The Impact of State Restructuring on Indonesia's Regional Economic Convergence

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Thesis Submitted for the degree of PhD in Urban and Regional Planning Studies in the Bartlett School of Planning, University College London

2012

I , Adiwan Fahlan Aritenang confirm that the work presented in this thesis is my own. Where information has been derived from other sources, I confirm that this has been indicated in the thesis.

Abstract

In recent decades, the state restructuring of trade liberalisation and decentralisation has emerged globally as attempts to promote more equal economic growth. This state-restructuring also occurs in Indonesia following the Asia financial crisis in 1997.

As a case study, Indonesia provides two important insights on the study of state-restructuring on regional convergence. First, Indonesia is a member of the ASEAN Free Trade Area (AFTA) that its institutional arrangements emphasis on member countries freedom to determine their own trade liberalisation sectors and schedules. Second, Indonesia decentralisation is a rapid and significant shift of politico-economy and social. Second, there is a rapid and significant shift of politico-economy and social institutional arrangements from centralised to decentralisation regime. These external and internal state-restructuring are expected influence the variety of regional economic development and convergence.

This study aims to analyse the impact of state restructuring on disparities at the district level for the period from 1993 to 2005. The study divides the period under observation into three sub periods, the pre-decentralisation, the decentralisation and the whole period. This research aims to achieve this objective with three empirical studies as follows, first, using economic indices, the thesis examine inequality level of district economic growth and industry concentration. Second, econometrics analysis explores the impact of trade openness and decentralisation on regional economic growth. Finally, this thesis adopts comparative political analysis by using the historical institutionalism approach to understand the variation of state restructuring impact.

The main findings show that despite evidence of regional convergence, disparities are persistent and severe in the post state restructuring period. The quantitative analysis shows that AFTA has insignificant impact and decentralisation significantly contract regional economic growth. While qualitative case studies in the Batam and Bandung cities found that institutional history and path development strongly influence development progress and discourses. Politico-economy shocks only act as critical juncture that provides opportunity for the state and regions to create new development path. However, path dependence of institutional changes and economic development is bounded by the regions' past institutional arrangements and knowledge. For Indonesia, a country with long history of authoritarian regime, the role of nation-state remains important to promote balance local development.

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Chapter 1 Introduction

1.1 Overview

This research focuses on economic disparities across Indonesia's regions. Indonesia consists of thousands of islands and it is the largest and most populated country in the Southeast Asian region. This thesis studies the impact of two state-restructuring events on Indonesian development: the entry into the ASEAN free trade agreement (AFTA) in 1992 and decentralisation in 1999. Following the financial crisis in 1997, Indonesia's political arrangement shifted from a centralised regime to a decentralised government system. The new system emphasised local democracy and autonomous regions at both provincial and district levels. The splitting increased the size of administration in Indonesia from 26 provinces with 292 districts in 1997 to 33 provinces with more than 500 districts.

This thesis studies the determinants of Indonesia's growth divergence from the centralised regime to the state-restructuring period. The growth theory and historical institutionalism framework guide the empirical analysis on the impact of state restructuring on divergence. Currently, the emergence of 'new regionalism' follows a functional demand mainly for economic reasons (Rodríguez-Pose and Bwire, 2004). While trade openness and liberalisation enhance opportunities to gain benefits from the globalise environment, decentralisation is regarded as a means to achieve development efficiency; a greater degree of autonomy strengthens local economic growth. The combination of these state-restructuring processes determines economic growth. However, the differences of local governments' capacities to exploit opportunities from state restructuring affect growth divergence and development.

1.2 Past studies on Regional Disparities

The literature review chapter revisits two important debates related with this thesis, which are the debates on the convergence of growth and the impact of state restructuring. First, the convergence literature seeks to understand the different assumptions and ideas that laid the foundation of convergence and divergence economic growth theories. The debates in convergence are based on neoclassical perspectives that development is encouraged by open market and free trade, thus allowing the factors of production, such as labour and capital, to mobilize to the location where they are most

efficient (Williamson, 1965). More recently, the σ and B convergence analysis (Barro, 1991, 2000) has emerged as the main econometrics modelling approach in the neoclassical economic convergence literature.

