



Demographic and Competitiveness Acceleration and Government Sustainable Advantage in Indonesia

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ABSTRACT

The objective of this research is to investigate the effects of demographic and competitiveness acceleration on sustainable advantage in government areas in Indonesia. The research is done at district level (kabupaten/kota) in Indonesia. The sustainable advantage variable is the gross domestic product, while the demographic and competitiveness acceleration variables are the dependency ratio growth rate, capital investment, percentage share of agriculture in the economy, and percentage of women age 16 years and above with senior high school education or above. Data used cover 489 districts in Indonesia from 2008 to 2010. The data are from the Statistics Indonesia and World Bank. Data analysis using an ordinary least square regression show that to achieve a sustainable advantage, regional management must promote the regional competitiveness acceleration by managing the dependency ratio growth rate, increasing the capital investment, reducing the share of agriculture sector in the economy and increasing women's education.

Keywords: Government Management, Competitiveness Acceleration, Demographic, Regional, Indonesia

JEL Classifications: O18, O31

1. INTRODUCTION

A new approach in public administration, named the New Public Management, is developed with the purpose to setting government by managing it like a business, was started since the 1980s. The implicit assumption in this ideology is that the private sectors are more efficient compared to public sectors. Therefore, the competition makes public sectors more efficient (UNDP, 2015). Efficiency in running both a company and a country depends on a number of factors, such as competition, regulation and autonomy. The issues are broader than institutional development.

The management of a country does not differ much from the management of a company (Beckett, 2000). The greatest similarity between the two is on the architect of them. With the company and business organization, the leadership must manage the managers, workers, union, shareholders, and creditors. The same thing happens with a democratic country. Political leaders must manage government offices, people's representatives, law enforcement officers, political parties, lobbying and bureaucracy, and acts for their constituents' wills. The main objective of managers is to do the best according to the shareholders' wills, while the main

objective of political leaders is to do the best for people's welfare in the leadership regions.

With the same political philosophy, which is determined by the central government, a region in Indonesia, a province or a district (kabupaten/kota), must improve and undertake its competitiveness so that it can grow better and can catch up its backwardness from other regions. How and in which development areas do the regional governments implement competitiveness acceleration in order to achieve sustainable advantage in Indonesia?

Denhardt and Grubbs (2003) argued that the main difference between business and governance is that business is to create profit, while governance is more directed to create services or govern individual and community behavior in public objectives.

In 1802, Thomas Jefferson, the author of the American Declaration of Independence, wanted to "see the finance of union as straight, understood and clear as trade book" (Chan, 2009). In the 1970s, Arthur Andersen & Co., an innovative accounting company, tried to realize Jefferson's dream by challenging the government of the United States to create the accounting according to Generally

Accepted Accounting Principles. In the 1980s, Robert Anthony (in Chan, 2009) thrust the United States and the States to apply business accounting principles so that they do not have to use different Government Accounting Standards. In the 1990s, “business accounting for government” approaches were successfully implemented at international level. The International Public Sector Accounting Standards were successfully made after the International Business Sector Accounting Standards were developed. The framework in promoting growth in a company was applied in managing a government. An aspect of company and government enhancement is developing competitiveness across regions. Regional development is accelerated through development and competitiveness growth (Maskell and Eskelinen, 1998).

Fagerberg et al. (2014) questioned why some regions grew rapidly and had better trade than other regions. What are the crucial factors behind those success? What policies can the government make to improve the economic performance (or the people’s welfare)? These questions draw attention to the economic competitiveness among a number of alternatives. Development programs, innovation and competitiveness are the most important key words to attain economic growth (Gu and Tang, 2003).

Couto et al. (2006), as cited by Vieira et al. (2008), argued that competitiveness depends on – in a large scale, the ability to create a better work opportunity momentum, that is also an issue related to demographic dynamics, limited labor market, human resources quality and productivity achievement. In the regional management framework, Porter (1990) and Krugman (1994) defined it competitiveness.

What is the competitiveness? The theoretical and practical definition and measurement of competitiveness have been proposed (e.g. Potter, 1990; Krugman, 1994; Szentes, 2005). Porter (1990) stated that “the only meaningful concept of competitiveness at the national level is productivity. The principal goal of a nation is to produce a high and rising standard of living for its citizens. The ability to do so depends on the productivity with which a nation’s labor and capital are employed. Productivity is the value of the output produced by a unit of labor or capital.”

