

REGIONAL COMPETITIVENESS ANALYSIS AND ITS IMPLICATION ON REGIONAL DEVELOPMENT IN EAST JAVA REGION¹

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ABSTRACT

Regional competitiveness is an strategic issue in regional economic development, especially in regional autonomy context. Regional competitiveness shows inequality within regions in East Java during the regional autonomy. Regions which have high competitiveness are dominated by regions that have an economic base on the natural resources and/or regions that have an industrial-based on economic and services sector. Difference in regional characteristics, including the natural resources endowment, infrastructure, and human resources, give impact on the difference of productivity levels. The theoretical framework used in this study is the neoclassical growth theory and new economic geography theory. The objectives of this study are answering these following research questions: (1) which one of the variables and indicators that affect the competitiveness of regions? (2) What are the impact of regional competitiveness to the regional productivity and regional development?

This study used a quantitative approach using PLS (Partial Least Squares) analysis. Research variable consists of four latent variables: comparative advantage (consist of 7 indicators), competitive advantage (consist of 6 indicators), regional productivity (consist of 4 indicators), and regional development (consist of 6 indicators). Reflective indicator model is chosen to describe the relationship of constructs from the indicators of measurement. In Partial Least Square, path parameter coefficients are obtained by weighting the inner model with the T-statistic from the bootstrap procedure of standard error. The comparative advantage is exogenous variable and the other is endogenous variables. Estimation techniques use time series data from 2004 to 2008.

The results of this study are (1) The development of East Java shows that regional competitiveness is oriented to comparative advantage, not a competitive advantage, (2) The regional competitiveness through providing competitive advantage has significant impact on the regional productivity, meanwhile comparative advantage has significant impact on the regional development, and (3) The improvement of regional competitiveness and productivity will increase the regional development across regions.

Keywords: Regional Competitiveness, Competitive Advantage, Comparative Advantage, Regional Productivity, Regional Development.

Introduction

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The regional competitiveness became one of the important issues in regional economic development, in order for an area or region can grow and thrive in an increasingly competitive environment. Efforts increase the competitiveness of regions is done by promoting and developing the economic potential of the region, both of which have a comparative advantage and competitive advantage. Competitive advantage or competitiveness of a region is created if the area has a core competency that can be distinguished from other regions.

Competitiveness of regions in East Java results based on mapping of competitiveness districts / cities in Indonesia indicate a difference in competitiveness between regions. Urban areas have limited natural resources but the industrial sector and the service sector is well developed, having a good level of competitiveness like city of Kediri, Surabaya, Malang and Mojokerto.

Results of KPPOD study (2005) found that investment competitiveness index of the city have a higher value when compared to the district, due to the phenomenon of agglomeration or clustering based on regional competitiveness have the tendency of urban areas or near the city better competitiveness than the district located far from the city.

Development of Surabaya Metropolitan Area which includes the city of Surabaya, Sidoarjo and partly Gresik in economic geography can be classified as areas that have urban agglomeration is very strong. These conditions indicate the presence of competition between economic sectors, only the sectors that provide high productivity that will last, as the difference in the value of land for zoning based on the theory of Von Thünen (Fujita, et al, 1999). Economic sectors that are less productive will tend to shift towards the periphery, while the more productive will remain in the central region (core region).

Areas that have natural resources endowment are abundant, tend to use the following approach to the theory of Ricardian namely comparative advantage (1817), which is pushing the specialized area in producing goods and services that have high productivity and efficiency (Tsoulfidis, 2010). Neoclassical growth theory emphasizes the importance of comparative advantage, which are regional differences in productivity with respect to different endowment factors, and in particular the difference in terms of capital, labor and technology. In the concept of comparative advantage, it reflects the differences in endowment factors, such as land, labor, natural resources and capital (Kitson, et al, 2004).

Meanwhile, according to Kraay and Ventura (2007), the comparative advantage causes rich regions perform specialized industries by using new technology that operated skilled labor, while the underdeveloped regions to specialize by industry using traditional technology that is not well-educated labor done. According to the classical Ricardian theory of comparative advantage, relative labor productivity can determine trade patterns (Golub and Hsieh, 2000).

While areas that have limited natural resources tend to use competitive edge approach follows the model developed by Porter (1990). According to Porter (2000), is essentially the ability of a country's competitiveness is productivity, where productivity became the main determinant of a country's standard of living in the long run. One important element that supports the productivity of the company according to Porter is a geographical location, where there are geographic concentrations that give access to the input factors are considered special to provide a high performance that encourages companies to form a cluster (Ketels, 2006).

Economic geography approach emphasizes the importance of the role of internal geography of a country in determining a country's trade performance industry. According to Krugman, in a world of imperfect competition, international trade is driven as much by the result of the ever increasing and external economies such as through a comparative advantage (Martin and Sunley, 1996). Economic geography theory also emphasizes the importance of spatial agglomeration in shaping competitive advantage as a major factor in the external economies and increasing returns in the workforce, an abundance of knowledge, specialized suppliers, which gives local companies a higher productivity.

The issue of regional competitiveness to be one major issue in regional development. Differences in capabilities and characteristics of the area, including the availability of resources endowment, are causing competitiveness among different regions. Therefore, the ability of local government to develop local resources and economic competitiveness can effect on increasing regional competitiveness.

There is an assumption that regional competitiveness is formed by various authorized capital development of the region, so the stronger the competitiveness of the area resulted in an increase in regional development. This statement still needs to be studied further the relationship between aspects of regional competitiveness and its implications for regional development in East Java. The issue of regional competitiveness is a dynamic phenomenon, which can be changed both based on comparative advantage and competitive advantage within the region. Therefore it needs to be, how the development of competitiveness in the area of East Java and the implications for development of the region. This study is expected to find concepts and variables that can lead to increased regional competitiveness in a sustainable manner in according with the potential and ability of the region.