The divergence views include location theories (von Thünen 1966; Weber, 1929; Hoover, 1948; Losch, 1954). Other divergence theories are the cumulative causation and growth centre theories (Myrdal, 1957; Hirschmann, 1958; Perroux, 1950). In the contemporary debate, divergence theories have expanded rapidly with the development of the New Trade Theory and New Economic Geography by Krugman (2003), dynamic models by Quah (1993, 1996), and Institutional Economic Geography (Scott and Storper, 1987; Cooke and Morgan, 1998). The literature review also revisits Marxist political economics that introduce the spatial fix theory (Harvey, 1982; Schoenberger, 1991) and socio-spatial dialectic (Soja, 1980) to analyse uneven geographical development. Recently, the notion of innovation models emerged from the industrial clustering and agglomeration phenomenon. This model places emphasis on the institutional arrangements and actor networks including Collective Learning (Capello, 1999), New Industrial Spaces (NIS) (Storper and Scott, 1988), Industrial Districts (Lagendijk, 2006), and Flexible Production System (Piore and Sabel, 1986).

The literature review also explores the impact of state restructuring on divergence literature. The impact of decentralisation should improve development in the regions, including efficiency in allocation of resources, income distribution, and macroeconomic stability (Musgrave, 1959). Furthermore, considering the significant institutional change from centralisation to decentralisation in Indonesia, the literature review looked over the role of the government on the supply side (Prud'homme, 1995) and the economic dividend of decentralisation (Rodríguez-Pose and Bwire, 2004). Trade liberalisation influenced trade structures from agricultural commodities to the manufacturing sector; they have also influenced convergence (Rodríguez-Pose, 2005). Furthermore, Sjöberg and Sjöholm (2004) pointed out that trade liberalisation affected growth through a concentration of activities. However, the rate of this effect depends on the market and supplier access, which differ across countries and regions. Furthermore, institutional arrangements of trade unions also determine trade effect on member countries through trade creation and trade diversion. Studies show that this economic effect is more significant in regions with abundant local endowment and infrastructure, especially regions in the borders, which attract more investments (Juan-Ramón and Rivera-Batiz 1996; Paelinck and Polèse, 2000; Elliott and Ikemoto, 2004).

1.3 Hypothesis, Objectives, and Research Questions

This study provides economic and institutional perspectives on regional disparities. The hypothesis is that decentralization and AFTA provides opportunity to accelerate economic growth through promoting property rights and lower transaction cost. Decentralization promotes property rights through administration, political, and fiscal devolution. While AFTA introduces industrial policies, market access and trade liberalization.

The main objective is to understand the impact of state restructuring of decentralisation and AFTA on Indonesia's regional disparities. First, the research examines the economic impact of trade openness and decentralisation to disparities in Indonesian regions in economic terms. Second, this research studies to what extent institutions affect regional disparities and growth divergence. These general objectives can be divided into three specific research questions:

1) Does policy change in state restructuring affect the dynamic of regional economic divergence?
2) To what extent does policy change in state restructuring determine regional economic growth?
3) How do institutional changes in state restructuring explain regional economic divergence in Indonesia?

1.4 Thesis Organisation

This research is divided into three main parts (Fig. 1-1). The first part is the research design, which introduces research background and methodologies. The second part describes the context of the research, both the theoretical framework and the empirical research. The last part consists of three analytical chapters, which are interrelated and enfolds the research theme.

The first chapter introduces the research and the second chapter explores the theoretical framework and previous studies in which this research is grounded. Furthermore, it discusses a wide range of classical and contemporary literature on regional convergence as the foundation of this thesis. For the research context, chapter three portrays the methodologies used in the research. Chapter four illustrates the empirical case study on Indonesia during the state-restructuring period, which was

stimulated by the supra-national agreement AFTA and shifts in domestic political orders with the emergence of decentralisation.