Krugman (1994) argued that defining competitiveness in regional governance is different from defining competitiveness in company. However, there is a certain competitiveness level in potential territory area to attain sustainable development (Poot, 2000), in particular in people’s living standard. This is obtained by developing regional competitiveness. It means, for a country to achieve sustainable growth, that country must improve its competitiveness. Further, Szentes (2005) criticized the uncertainty and various interpretations of composite measures of national competitiveness.

In term of regions, Huggins and Thompson (2013) defined that competitiveness is a capacity and ability of a region to attain economic growth relative to other regions at an equal overall economic growth. Competitiveness depends on long run productivity, where a country or a region uses its human resources,

capital and natural resources. Variation in competitiveness is also factor that causes inequality among developing countries. External or international competitiveness is an ability to change good and services abundance in a country to good and services scarcities in other countries. Best (1990; 2001) emphasized that competitiveness of a country, a city, and a region, is not a choice anymore. A region must compete to survive in today’s global free market. The new competition is forged through new information economy which is knowledge driven economy.

Competitiveness is the only route to attain sustainable employment growth, increase income and improve living standard. Porter (1990) argued that in modern global economy, the welfare of an economy is the ability of that economy to innovate to achieve or to maintain the strategic position upon other economies. Meanwhile, Hämäläinen (2003) proposed a framework of competitiveness and economic development in techno-economic situation. Findings from an empirical studies for 22 OECD countries in the 1980s and 1990s show that efficiency and growth-oriented government significantly had positive impacts on the economic performance of these countries. Further, Fagerberg et al. (2004) posited policies that competitiveness enhancement will improve the economic position of a country. They identified four aspects, that is technology, process, capacity and demand. The results of their study indicate that technological competitiveness and capacity are two important determinants in competitiveness performance growth.

A study by Ben Amar and Hamdi (2012), using panel data for 23 African countries in the 2004-2009 period found that global competitiveness of these countries statistically had positive impacts on their economies. Further, Kordalska and Olczyk (2015) found that global competitiveness had positive impacts on low income country aggregate growth, perhaps caused by the intermediate factors, such as a large number economic reform in low income countries.

Good governance are more likely to produce better growth. Gangl (2007) argued that the majority of Americans agreed if market mechanism process increases more on political and democratic governance process with free market principle. Her research suggested that governance will be more effective if it is run like running a business.

How does the demographic acceleration affect the economic growth? Simon (1998) argued that the ultimate resource for development is people. Also, the demographic transition of declining fertility and mortality from high to low levels has resulted in the window of opportunity to reap the demographic dividend of accelerated economic growth in many countries (Samosir, 2015). Meanwhile, ageing population can reduce regional economic growth (OECD, 2014). Further, immigration, in particular high skilled entrepreneur immigrants in metropolitan areas can have positive impact on regional economic growth (Poot, 2007).

The capacity of a region’s population affects its growth. Mok (2015) found that, for Hong Kong, education is social mobility machine in modern society. An international research found that

in several last decades education can drive social mobility and affect social class formation and educated people will produce better position (Mok, 2015).

Meanwhile, Harrison (1998) emphasized the importance of technological innovation in sustainable development and in reducing the need for broader socioeconomic changes. Free market has increased technological innovation quantity that influences economic growth. It is clear that technological innovation affect sustainable development. Government has to be careful in supervising and does not control technological systems.

Conventional policy advocate that sustainable development is a binding that amalgamates profit-minded industrialist and risk-minimizing farmer to be equity-seeking social worker, pollution-concerned or wildlife-loving, growth-oriented bureaucracy, and selected politician, because the human race and civilization have developed an exosomatic culture that always improves the human race conditions through artefact that technology is derived from human knowledge imagination (Lele, 1991). Meanwhile, Boeri (2005) argued that comparative advantage is influenced by government policies through the average increase in labor's education attainment (almost mechanic) and economic transformation which is done become capital intensive by using pension saving.

In 2010, the European Union announced a strategy, which is called "Europe 2020 Strategy" with three economic boosters in the upcoming decades: Smart growth, sustainable growth and inclusive growth. Smart growth includes promoting knowledge improvement, innovation, education and a digital society. Sustainable growth consists of policies in the increase of more efficient production in resources and in the competitiveness development. Inclusive growth includes increasing participation of all people, including women in the labor market, achieve expertise in education and struggle for poverty reduction. To attain a region's sustainable development competitiveness development policies are needed. Competitiveness is a factor that enables a country or a region to catch up their backwardness from developed countries or regions.

