, et al., 1999).

Apergis (2012) investigate the impact of dependency ratio on domestic savings in 16 African countries using annual panel data. The empirical study was conducted using panel unit root, panel cointegration and causality test panel. The analysis showed the presence of a negative causal relationship between the dependency ratio and the level of savings. That is, the dependency ratio decreases, the savings rate increased. Studies by Salman (2012) examined the relationship between the dependency ratio and domestic savings during 1980-2009 in Pakistan. The variables that used in this study is the national savings, the dependency ratio, fertility rates and investment. The findings indicate that the savings and dependency ratio has a negative relationship. Likewise, the level of fertility is negatively related to the level of savings. Meanwhile, investment and savings levels are

positively correlated.

Investigation Xu (2012) have found that long-term convergence between household savings rate, the age structure of the population, and GDP per capita in the whole of China in 1963 to 2006 by using the Vector Error Correction Models (VECM). The results showed that: first, there is a long-term steady-state relationship between the variables of the study. Second, “young” and “old” dependency ratio has a significant negative impact on household savings, while the growth rate of GDP per capita has a positive impact on household savings. Therefore, these results support the Life Cycle Hypothesis.

Keho (2012) based on data from 16 countries in Africa as a time series (panel data) by using a variable rate of gross domestic savings as a share of GDP, the dependency ratio, and real per capita GDP. The results of the causality analysis showed that the ratio of dependency causes a negative savings rate in nine countries, and positive in the two countries. Bloom, et al. (2007) conducted a study with the conclusion that the demographic changes (i.e. an increase in life expectancy) has raised the level of aggregate savings. In addition, it is stated that the demographic transition can affect aggregate savings not only through the accounting effects related to the age structure of the population, but also through behavioral effects associated with the expected longevity. The response to the life expectancy longer is able to increase savings.

In another study, Bloom, et al. (2001) stated that the high level of savings in East Asia affected by the demographic transition (i.e. decrease dependency ratio). This condition occurs when the baby boom generation enters the workforce and parents have fewer children. Results from studies Bloom and Sachs (1998), Bloom and Williamson (1998), and Bloom, Canning, and Malaney (2000) showed that the demographic dividend contribute between a quarter to two-fifths of the East Asian economic miracle. Lee, et al. (2001) based on the experience of Taiwan, has studied the relationship between demographic transition (i.e. decline in the dependency ratio) and savings and investment. They concluded that changes in the age structure have the effect to the increase in savings and an increase in life expectancy.

Findings Kogel (2005) states that the dependency ratio “young” high will reduce aggregate savings. On the other hand, the decline in aggregate savings would reduce growth of productivity. There is also evidence of the impact of the dependency ratio on aggregate savings. Horioka (1997) found the time series data in Japan that the effects of age structure of population greatly affect the level of household savings. While Kelley and Schmidt (1995) have found that the negative effects in the relationship between dependency ratio and the savings rate in the world macroeconomic data.

Studies Li, et al. (2007) examined the effects of life expectancy, population growth, and population age structure on savings, investment, and growth in output per capita. They justify linkage life expectancy and “old dependency ratio” in determining the level of savings and growth by using a growth model that includes two neoclassical growth model and endogenous growth. Using panel data from the World Bank, they found that the longevity of a positive impact and negative effects of the ratio of dependence on savings and investment. Their estimates indicate that differences in demographic variables in the country or time period can also explain the difference in the level of aggregate savings. They also found that both the age structure of the population and life expectancy is an important contributing factor to economic growth.

III. METHODOLOGY

3.1 Sources of Data

The data used in this study are time series data from 1962 to 2012. Source data comes from Welfare Statistics of Indonesia from the World Bank Data website. The data used is the population dependency ratio is calculated from population data by age group and the Gross Domestic Savings (% of GDP) in Indonesia. Dependency ratio (DR) is the ratio of the number of unproductive age population (not / does not work) to the number of productive age population (work). Dependency ratio divided into “young dependency ratio” (**DR_y**) and “old dependency ratio” (**DR_o**). While the total dependency ratio (**DR**) is calculated as follows:

$$DR_y = \frac{\text{Age group } 0-14 \text{ years}}{\text{Age group } 15-64 \text{ years}} \times 100; DR_o = \frac{\text{Age group } > 65 \text{ years}}{\text{Age group } 15-64 \text{ years}} \times 100$$

$$DR = \frac{\text{penduduk usia di bawah 15 dan di atas 64 tahun}}{\text{penduduk usia } 15 - 64 \text{ tahun}} \times 100$$