The third part consists of three analytical chapters that are organised as follows; chapter five explores the dynamics of Indonesia's regional convergence level. This study examines dynamic regional convergence through economic, geographical, and sectoral analysis. Chapter six elabourates on the effect of AFTA and decentralisation on regional convergence with a large set of statistical data and econometrics analysis. The study uses variables related to trade liberalisation and decentralisation, such as regional social endowments and physical infrastructure, human capital, local tax revenues, intergovernmental transfers, and the AFTA Common Effective Preferential Tariff (CEPT) rate. Chapter seven studies the effect of past institutions and institutional changes on state-restructuring on the regional disparities. The differences in regional growth are explained through understanding the role of historical institutions and institutional change in state restructuring. The last chapter will summarise the research findings and explore suggestions of further related research in AFTA and decentralisation.

Figure 1-1 Organization of Thesis

Research Design

Ch 1 Introduction

Ch 2 Methodology

Research Context

Ch 3 Regional Convergence and Institutions ↔ Ch 4 State Restructuring in Indonesia

Convergence Dynamics and Determinants of Growth

Ch 5 Dynamics of Regional Convergence

Ch 6 Economic Impact of State Restructuring on Convergence ↔ Ch 7 Effects of Institutional Change on Regional Convergence

Ch 8 State Restructuring in Indonesia: Towards a balance Regional Economic Development

Chapter 2 State-restructuring and Regional Convergence: A Review of Theories and Debates

2.1 The Dynamic Debates on Regional Development

This chapter discusses the theoretical development in economics, free trade agreements, and devolution. In the old debate of economic development, there are two fundamental theories on development. The first theory is neoclassical economy that assume diminishing return operates as economy development has a limit of growth. Consequently, convergence is obtain when advance economy reach this limit and poor economies developed. Second, the economic divergence theory of increasing returns through circular accumulation of production and demand. The United States (US) and French geographers initiated studies on economic growth, such as Perroux (1950), Hirschman (1958), and Boudeville (1966). These authors introduced core economic terminologies, including growth pole and growth centre, forward and backward linkages, trickle-down effects, and backwash effects. Furthermore, they argued that mainstream economics neglected the spatial dimension of economic events. To address this literature gap, they established a hybrid branch of economics, science and spatial analysis, and revisited the locational and growth centre theories by German economic geographers from the 1920s. As a result, the new form of research conceptualised high mathematical calculation and quantitative economics, which became the new standard on economic analysis.

Following the decline of the Fordism era and the financial crisis in the 1970s, economic analysis was enriched with the development of political economics. The political economy approach based its argument on Marxism. In the following decades, the notion of innovation and knowledge became the main driver of development. The concept, grounded on the territorial innovation model (TIM) and other social-interaction models, examines theories grouped in structuralised organisation. The new approach emphasis on socio-institutional analysis based on a firm's organisation and structure and social networks, both cognitive and cultural, which affect local production value. (Barnes, 2001; Lagendjik, 2006).

2.2 Regional Convergence Debate

2.2.1 The Regional Convergence Arguments

The theories on development convergence lie on the neoclassical perspectives that development are accelerated by an open market and free trade. By allowing the factors of production of labour and capital to mobilise to the location where they are most efficient, leads to the new spatial and international divisions of labour (Perrons, 2004, pp.134).

Neoclassical Regional Growth

The neoclassical is a traditional approach that argues decreasing convergence of local and development (Williamson, 1965) (Fig. 2-1). Economic growth becomes the core subject of economics and focuses on the long-term decrease of disparities in income per capita (Pike et al., 2006). Neoclassical theory seeks to explain the determinants of disparities and convergence rate.

The basic idea of neoclassical theory is of diminishing returns. Early 19th century economists, including Thomas Malthus and David Ricardo, introduced the concept of diminishing returns to the process of economic growth. This concept simply explains that economic growth must be quantified in real terms of per capita income, and not total income. Suppose output, Y, is a function of labour, L, with land, N, and the production function in the general form

$$Y = F (L, N)$$

By assuming that land, N, is a fixed supply and with the absence of technological process, the only way to improve output is to increase labour, L. But, with a fixed amount of land, labour is subject to a diminishing of returns; therefore, as more labour is added to the production process, output rises but in decreasing increments.