The Concept of Regional Competitiveness

According to Boschma (2004), an area where the competition is not as done by the company. Regional competitiveness is of significant importance when the area was affecting the performance of local companies to some degree. This is especially true when the competitiveness of a region depends on something that is not real (intangible), assets that could not be traded based on basic knowledge and competencies inherent in institutional settings.

One approach used to clarify the concept of regional competitiveness is based on the definition of the European Commission (1999), which defines it as follows: "The ability to produce goods and services that fit the needs of the international market, coupled with the ability to maintain a high and sustainable income, more generally is the ability of the region creates income and employment are relatively high are visible on the external competitiveness "(European Commission, 1999 in Ben Gardiner, 2003). Meanwhile, according to Maskell et al (1998), the prosperity of a region or a country associated with its ability to generate or attract economic activity that can increase revenue by showing good performance against the market.

According to Krugman county or city the ability to attract capital and labor is a measure of the competitiveness of both the location and source of competitive advantage for the cumulative area or city (Martin, 2006).

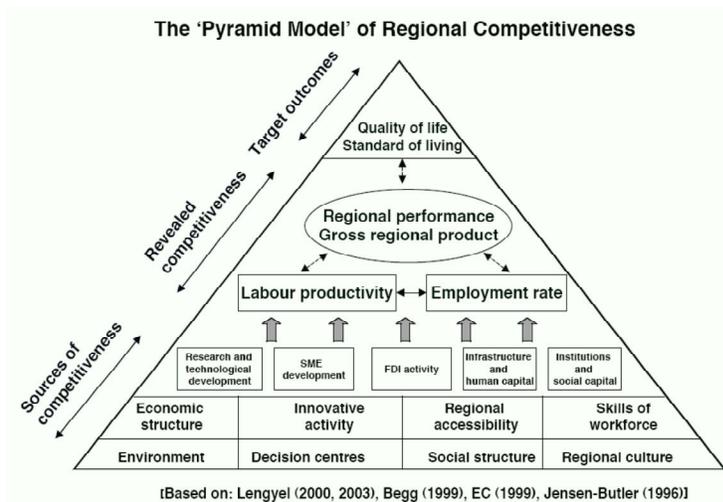
Furthermore Bend Gardiner (2003) in establishing the theoretical concept of regional competitiveness using several approaches of economic theory, which includes views of the new growth theory, labor productivity, investment, knowledge base economy, and the view of the theory of economic geography. Furthermore this approach is further developed by Gardiner, Martin, and Tyler (2004) to build on the theoretical concept of regional productivity growth perspective.

The concept of comparative advantage states that countries through specialization can benefit from trade even if they do not have an absolute advantage (Kitson, Martin, and Tyler. 2004). According to the theory of comparative advantage, that trade reflecting national differences in endowment factors (land, labor, capital and natural resources). State-based comparative benefit endowment factors in the industries that use intensively the factors that they have in abundance.

Competitiveness of the region has a different understanding. According to the OECD (2005) the competitiveness of the region is achieved through the stages, first fix the competitiveness at the micro level or enterprise that aims to improve the performance of macro-economics. Second, the benefits of enhanced competitiveness of enterprises can be translated into better living standards for all. Displacement spillover effects benefit from the growth of the region to other regions are connected geographically or economically have a close relationship. Third, the competition takes place and tested by the open market conditions. And in the end spaces / locations are competing with each other in the same way as companies do to dominate the market. The concept of competitiveness is further extended at the regional level, where every space has different an endowment and levels of appeal.

Gardiner-Tyler-Martin (2004) made a pyramid model of regional competitiveness by seeking a relationship several key factors that can build regional competitiveness, which includes factors inputs, outputs and results (outcomes). Competitiveness of the region is formed by the main factors as input both endowment or caused by the interaction of activity people. Regional competitiveness varies depending on regional competitiveness factors.

Figure 1: The Pyramid Model of Regional Competitiveness



Source: Bend Gardiner, Ron Martin, and Peter Tyler (2004).

According to Huggins (2003) measure of competitiveness could not be reduced only to the sense of Gross Domestic Product (GDP) and productivity. Similarly, regional competitiveness could not be measured with a ranking in which each variable in isolation, because it is the result of a complex interaction between factors inputs, outputs and outcomes. Obviously not all of these factors are easy to measure, given that in addition to consist of economic variables, also includes the parameters of political, social and cultural. Furthermore Huggins (2003) using the index as a method for competitiveness based three-factor model consisting of (1) input, (2) output, and (3) result as the framework of regions and regional competitiveness. The third relationship is a critical success factor in improving the competitiveness of the region.

According to Lengyel and Lukovics (2006), economic growth in the region is generated by high employment growth rate and a high level of employment, so that the competitiveness of the region means the creation of economic growth is driven by high productivity and a high level of employment. The competitiveness of a region will be affected by the level of productivity as measured in the area. The concept of productivity has always been associated with productivity standards related to the productive efficiency of the workforce, the so-called labor productivity as measured by output per labor input.

According to Kitson et al (2004), the definition and explanation of competitive advantage requires an understanding of productivity, and consider the various socio-economic dimensions of urban or regional scale. Quality and skills of the labor force (human capital), social networking and institutional forms (social / institutional capital), facilities and cultural assets (cultural capital), a group of innovative and creative (knowledge / creative capital), and public infrastructure capital, which are all important and support in the form of regional externalities as an efficient productive base for the regional economy (productive capital). All of them became key regional externalities or assets that are beneficial for companies and local businesses, and thus became the main aspects of regional competitive advantage (Kitson et al, 2004).