Domestic savings is the amount of government savings that are in Indonesian revenue and Expenditure Budget (APBN), which represents the difference between domestic revenue (such as from various taxes) with routine expenses (such as civil servants' salaries and subsidies) and from savings derived from net profit of State Owned Enterprises (SOEs), as well as from private savings is savings derived from net profit private companies and public savings (household). The processed data is data Gross Domestic Savings (% of GDP).

3.2 Analysis Techniques

To examine the relationship of causality between dependency ratio (DR) and domestic saving (S), this study uses the Unit Root test and Granger causality test, after that it is combined by the method of time lags (lag) optimal. The first step is tested the data stationary (stationary stochastic process). This test should be done in the estimation of economic models with time series data. Test the data stationarity examine whether the time series data is stationary or not. Spurious regression can arise if the time series data are not stationary, even though the R² high and t-statistic significantly. Stationarity test in this study is done by using the Augmented Dickey-Fuller (ADF) by comparing the value ADF statistic with MacKinnon critical value 1%, 5%, and 10%.

The Granger Causality equation can be written as the following:

$$DR_t = \sum_{i=1}^n \alpha_i DR_{t-i} + \sum_{j=1}^n \beta_j S_{t-j} + u_{1t} \dots\dots\dots (1)$$

$$S_t = \sum_{i=1}^n \lambda_i S_{t-i} + \sum_{j=1}^n \delta_j DR_{t-j} + u_{2t} \dots\dots\dots (2)$$

In general, Granger equation can be interpreted as follows (Gujarati, 2012):

1. Unidirectional causality from S to DR, it means one-way causality from the S to DR occurs if the coefficient lag S in equation (2) is statistically significantly different from zero, the coefficient lag DR in equation (1) is equal to zero;
2. Unidirectional causality from DR to S exists if the set of lagged S coefficients is not statistically different from zero and the set of the lagged DR coefficients is statistically different from zero;
3. Bilateral causality, is suggested when the sets of S and DR coefficients are statistically significantly different from zero in both regressions;
4. Independence, is suggested when the sets of S and DR Coefficients are not statistically significant in both the regressions.

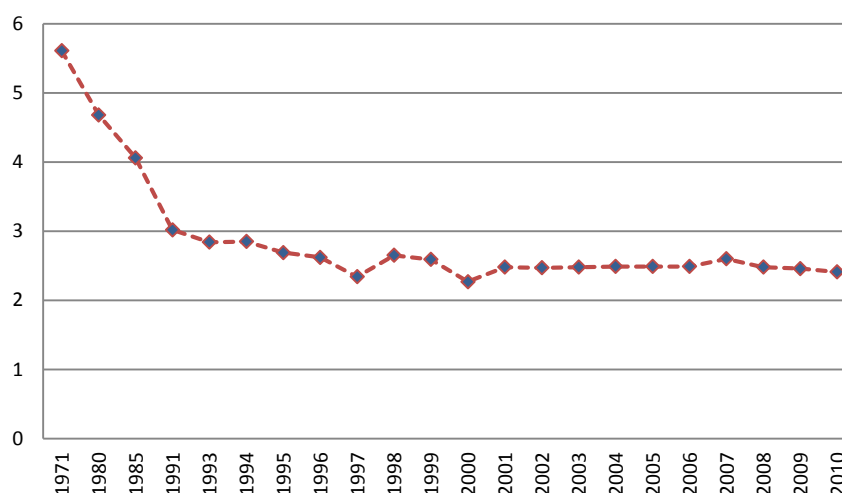
IV. THE EMPIRICAL RESULTS AND ANALYSIS

4.1 Demographic Transition and domestic savings rate

The dynamics of changes in the age structure of the population in Indonesia started in the 1970s. The changes in the age structure are impact on Indonesia's economy indirectly. One of the important indicators and contribute to the economic performance is a reduction in the total fertility rate (TFR). Based on data from the Census of Population and Indonesia Demographic and Health Survey (IDHS) indicates that the TFR decline continuously. The fertility rate has slowed since 1994 when the TFR of about 2.9 to 2.6 per woman as happened in 1994-2012. Indonesian TFR levels and trends in the last four decades can be seen in Figure 2.