The Solow-Swan growth model became the basic neoclassical model for regional growth (Armstrong and Taylor, 2000), as it derived its basic assumptions and concepts from the neoclassical economy and applied those concepts to regional convergence. The Solow model starts with a specification of a general production function with output Y, quantity of capital K, and labour L, as below,

$$Y = F (K, L)$$

This model assumed that individual inputs were subject to diminishing returns and production was subject to constant returns to scale, for any positive constant λ. Solow assumed that savings always adapt to new capital, although with diminishing returns. These two models, however, differ in that the Solow model recognises that stock of capital is subject to depreciation. The Solow model assumed that the capital stock depreciates in a constant percentage of existing capital stock. From this basic version of the Solow model, it is understood that if the production function exhibits (i) constant returns to scale, (ii) diminishing returns to any inputs, and (iii) that the values of parameters σ and δ are constant, in the long run, the capital-labour ratio is at the equilibrium k* and per capita income settles at equilibrium y*. This represents a steady state where the growth of k and, hence, f (k) = y are zero. Despite the rate of savings and investment, in the Solow model growth finally stops. In conclusion, the Solow model explains how medium- and long-term growth relates with investment and technological progress. The limitation of this model is that it assumes these variables as exogenous, outside the model. It fails to explain why the saving rate σ and technology progress z are what they are and how economic policy may affect them.

The neoclassical researchers measure economic growth as the increase of production or income and describe the capacity of the region to generate and accumulate resources and capital (Pike et al., 2006). In line with output growth, output growth per worker productivity in a region is measured as a ratio to the amount of resources that are used. The neoclassical economy approach treats output growth a result of three factors of production: capital stock, labour force, and technology. The basic neoclassic approach assumes technological changes and other determinants (savings, population growth, and human capital) as exogenous or independent of capital and labour input. Neoclassical assumption has two main impact on growth analysis or known as the exogenous growth theory. First, as the stock of capital increase, growth declines and halt which leads to convergence among regions following diminishing returns to investment in rich regions and that poor regions exploits their resources. The neoclassical output growth can be described as follows.

Figure 2-1. Neoclassical Output Growth
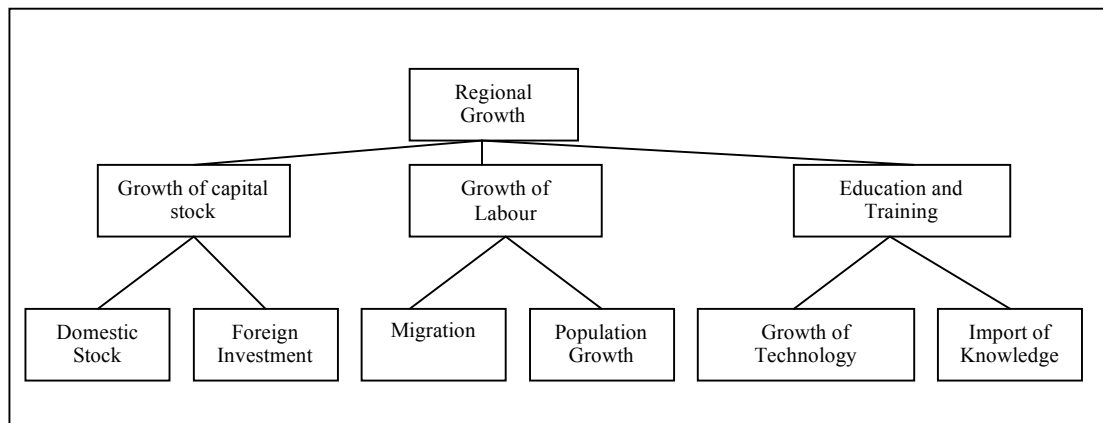
Source: Adapted from Pike et al., 2006: 63

In addition, regional growth is determined by the rate of technological progress and the relation between labour and capital. Productivity per worker will only increase if the capital increases (Clark, et al., 1986). This is the central concept of the neoclassical approach: diminishing marginal returns. This occurs when beyond a specific level of input the marginal output of the product per unit will only decrease. When the marginal reaches zero, equilibrium is achieved, and, thus, there is no incentive to increase the capital per labour ratio.