According to the OECD (2005), the typology of the region's competitiveness and determine the strategy, in which the typology of urban areas with action-oriented knowledge, areas of the city

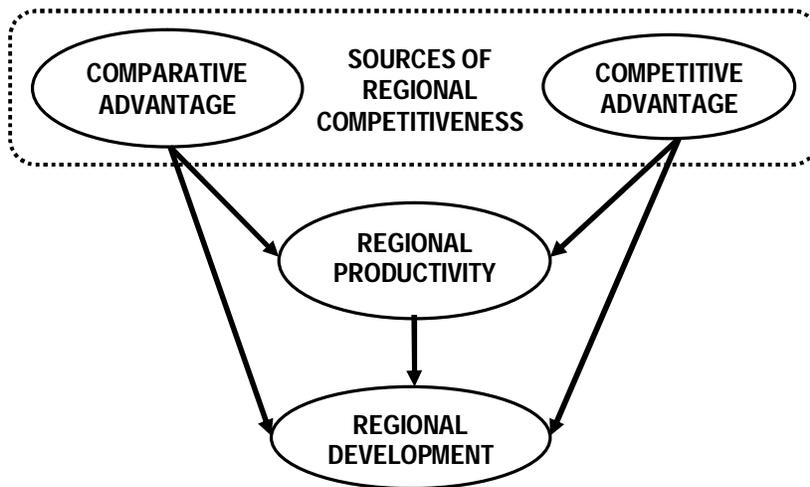
in transition with specialized areas of manufacturing industry, and rural areas have different policies to improve competitiveness and productivity of territory.

Method and Data

Based on the relationship between variables or constructs and the nature of its formation and in accordance with the conceptual framework and hypotheses proposed in this study, the main variables studied related to comparative advantage and competitive advantage as forming regional competitiveness and productivity of the region, and the regional development as a result of regional competitiveness.

Location and the object of this study observational case study in East Java, which covers 38 districts / cities. East Java is set to be the object of the study was based on the consideration that the region as a regional entity that has the level of economic growth and competitiveness of the region is relatively high, although there is a competitiveness gap among the regions.

Figure 2: Conceptual Model



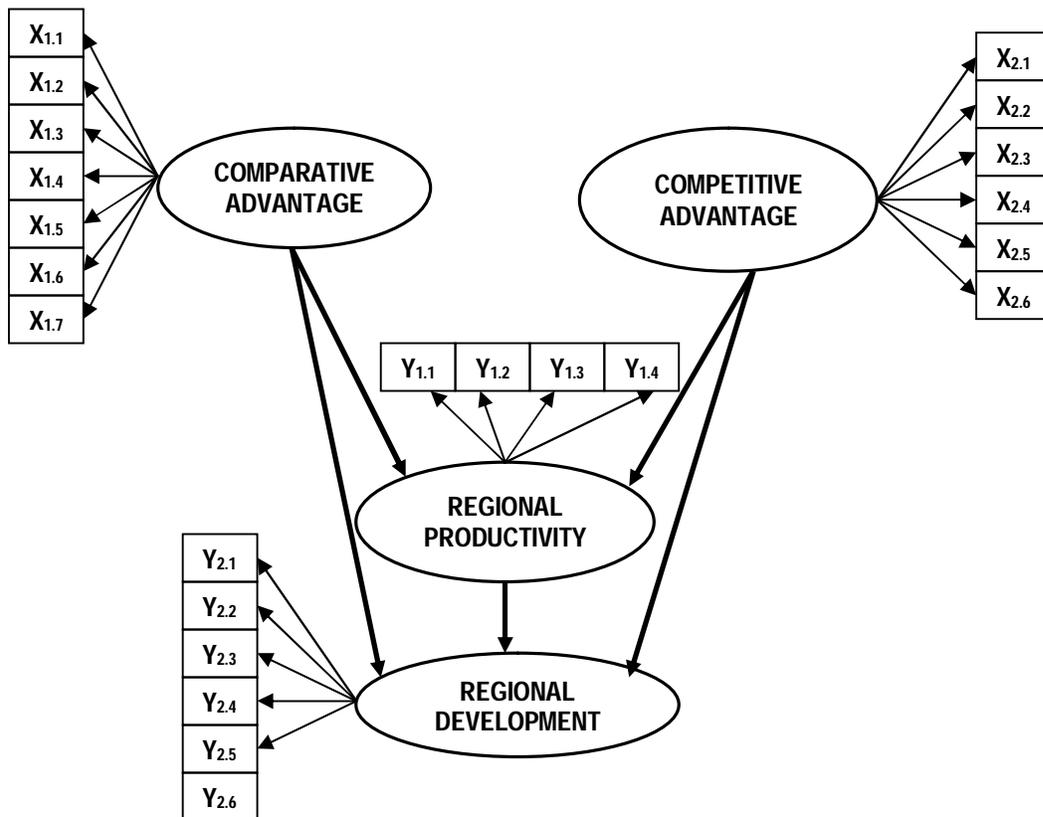
This study used a quantitative approach using PLS (Partial Least Squares) analysis. Research variable consists of four latent variables: comparative advantage (consist of 7 indicators), competitive advantage (consist of 6 indicators), regional productivity (consist of 4 indicators), and regional development (consist of 6 indicators). Reflective indicator model is chosen to describe the relationship of constructs from the indicators of measurement. In Partial Least Square, path parameter coefficients are obtained by weighting the inner model with the T-statistic from the bootstrap procedure of standard error. The comparative advantage is exogenous variable and the other is endogenous variables. Estimation techniques use time series data from 2004 to 2008.