Family planning programs contributed to the rapid increase in the Contraceptive Prevalence Rate (CPR) of 26 percent (1976) to 60 percent (2002). This program decrease TFR from 5.6 to 2.6 per woman, during the same period (Schoemaker, 2005). IDHS 2007 shows trends of contraceptive use between 1994 and 2012 are likely to increase steadily. CPR in any way methods grow up from 55 percent (1994), 57 percent (1997), 60 percent (2002-2003), 61 percent (2007), and 62 percent (2012) respectively (CBS, 2012).

Figure 2: Total Fertility Rate (TFR) in Indonesia, 1971-2010



Source: Census, Indonesia Demographic and Health Survey, Various Years.

One of the effects of the decline in TFR is getting low dependency ratio of working age population in Indonesia. The low dependency ratio indicates the low level of economic burden of productive age population (15-65 years) to the non-productive age population (0-14 and 65+ years). The composition of the productive age population in Indonesia has increased, causing more low dependency ratio in Indonesia.

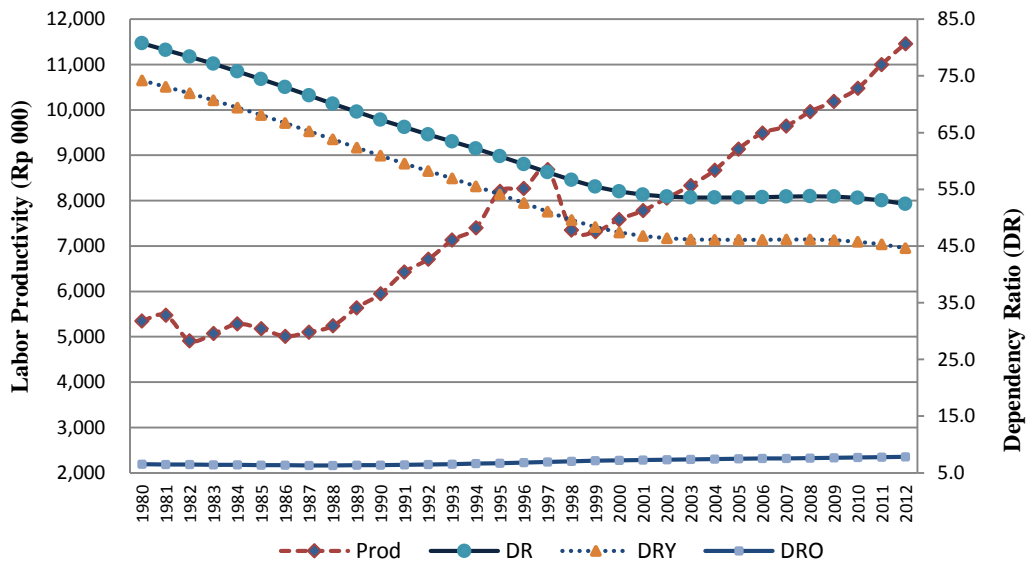
This is a signal that Indonesia is experiencing a condition called "window of opportunity". These conditions provide opportunities for economic benefits. Some countries have managed to take advantage of demographic dividend to boost economic growth, which is China's 6.2 per cent economic growth before demographic dividend to 9.2 per cent, from 7.3 to 13.2 South Korea, Singapore increased from 8.2 to 13.6 and Thailand rose sharply from 6.6 to 15.5. (www.bkkbn.go.id).

Based on Figure 3 it appears that the evolution of the lower young dependency burden while elderly dependency burden increased. The decline in youth dependency burden is due to the decline in the TFR of population aged 0-14 years, while the increase in the elderly dependency burden due to the increase in the number of elderly people (65 <years). The decrease in total dependency ratio caused by a decrease in the number of people aged 0-14 years is greater than the increase in the number of elderly people is relatively small. So, there is an increase in the number of productive age population.