In this study, intermediate variables were used as proxies of competitiveness. These include investment, share of agriculture sector, women's education and growth of dependency ratio. The improvement of competitiveness is translated into investment increase, human resources improvement in particular women and increase in employment through dependency ratio decline.

2. RESEARCH METHODS

Data in this research come from Indonesia Database for Policy and Economic Research of the World Bank and from Statistics Indonesia (Badan Pusat Statistik) for tahun 2008 dan 2010. Those data is for 489 districts (kabupaten/kota) in Indonesia. The data include the gross regional domestic product at current prices in 2010 (million rupiah), investment at current prices in 2008 (million rupiah), share of agriculture sector (%) in 2010, percentage of women age 16 years and above with senior high school education and above in 2010 and the growth rate of the dependency ratio (the ratio between the number of population age 0-14 years and the number of population age 65 years and above with the number of population age 15-64 years) in 2009-2010.

The data were analysed employing univariate, bivariate and multivariate analyses using descriptive statistics, simple regression models and multiple regression model respectively. Descriptive statistics are summary statistics consisting of the mean, standard deviation, minimum value and maximum value of each variable in the analysis. Simple regression models were carried out between each independent variable (investment, agriculture share, women's education and dependency ratio) and the dependent variable (the gross regional domestic product). A multiple regression model was done between investment, agriculture share, women's education and dependency ratio as the independent variables and the gross regional domestic product as the dependent variable.

3. RESULTS

Development achievement varies greatly across districts in Indonesia. As it can be seen from Table 1, the standard deviation and the difference between the minimum and maximum value in investment, share of agriculture sector, women's education and growth of dependency ratio is big. How should Indonesia reduce this inequality and how lagged behind districts catch up their backwardness from developed districts?

In Figure 1 the gross regional domestic product and investment in Indonesia in 2008-2010 is presented. It can be seen that the higher the investment, the higher the gross regional domestic product. It means districts with higher investment has higher economic growth rate than districts with lower investment because higher investment can mean more economic activities and higher growth.

In Figure 2 the gross regional domestic product and the percentage of agricultural worker in Indonesia in 2008-2010 is presented. It

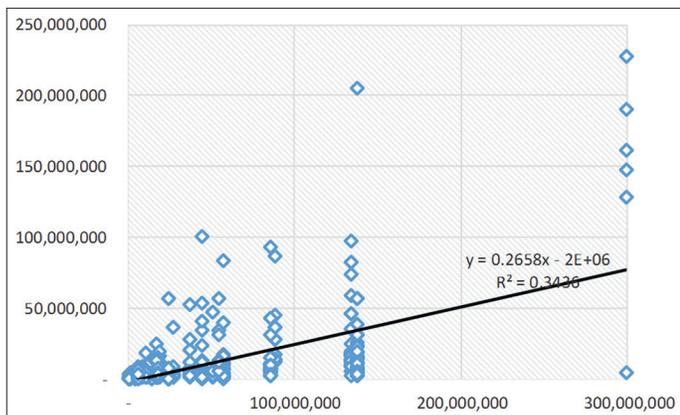
Table 1: Summary statistics of variables in the analysis: Indonesia 2008-2010

Variable	Number of observation	Mean	Standard deviation	Minimum	Maximum
Gross regional domestic product in 2010 (million rupiah)	489	4.65×10 ⁷	5.19×10 ⁷	507,019.5	2.99×10 ⁸
Investment (million rupiah) in 2008	489	3.58×10 ⁷	4.17×10 ⁷	323,629.7	2.42×10 ⁸
Agriculture share (%) 2010	489	0.3166689	0.1855197	0.0001627	0.7767885
Women age 16 year and above with senior high school education or above in 2010 (%)	489	25.10881	12.81881	0.5024734	69.38169
Growth rate of dependency ratio (2009-2010)	489	-0.0069467	0.0349846	-0.1325966	0.1145932

Source: INDODAPOER World Bank (authors' calculation)