Analysis of the PLS (Partial Least Square) is one of the SEM-based statistical methods are designed to solve a variant of multiple regression when the specific issues to the data (Jogiyanto and Abdillah, 2009). Because PLS is a variance-based SEM and used for the partial prediction models that GOF (goodness-of-fit) is not a parameter that is measured in the PLS, but using the coefficient of determination (R^2) (Jogiyanto and Abdillah, 2009).

To determine whether an indicator is forming constructs (latent variables) testing convergent validity of the measurement model with reflective indicators. Reflexive size as valid if the individual has a correlation (loading) with constructs (latent variables) that want to measure or value ≥ 0.5 or T-statistics ≥ 1.96 should (test two parties) at a significance level $\leq \alpha = 0.05$.

In the structural equation tested using composite reliability (ρ_c) or construct reliability. An indicator is a good construct forming when a correlation ≥ 0.6 (Chin, 1998).

Figure 3: Specification Model



1. Comparative advantage (X_1) is measured by some indicators:

- $X_{1.1}$ LQ (Location Quotient) primary sector
- $X_{1.2}$ LQ (Location Quotient) secondary sector
- $X_{1.3}$ LQ (Location Quotient) tertiary sector
- $X_{1.4}$ regional specialization index
- $X_{1.5}$ population density
- $X_{1.6}$ labor force

- X_{1.7} high school graduates
2. Competitive advantage (X₂) is measured by some indicators:
 - X_{2.1} agglomeration index
 - X_{2.2} public expenditure per capita
 - X_{2.3} government size
 - X_{2.4} college/university graduates
 - X_{2.5} road length per capita
 - X_{2.6} road quality
 3. Regional competitiveness (Y₁) is measured by some indicators:
 - Y_{1.1} primary sector productivity
 - Y_{1.2} secondary sector productivity
 - Y_{1.3} tertiary sector productivity
 - Y_{1.4} labor productivity
 4. Regional development (Y₂) is measured by some indicators:
 - Y_{2.1} economic growth
 - Y_{2.2} GRDP per capita
 - Y_{2.3} human development index
 - Y_{2.4} poverty rate
 - Y_{2.5} life expectancy at birth
 - Y_{2.6} unemployment rate

Results

Based on the PLS analysis of all indicators of comparative advantage is valid and can be used to measure the comparative advantage due to variable loading values ≥ 0.5 . The test results show that the competitive advantage variable to indicator of Government Size (X_{2.3}), and the ratio of road length (X_{2.5}) could not be used to measure the variable of competitive advantage due to loading value < 0.5 . Test results showed that only the productivity of primary sector (Y_{1.1}) alone could not be used to measure the regional productivity variable because the loading value < 0.5 . The test results show that economic growth indicator (Y_{2.1}) is not valid and could not be used to measure the regional development variable due to loading value < 0.5 .