On the other hand, as a result of changes in the age structure has been a shift in the age group differences in the population with particular economic characteristics. Young population (aged 0-14 years) requires investment in education and health, but the working population (15-64 years) will supply the manpower needs and at the same time able to increase savings.

While the elderly population (65 <years) require health care and pensions. If the number of working-age population grew relatively higher than non-productive age (0-14 + 65 <year), so that the expenditure required to meet the needs of young population and a group of elderly population, relatively smaller (Ross, 2004). As a consequence, the resources become available for investment in human development and overall economic prosperity. However, the optimal utilization of demographic dividend requires a policy carefully for changes in the age structure of the population.

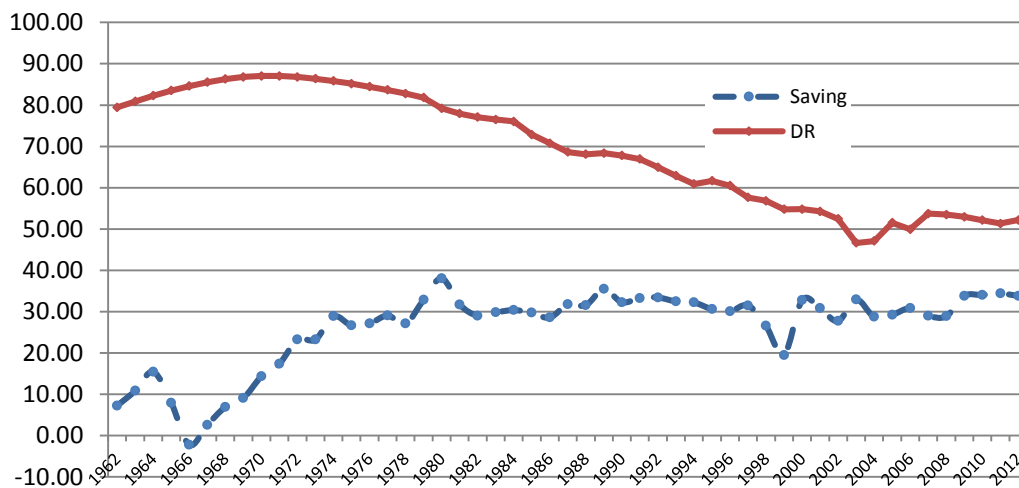
Figure 3: Dependency Ratio and Labor Productivity (Rp 000) in Indonesia 1980-2012



Source: Pop Census, Indonesia Demographic and Health Survey, Various Years.

Accumulation of domestic savings is increasing from year to year so that it can serve as a good alternative for development funds in the future. The development of the domestic savings rate in the period of the study is shown in Figure 4. Increased savings is due to the increase in household savings that are part of the overall savings. Household savings are always associated with the consumption behavior (marginal propensity to consume). This is because the additional revenue (a combination of permanent and transitory income) will affect the behavior of consumption and savings.

Figure 4: Dependency Ratio (DR) dan Domestic Saving (%PDB) 1962-2012



Source: Population Census, World Bank.

4.2 The Empirical Results and Analysis

The first test step in this study is a stationarity test data using unit root test. The test results variable population dependency ratio and variable rate savings at the level shown to result in data that does not need to be stationary so that re-testing at a rate of the first difference. At the level of the first difference is the data expressed stationary with a significance level of 1%, 5%, and 10%. Furthermore, the determination of the optimal lag indicates that the lag that results in accordance with the test data is lag 1. This shows that the change of variable x

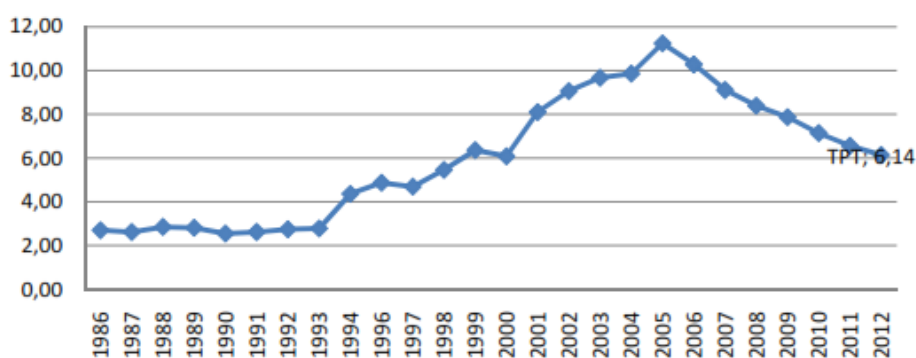
in the last year, affecting the variable y in the current year.