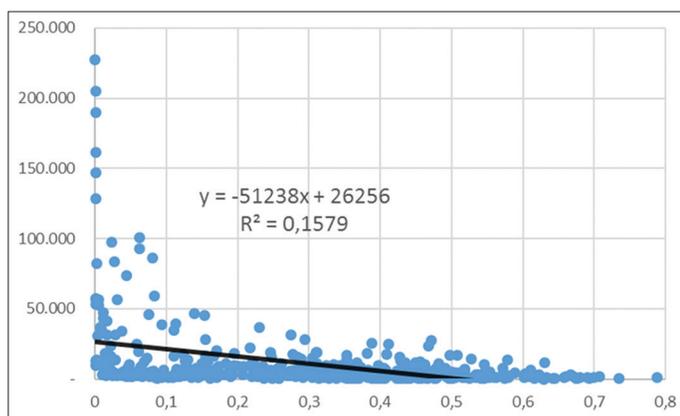
can be seen the higher the percentage of agricultural worker, the lower the gross regional domestic product. It means districts with lower share of agriculture sector has higher economic growth rate than districts with higher share of agriculture sector because lower share of agriculture can mean more modern and productive economic activities and higher growth.

Figure 1: Gross regional domestic product (2010) and investment (2008)



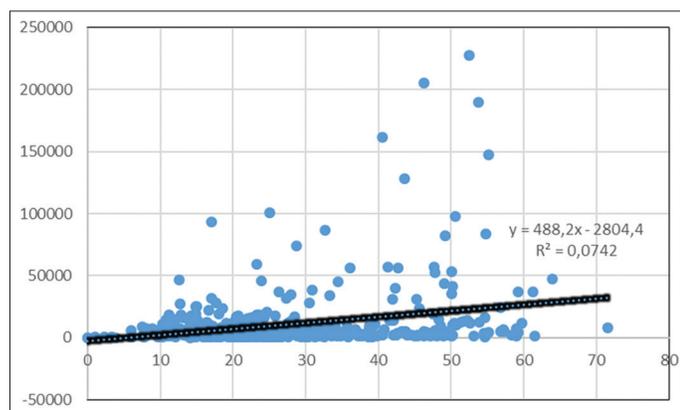
Source: INDODAPOER World Bank (authors' calculation)

Figure 2: Gross regional domestic product and agriculture share: Indonesia 2010



Source: INDODAPOER World Bank (authors' calculation).

Figure 3: Gross regional domestic product and percentage of women age 16 year and above with senior high school education or above: Indonesia 2010



Source: INDODAPOER World Bank (authors' calculation)

In Figure 3 the gross regional domestic product and percentage of women age 16 years and above with senior high school education or above in Indonesia in 2008-2010 is presented. It can be seen that the higher the percentage of women age 16 years and above with senior high school education or above, the higher the gross regional domestic product. It means districts with higher percentage of women age 16 years and above with senior high school education or above has higher economic growth rate than districts with lower percentage of women age 16 years and above with senior high school education or above because higher percentage of women age 16 years and above with senior high school education or above can mean more skilled and productive workers that can produce much greater economic output and hence higher growth.

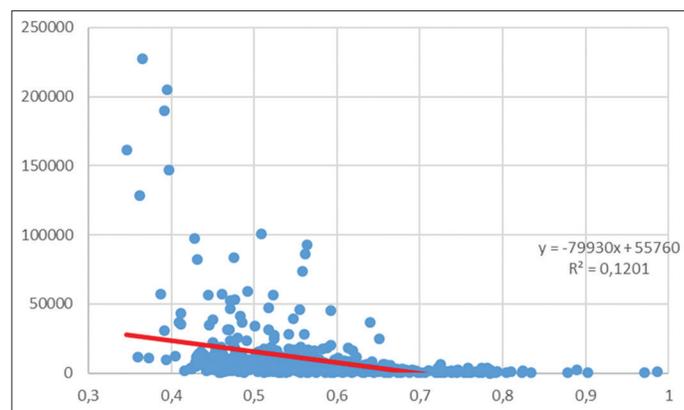
In Figure 4 the gross regional domestic product and dependency ratio growth rate in Indonesia in 2008-2010 is presented. It can be seen that the higher the growth rate of the dependency ratio, the lower the gross regional domestic product. It means districts with lower dependency ratio growth rate has higher economic growth rate than districts with higher dependency ratio growth rate because lower dependency ratio growth rate can mean more productive age workers and economic output and hence higher growth.