Figure 4: Result of PLS's Structural Model

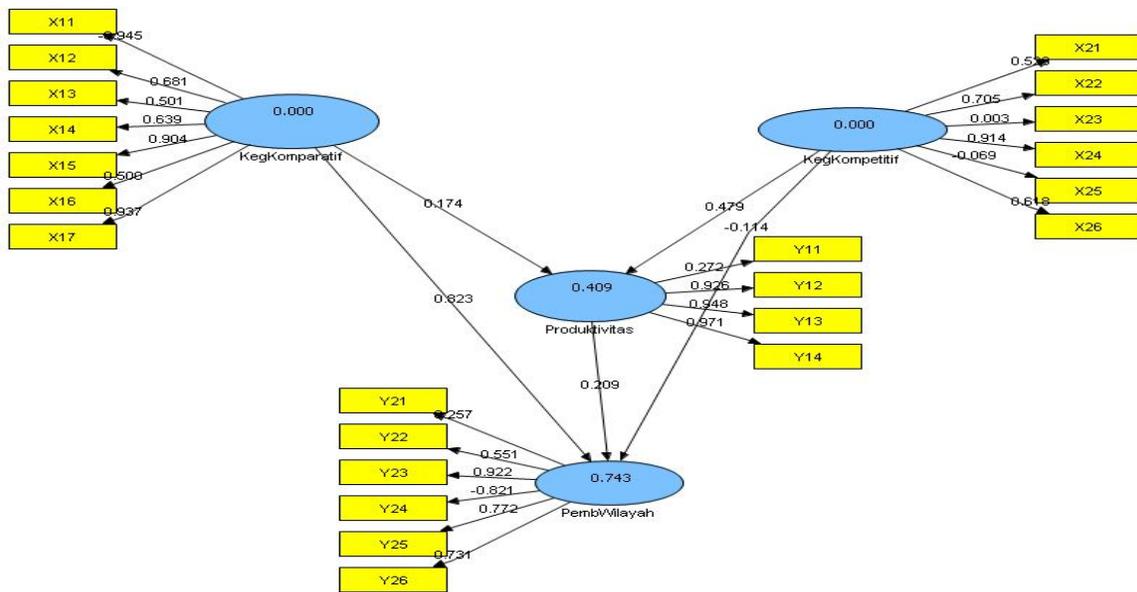


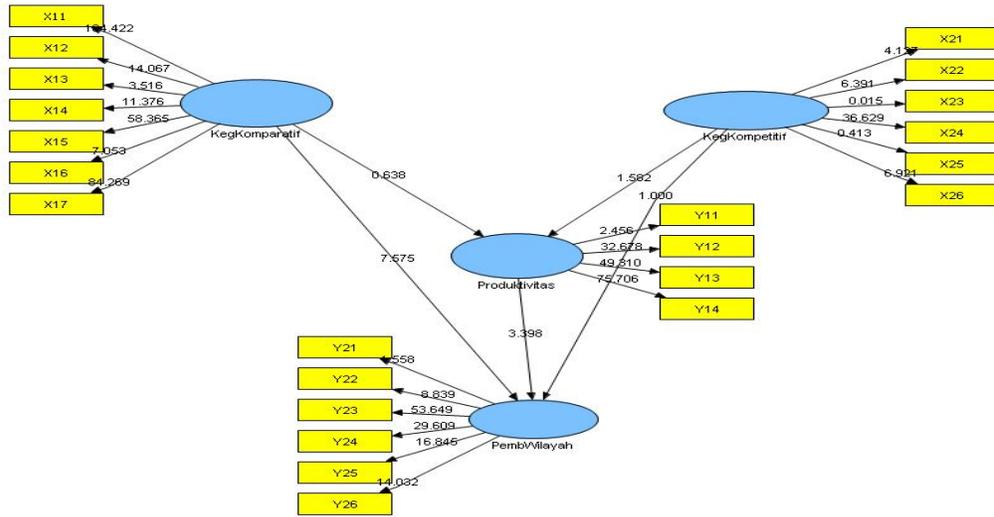
Table 1: Validity of Indicators

Indicators of Comparative Adv.	Loading (λ_i)	Remark
X ₁₁ (LQ Primary Sector)	-0.945237	Valid
X ₁₂ (LQ Secondary Sector)	0.681346	Valid
X ₁₃ (LQ Tertiary Sector)	0.500786	Valid
X ₁₄ (Specialization Index)	0.639108	Valid
X ₁₅ (Population Density)	0.904229	Valid
X ₁₆ (Labor Force)	0.500376	Valid
X ₁₇ (High School Graduates)	0.937074	Valid
Indicators of Competitive Adv.	Loading (λ_i)	Remark
X ₂₁ (Agglomeration Index)	0.522703	Valid
X ₂₂ (Public Expenditure)	0.704753	Valid
X ₂₃ (Government Size)	0.003044	Not Valid
X ₂₄ (College/University Graduates)	0.913614	Valid
X ₂₅ (Road length per capita)	-0.068544	Not Valid
X ₂₆ (Road Quality)	0.618287	Valid
Indicators of Regional Productivity	Loading (λ_i)	Remark
Y ₁₁ (Primary Sector Productivity)	0.271952	Not Valid
Y ₁₂ (Secondary Sector Productivity)	0.926488	Valid
Y ₁₃ (Tertiary Sector Productivity)	0.947690	Valid
Y ₁₄ (Labor Productivity)	0.970769	Valid
Indicators of Regional Development	Loading (λ_i)	Remark
Y ₂₁ (Economic Growth)	0.256928	Not Valid
Y ₂₂ (GRDP per Capita)	0.550738	Valid
Y ₂₃ (Human Development Index)	0.921918	Valid
Y ₂₄ (Poverty Rate)	-0.820875	Valid
Y ₂₅ (Life Expectancy at Birth)	0.772450	Valid
Y ₂₆ (Unemployment Rate)	0.730527	Valid

Path parameter coefficient calculation results indicate that there are only two relationships that have a significant influence, namely:

- Path relationship between the comparative advantage to the regional development, and
- Path relationship between the regional productivity to the regional development.

Figure 5: Assessment of Path Parameter Coefficient



Composite reliability calculation results show that all the value composite reliability $\rho_c > 0.6$ so that all the indicators can actually be trusted to measure the construct variables.

Table 2 Composite Reliability of Variable

Variable	Composite Reliability	Remark
Comparative Advantage	0.618078	Reliable
Competitive Advantage	0.644179	Reliable
Regional Productivity	0.887851	Reliable
Regional Development	0.661477	Reliable

Source: Data Analysis, 2011

Table 3 Results of Path Coefficient Parameter

	Path Coefficient	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	Remark
ComparativeAdv > Productivity	0.173787	0.232033	0.272505	0.637739	Not significant
CompetitiveAdv > Productivity	0.479368	0.444948	0.303093	1.581590	Not significant
ComparativeAdv > RegDevelop	0.822903	0.808539	0.108639	7.574685	significant
CompetitiveAdv > RegDevelop	-0.114395	-0.086897	0.114398	0.999972	Not significant

Productivity > RegDevelop	0.209119	0.197399	0.061534	3.398428	significant
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Source: Data Analysis, 2011

R-square value is a measure of the variability of changes in exogenous variables on the endogenous variables. This value is used to measure the feasibility of a predictive model. R^2 (η_1) value for Regional Development of the variable 0.742642, meaning that variations in regional development can be explained by the variables of comparative advantage, competitive advantage variables and variables Regional Productivity of 74.26%, while the remaining 25.74% is influenced by other variables that are not included in the model.

R^2 (η_2) value for variable Regional Productivity of 0.408789, meaning that regional variations in productivity can be explained by variables Competitive Advantage and Comparative Advantage of 40.9% while the remaining 59.1% is influenced by other variables that are not included in the model.