Testing continued on granger causality test. Granger causality test results showed different results with the first hypothesis. The first hypothesis suppose that the population dependency ratio variables affect domestic savings variables significantly, but the results of calculations shows that the population dependency ratio variable does not affect significantly the variable savings at 10% significance level.

It has been found causes which population dependency ratio in Indonesia in 1962-2012 had no effect on savings are the higher unemployment problem in Indonesia. The decline in the ratio of population ages as well as the increasing number of productive age population over the age of unproductive population also means increasing the labor supply. But a large number of labor not matched by greater employment opportunities. So, this is lead to high levels of unemployment in Indonesia. In general they are low-income people and don't have income at all. So they could not save the money even they have debts (dissaving).

The situations of unemployment rate moving stable between 3 to 4 per cent in 1986 and 1993. Before the economic crisis in 1997, the unemployment rate was below 5 per cent and in 1997 at 4.68 percent. The unemployment rate of 4.68 percent is still the reasonable scale unemployment. After that they move up from 2.70 per cent to a peak 11.24 per cent in 2005 and 2006 (Figure 5). The unemployment rate is so high is due to the rise in fuel prices up to two times a year. This situation is very shake the business world so labor force drop out so high. After that, the span 2005-2012 the open unemployment rate has decreased to point 6.14 per cent in 2012. Thus, although the population dependency ratio in the period is at a low position, but there are still many people who could not savings because they do not working. In other words, a low dependency ratio does not affect the level of savings.

Figure 5: Rate of unemployment 1986-2012 (%)



Source: CBS, Various Years.

Based on these results, the study is not the same as the earlier studies. Previous studies as studies of Apergis (2012), Salman (2012) and Keho (2012) showed that the population dependency ratio effect on savings. However, the results of this study indicate that the dependency ratio of the population has no effect on savings.

Granger causality test above was also to prove the second hypothesis. The second hypothesis expected that savings variable influencing variable population dependency ratio significantly, whereas the results of calculations show that the savings variable influencing variable population dependency ratio.

According to Keynes, accumulation of savings made by households depends on the level of household income. When savings increased caused stimuli increase household income, so it could change the opinion of the household (family) on the number of children desired. Household relatively high incomes generally have fewer children than families whose income is low (Becker in Aditoemo and Samosir, 2010). Parents want their children to live better especially their own health and education.

It means that the costs for caring for the children need a greater human capital investment. Desire family to get fewer children this causes a decrease in the fertility rate, which in turn decrease the population dependency ratio.

Limitation of Study

There are several limitations to this study, which are (1) This research linking causal relationship between the two variables only, without calculating how much influence the independent variable to variable dependent; (2) Second, the study only covers the territory of Indonesia as a subject research, it would be better to compare the condition of Indonesia as developing countries to other developing countries that have socio-economic and demographic identical background, in order to obtain feedback as efforts to increase domestic savings in Indonesia.

5. CONCLUSION

Based on the overall results above, it can be concluded that:

1. The results of Granger causality test showed that there is no one-way relationship of dependency ratio of population to savings Indonesia in 1962-2012.
2. The results of Granger causality test showed that there is a one-way dependency ratio of savings to the population of Indonesia in 1962-2012.
3. The results of Granger causality test shows that there is no bidirectional causality between saving the dependency ratio of the population in Indonesia in 1962-2012.

Based on the above conclusions, the suggestions can be presented in this study include:

1. Equitable resources and health facilities in Indonesia in order to increase life expectancy, especially in eastern Indonesia and remote areas..
2. Increased training programs and skills for the community for the creation of an independent society, productive, and innovative so as to create new jobs. Job creation will be able to absorb the labor force.
3. Increased and equal access educational facilities in rural areas in order to avoid inequality of education in Indonesia.

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