The impact of the neoclassical assumption of decreasing returns in growth is that spatial agglomeration economies are not considered in this theory (Richardson, 1979). Overall, by neglecting increasing returns in production function, assuming that labour flow to higher wage regions and capital heads to the opposite direction, Neo-classical (NC) theory argues a balance growth development. Hence, this theory postulates that the world will be convergent as poor regions grow at a higher rate than rich regions, which had reach its diminishing returns condition.

The Endogenous Growth and Convergence Theory

The revival of growth theories since the 1980s led to empirical studies during the last few decades. Growth theories are considered as an extended version of the neoclassical model with more depth analysis of variables than the earlier theory. The initial excitement centred on the endogenous growth theories, with government policies and other forces as the variables in the analysis (Barro, 1991, 2000). The variables are used to measure the convergence of the economic growth rate, between initial level of output, y, and its target, y*. Such variables act as additional variables in the conditional

convergence, while absolute convergence only examines the initial level of output and the level of the target, without the effects of other variables.

The following discussion explores the endogenous growth theory and its contribution to understand regional economic performance. This theory seeks to incorporate external and independent elements into the conceptualization of economic growth (population growth, saving rates, human capital, and technological change). Hence, this theory attempted to introduce increasing returns to the Neo-classical theory by specify the relationship between technological change and innovation to growth process. Technology is cause and effect of economic growth, thus it is endogenous to growth process (Pike, et al, 2006, p.104). Technological change is explained through the number of workers in knowledge-producing industry, existing stock of knowledge, and technological transfer and diffusion. Furthermore, this theory is related with the Keynesian theory of cumulative causation as the former theory claims that economic growth is a function local endowments and institutions which accumulate over time, differences in initial local endowments leads to further economic growth among regions. Specifically, the endogenous theoretical discussion below provides insight on the actions of domestic economic agents that respond to the market and its impact on divergence on regional economies.

Endogenous growth model seeks to incorporate factors that are considered external and independent in the neo-classical theory into the explanation of economic growth (Pike, et al, 2006, p.102). The authors argue that the dynamics of convergence and divergence are the focus of endogenous growth models on regional and local development. Technically, the endogenous growth theory follows the neo-classical economy economic growth model using the Cobb-Douglas and Solow-Swan theories. This theory critiques and rejects the neo-classical economy assumption that human capital and technology are exogenous factors of economic growth. As the theory regards human capital and technology is the results of actions of economic agents, endogenous theory rejects NC theory assumption that source of agglomeration and economic growth are determine by external factors.

With this basic argument, endogenous theory allows the analysis of regional economic divergence in the long-run. This model that regards the sub-national entity of the "region" as the geographical focus and introducing increasing returns mechanism into the neoclassical production function to determine growth rate within the model. As a result, the model explains the geographically uneven rates of regional convergence

and clustering between different regional development rates. The idea of increasing returns implies two characteristics of regional development, agglomeration and geographical spillovers.

First, agglomeration is a result of knowledge accumulation and distance proximity. The model explicitly specifies the relationship between technological change and innovation to economic growth. As economic agents see the incentives to produce new ideas and knowledge for profit, technological progress is internalised in the production function. The production function is determined by the number of workers in the knowledge-producing industries, the existing stock of knowledge and technological transfer (Romer, 1990). Exogenously produced technology embodied in capital goods determines regional technology by its capital stock. While disembodied technological progress contributes to regional growth disparities independently of capital stock and produced in innovative environment that varies between regions (Pike, et al, 2006, p.104).