The results of multiple regression analysis of the impacts of regional investment, agriculture share, gender equality through women's education and dependency ratio on regional economic growth rate in Indonesia are presented in Table 2. These include regression coefficient, standard error, t-statistic and P value. It can be seen that the goodness of fit test show the model is fit and more than 40% of the variation in the regional economic growth is explained by the variables in the model. In addition, all variables in the model statistically has significant effects on the economic growth.

4. CONCLUSIONS

Investment influences economic growth positively. An increase of one million rupiah in investment in a district will increase the gross regional domestic product by 237,200 rupiah. This finding supports Keynes' theory (1936) that one factor of output increase is investment. It is also consistent with Démurger's finding (2001),

Figure 4: Gross regional domestic product (2010) and dependency ratio growth rate (2009-2010)



Source: INDODAPOER World Bank (authors' calculation)

Table 2: Regression coefficient, standard error, t statistics and P value of the regression equation of the impacts of competitiveness on economic growth in Indonesia

Variable	Coefficient	Standard error	t	P value
Constant	-2555.978	4302.651	-0.59	0.553
Investment (million rupiah) in 2008	0.2372	0.0000178	13.30	0.000
Agriculture share in 2010 (%)	-17,922.19	6527.592	-2.75	0.006
Women age 16 year and above with senior high school education or above in 2010 (%)	293.6888	88.52	3.32	0.001
Growth of dependency ratio (2009-2010)	-64,287.49	25,081.75	-2.56	0.11

Number of observations: 456, $F(4,451)=79.64$; $P > F=0.0000$ and $R^2=0.4139$. Source: Authors' calculation

that used a sample of 24 provinces in China in 1985-1998, and found that beside reformation and openness, geographic location and infrastructure, investment also explained the variation in economic growth among the provinces where provinces with higher investment had higher growth.

Share of agriculture sector affects economic growth negatively. A decline of 1% in the share of agriculture sector will increase the gross regional domestic product by 17,922.2 million rupiah. This finding supports Diao's argument (2010) that the outcome of economic transformation in some Asian countries has a character where agriculture share declined and manufacture share increased that spurred economic growth. In addition, this finding is also consistent with the results of the study by the World Bank (2017) in Sub-Saharan Africa, India and Brazil that found the decline in agriculture share resulted in more productive and monetarized workers and hence higher economic growth.

Women's education affects economic growth positively. An increase of 1% in women age 16 years and above with senior high school education or above in a district will increase the gross regional domestic product by 293.7 million rupiah. This finding supports the argument that more educated women can promote the regional competitiveness (World Economic Forum, 2013). This finding is also consistent with Barro and Lee's study (2001) that found both quantity and quality of education had positive impacts on the economic growth. In addition, this finding is consistent with studies by Klasen (2002), Klasen and Lamanna (2009) and Matsui (2013) that found investments in female education can promote economic development.

Dependency ratio growth has negative impacts on the economic growth. A decline of 1% in the dependency ratio growth rate will increase the gross regional domestic product by 64,287.5 million rupiah. This finding supports Bloom and Williamson's argument (1998) and is consistent with the results of the study by Rajagukguk et al. (2015) that lower dependency ratio growth rate would lead to higher economic growth through fertility decline and increase in productive age population that if capitalized can produce How does the demographnd of accelerated economic growth.

5. RECOMMENDATIONS

The regional economic growth in Indonesia can be attained by enhancing the regional demographic management and competitiveness through the proximate determinants. These determinants include investment, agriculture share, gender equality

through women's education and dependency ratio. Development in these four aspects is a country's competitiveness that can be implemented at regional level. Therefore, it is recommended to all stakeholders at district level to improve development in investment, agriculture, gender equality through women's education and population management.

Improvement in investment can be done by enhancing domestic saving or invite foreign investors to invest in districts in Indonesia in order to accelerate regional competitiveness. The Government should consider investment policies in regional development. Reducing agriculture share can be done by shifting labors from agriculture sector to more productive sectors and also by monetarization of labors in agriculture sector. Improving women's education can be done by increasing access to approachable and affordable secondary education and above in particular in districts outside Java where state secondary education and above are usually located in the capital of district or province which are far and expensive to access for those who live in rural areas. Reducing the dependency ratio growth rate can be done by strengthening family planning programme to lower fertility and hence dependency ratio.

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