Table 4 Results of R-square Test

Latent Variable	R Square
Regional Development	0.742642
Regional Productivity	0.408789

Source: Data Analysis, 2011

To calculate the overall goodness of the model, Q-square is calculated as follows

$$Q^2 = 1 - (1 - R^2_{(\eta_1)})(1 - R^2_{(\eta_2)})$$

$$Q^2 = 1 - (1 - 0.742642)(1 - 0.408789) = 0.847847$$

Q-square value of 84.78% indicates that the model is described by variables Competitive Advantage, Comparative Advantage, Regional Productivity and Regional Development amounted to 84.78%, while a percentage of 15.22% is explained by other variables.

The evaluation of the structural model is done with the assessment parameters R^2 and path coefficients in the structural model previously provide opportunities for the development of better structural model. The modified model is made to the new structural model with linking variables between the variables of comparative advantage and competitive advantage. While the comparative advantage variable relationship to regional productivity variables excluded (omitted).

Figure 6: Modified Structural Model

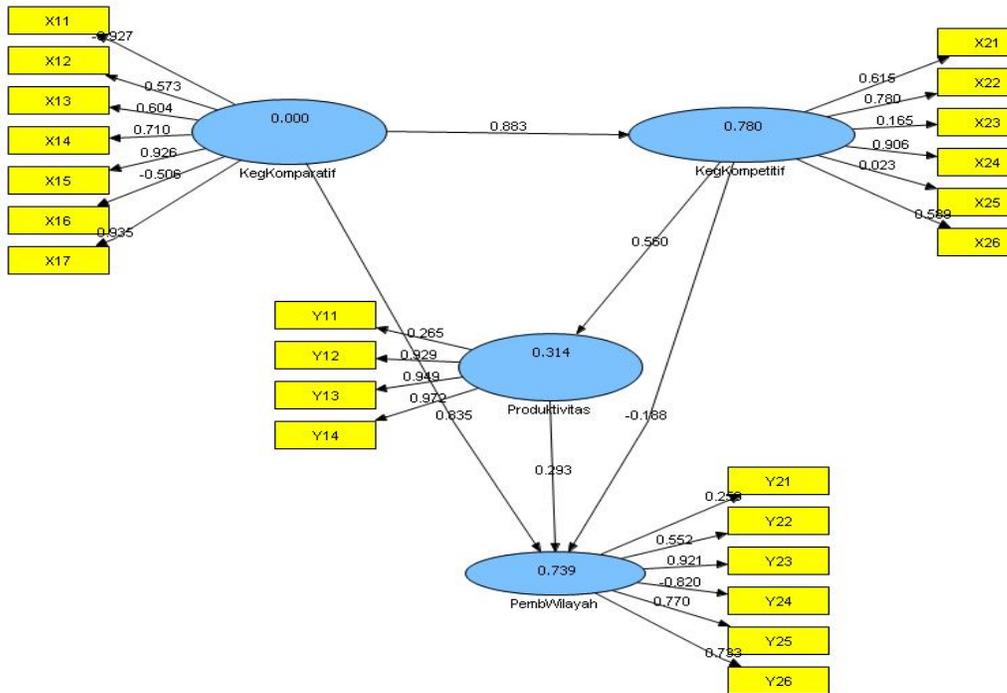


Table 5: Composite Reliability of Variable

Variable	Composite Reliability	Remark
Comparative Advantage	0.644643	Reliable
Competitive Advantage	0.712732	Reliable
Regional Productivity	0.888121	Reliable
Regional Development	0.661644	Reliable

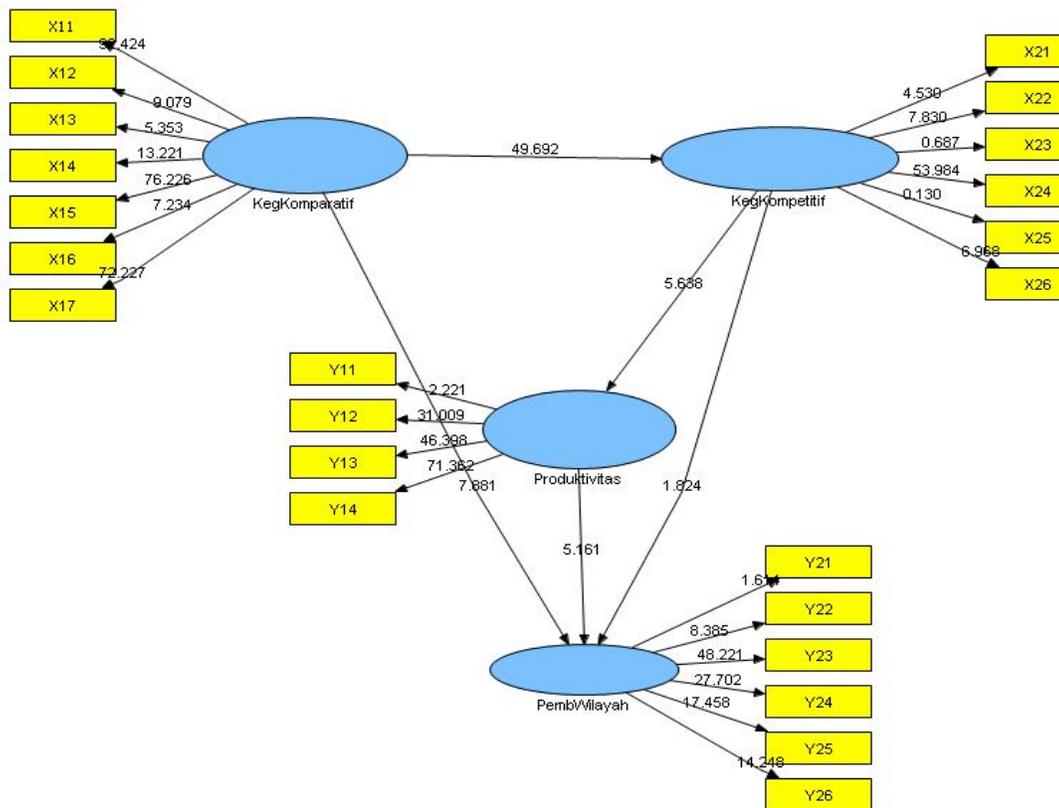
Source: Data Analysis, 2011

Table 6: Results of Path Coefficient Parameter

	Path Coefficient	Sample Mean (M)	Standard Error (STERR)	T Statistics (O/STERR)	Remark
ComparativeAdv > CompetitiveAdv	0.883067	0.884878	0.017771	49.691985	Significant
CompetitiveAdv > Productivity	0.560086	0.573969	0.099341	5.637998	Significant
ComparativeAdv > RegDevelop	0.835177	0.827731	0.105975	7.880848	Significant
CompetitiveAdv > RegDevelop	-0.188381	-0.177112	0.103270	1.824148	not significant
Productivity > RegDevelop	0.292851	0.290695	0.056738	5.161481	Significant

Source: Data Analysis, 2011

Figure 7: Assessment of Path Parameter Coefficient



Path parameter coefficient calculation results indicate that the relationship has significant influence, namely:

- The relationship between the path parameter from variable Comparative Advantage to Competitive Advantage,
- The relationship between the path parameter from variable Competitive Advantage to Regional Productivity,
- The relationship between the path parameter from variable Comparative Advantage to Regional Development, and
- The relationship between the path parameter variable Regional Productivity to Regional Development.
- R-square value is a measure of the variability of changes in exogenous variables on the endogenous variables. This value is used to measure the feasibility of a predictive model. R^2 (η_1) value for variable competitive advantage by 0.779806, meaning that variation can be explained by the comparative advantage variable at 77.98%, while the remaining 22.02% is influenced by other variables that are not included in the model.
- R^2 (η_2) value for the variable of regional development of 0.739254, meaning that variations in regional development can be explained by the comparative advantage, competitive

advantage and regional productivity variables of 73.93%, while the remaining 26.07% is influenced by other variables that are not included in the model.

- R^2 (η_3) value for the regional productivity variable of 0.313696, meaning that regional productivity variation can be explained by the variable of competitive advantage by 31.37%, while the remaining 68.63% is influenced by other variables that are not included in the model.

Table 7 Results of R-square Test

Variable	R Square
Competitive Advantage	0.779806
Regional Development	0.739254
Regional Productivity	0.313696

Source: Data Analysis, 2011

Estimating Q-square for goodness of model:

$$Q^2 = 1 - (1 - R^2_{(\eta_1)})(1 - R^2_{(\eta_2)})(1 - R^2_{(\eta_3)})$$

$$Q^2 = 1 - (1 - 0.779806)(1 - 0.739254)(1 - 0.313696) = 0.960596$$

Value of Q-square 96.06% indicates that the model is described by variables Competitive Advantage, Comparative Advantage, Regional Productivity and Regional Development by 96.06%, while the remaining 3.94% is explained by other variables. It can be concluded that the model of regional competitiveness is established based on variables of comparative advantage, competitive advantage, regional productivity, and regional development is able to represent the concept of regional competitiveness better than the model of regional competitiveness previous.

The role of the primary sector is to be one of the determinants of comparative advantage in the area, which can be showed from the value of the primary sector (LQ). However, regions that have better a comparative advantage, apparently showing the symptoms of the declining value of the primary sector (LQ). For example, the value of the highest LQ primary sector is Sumenep district, while the lowest Surabaya City, in which the empirical facts show that the competitiveness of the city of Surabaya is much better than competitiveness of Sumenep district. Decline in the role of the primary sector in the city of Surabaya is not just due to the high density of population, but increasing the role of the secondary and tertiary sectors in urban areas.

Meanwhile, areas that rely on the high LQ value of the primary sector alone without the support by high LQ value secondary sector or tertiary sector is, it will affect the weak competitiveness of the region concerned. Areas that have a low comparative advantage is Pacitan, Sampang, Pamekasan, Sumenep districts, despite the high LQ value of the primary sector but not supported by high LQ secondary sector.

Population density indicator provides an indication of the concentration or dispersion of the population in an area. Increasing comparative advantages characterized by high population densities as well. High concentration of population also means a greater market opportunity. So that regions with comparative advantages there are indications that the population density has also high. Areas of high population density also has a strong urban characteristics compared to the low population density areas.

Comparative advantage also has a link availability of adequate human resources, at least graduated high school education or equivalent. Availability of human resources not only in terms of quantity, melainnya also requires qualification adequate education graduates. Power of a large number of labor forces has become one of comparative advantage.

An area should also seek to build competitive advantage in order to have a strong regional competitiveness. Some indicators show competitive advantages include the college graduates, public investment, and the quality of the road network. College graduates have a key role in driving the knowledge-based economy. The college graduates are generally concentrated in urban areas, thus providing added value for competitive advantage in urban areas, such as Surabaya, and Malang. The College graduate is also a high level of skilled labor that has the potential to drive economic growth through the use of knowledge and information in the direction of high-tech investments.

Public investment is one indicator that determines competitive advantage. Public investment is generally directed to human resource development, infrastructure, and local economic governance. Public and private economic activity can be more efficient and productive, if supported by targeted public investment.

Quality of infrastructure services, particularly the road network to be part of a competitive advantage. The increasing quality of infrastructure would stimulate the economy more efficient and productive. Areas that have a good quality road network as city of Kediri have high competitive advantage anyway. Instead districts have poor road network quality will affect the competitive advantage of the region.

Results of path analysis showed a significant effect of the variable comparative advantage to competitive advantage in the formation of regional competitiveness sources. Regional competitiveness is determined by the ability of an area within a comparative advantage in the region by continuing to improve its competitive advantage.

Competitiveness of the region is formed by the high comparative and competitive advantages are still dominated by the 9 (nine) urban areas, and the Sidoarjo regency is characterized as semi-urban suburb of the city of Surabaya. These findings strengthen the results of a study

ranking the competitiveness of the investment is made by KPPOD (2005) which states that the urban areas and areas nearby to the city, have a competitive advantage better investment than rural areas (districts).

Results of path analysis showed that the variables of comparative advantage and regional productivity variables have a significant relationship to variable regional development. This can have implications, that any attempt to increase the comparative advantage and / or productivity of the area will have an impact on regional development. While the variable competitive advantage so far has a significant impact on regional productivity variable, while this variable seen no significant effects to the regional development. According Bronzini and Piselli (2009) that the role of human capital and infrastructure constitutes a competitive advantage shaper turns can significantly affect the regional productivity. Influence the competitive advantage on the regional development indirectly through efforts to increase the productivity of the region.

Regional competitiveness through competitive advantage comes from having a significant impact on the productivity of the area. Some important indicators that should be considered to improve regional competitiveness are the quality of human resources, public investment, activity concentration (agglomeration), and the quality of infrastructure. Human resources are abundant but not matched with adequate quality of education will be difficult to encourage regional productivity.

College graduate is a high level of skilled labor that has the potential to drive economic growth through the use of knowledge and information in the direction of high-tech investments. Level of education can encourage growth because it increases the ability to adapt and apply existing technology or to create new technologies (Bronzini, and Piselli, 2009). The role of knowledge and technology to improve efficiency and boost productivity has become part of economic growth. So the competitive advantage that comes from many college graduates able to increase productivity. Based on estimate of Chen (1996) that education has directly positive effect on the productivity of the region, where the potential of education (education endowment) of a region is measured by the percentage of college / university graduates in the population.

Public investment and service quality of road network is to be an important indicator of the strengthening of competitive advantage. Transport infrastructure (road network) capacity to provide transportation services, which is an important part of the total costs in some industries, so that the improvement of transport infrastructure (road network) in the region can reduce the cost of transportation of the companies that located in the same area, and become part of the relevant of transportation between regions (Ezcurra et al., 2005). Quality of service is better the road network, will facilitate the movement of people and goods, so that economic activity can take place efficiently and productively.

Infrastructure development led to the area can grow by utilizing its resources more productive, and they can grow by taking advantage of agglomeration economies and increasing returns to scale results (Guild, 2000). Meanwhile, according to Chen (1996), the positive impact of agglomeration on productivity growth was reduced following the initial agglomeration and eventually declined after reaching a certain scale. Infrastructure investment can promote regional development by providing better public facilities, eliminating capacity constraints, and reduce congestion, so this effect must be able to attract companies and increase the growth rate of private capital (Guild, 2000).

Infrastructure can have an indirect effect on productivity because it can attract productive inputs in the same location that more public capital may lead to an increase in private investment or incur higher quality workers (Bronzini, and Piselli, 2009). According to Salinas-Jimenez (2004) contribution of public investment to private sector productivity growth has a positive value, where investment in infrastructure may be an instrument of regional development-oriented policies to reduce regional disparities, i.e. during the public investment is directed to the regions to start out from a lower level of development. Public investment and infrastructure development is an indicator of regional competitive advantage, and the results of the analysis indicate that this advantage could encourage an increase in the productivity of the area significantly.

Conclusion

Based on the analysis results, it can be concluded that the comparative advantage variable has a significant impact on the competitive advantage variable and regional development variable. While the competitive advantage variable has a significant effect on regional productivity variable, and indirectly has a significant influence on the development of the region through the regional productivity variable.

Theoretical approach to comparative and competitive advantages can be complementary to the model used in explaining regional competitiveness. So the neoclassical growth theory and the theory of economic geography can be used together.

Regional development in East Java showed that the formation of regional competitiveness is more oriented on comparative advantage, not a competitive advantage. Development based on natural resources (endowment) is more emphasized than the development of infrastructure and knowledge and technology (knowledge-based economy). Despite this fact shows that areas rich in natural resources and has the endowment factors that support, it turns out the low competitiveness of the region. While the areas such as urban areas have limited natural

resources but the competitiveness of the regions higher, which are influenced by the role of the secondary and tertiary sectors, as well as human resources capital.

Regional competitiveness has significantly impact on the productivity of the area through competitive advantage. Competitive advantage plays an important role in increasing the productivity of the region through the development of human resources, infrastructure, public investment, and strengthening economic agglomeration, which indicated the significant effect of the competitive advantage to the regional productivity. Improving the competitiveness of the area based on the competitive advantage will provide a positive influence on the development of the region increased by increasing labor productivity and sectoral productivity. Meanwhile, regional competitiveness through comparative advantage was able to encourage development in East Java region through economic development and sectoral specialization base in the area and with the support of regional endowment factors;

Increased productivity is significantly supported by the local high degree of efficiency, thus strengthening the competitiveness of the region still have supported the development of human resources, infrastructure, knowledge and technology, as well as encouraging the agglomeration to achieve higher levels of efficiency. One source of low productivity areas are derived from primary sector productivity is a specialized area of the Districts. Meanwhile, the competitive area and high productivity are concentrated in urban areas where the secondary and tertiary sectors of specialization areas;

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