Second, the geographical spillovers occur as the endogenous model argues that knowledge is an increasing marginal productivity and marginal product of knowledge and of physical capital is decreasing returns (Romer, 1986). This implies that local education and transfers of knowledge is embedded and accumulate within each region. However, as knowledge is sticky and geographically limited, it is subject to diminishing returns. Borrowing from the Neo-Schumpeterian approach, the model argues that spillovers are non-rival and semi non-excludable. It is semi non-excludable because technological and knowledge mobility decreases as distance increase (Romer, 1990).

As a result, spillovers occur in locally bounded place of exchange of knowledge, which makes clusters profitable. In an industry scale, this leads to agglomeration that compensates the transportation cost. The variation of disembodied technological progress and the level of accumulated knowledge and skill workers influence the growth rates and increase economic disparities. The transportation cost is crucial to influence the process of agglomeration in a complex and non-linear way (Krugman, 1991). If transportation cost is too low, there is no incentive for urban concentration despite manufacturing trade increases (Rodríguez-Pose and Gill, 2006, p. 1205). Thus, geographical spillovers are crucial to accelerate technological mobility. Furthermore, the institutions and policies bound the geographical spillovers and prospective investments. In this sense, fiscal policies and public infrastructure determine the mobilisation of resource as the indigenous potential at the local and regional levels.

Another perspective on the human supply, the model argues that the accumulation of human capital is taken to be specific to the production of particular goods and required on-the-job-training or learning by doing (Lucas, 1988). There are two assumptions to argue that human capital determines economic growth. First, the model need to assumed that learning by doing as an environment in which new goods are introduced, with diminishing returns to learning on each of them separately. This assumption prevents that learning by doing follows diminishing returns function and preserve its role as the engine of economic growth (Lucas, 1988, p.28). The second assumption argues that human capital specialised to old goods being "inherited" to new goods. The inheritance within the 'family' of goods as well as within families of people. Hence, the initial level of each members begins with is proportional (not equal to) the level of already attained by older members of the family.

This model has also influence the direction of local and regional policy with new emphasis on promoting localities and regional potential. For instance, the traditional donor-receipt model that failed to redistribute growth among regions has been replaced by the new growth-oriented regional policy that focus on levelling up the economic performance of each territories (Pike, et al, 2006, p.106). Thus, the model argues that national economic growth is achieve through reducing disparities and lagging regions with emphasis on economic growth of regions. The discussion above indicates the importance of the role of government to create policies that affect long term growth by investing on knowledge and providing incentive to create knowledge. The creation of knowledge could be channel through ensuring intellectual property on patents and trade marks that provide security for research and development activities. Another way is to subside the production of knowledge that private firms could produce that benefits social rather than private. For instance, is the reduction on R & D taxes. In addition, as economic growth depends, in some ways, on everything that happens in the society (Lucas, 1988), the creation social institutions that allows the creation and use of knowledge is also crucial. This is conducted through programs that reduce the cost of knowledge application and transfer cost such as investments in schools, universities, and workshop activities.

The discussion above suggests that if different goods are assumed to have different potential for human capital growth, then the same assumption applies that comparative advantage. As this advantage determines product location, it will also dictate each region's rate of human capital growth. The model also implies that the initial level of

human capital in each region differs in a certain period, influenced by the knowledge attained in the previous period and predecessor actors. As a consequence, possibility of wide and sustained differences in growth rates among regions are not systematically linked into each country's initial capital level.

Despite its attempts to introduce increasing returns and internally development, there are critiques on endogenous growth model. First, the critiques on the assumption that agents are rational through full knowledge on alternative choices and its consequences. Second, the model also lacks of evidence how increasing returns operate in specific industries and places, or address the role of historical change and institutional contexts that shape economic growth process (Pike, et al, 2006, p.107). However, the model's basic idea of within localities development has inspired the growing literature on institutional theories such as the territorial innovation model (Lagendjik, 2006) face to face and untraded-dependencies (Storper, 1997), and the learning region (Cooke and Morgan, 1998) that are discuss in the following section.

In the convergence model developed by Barro (1990), there are two convergence concepts in economic growth, across country or region, which are the decreasing level of dispersion of provincial GDP per capita (σ Convergence) and the growth of poor regions relative to rich regions (ß convergence). Initially, convergence happens when a poor country or region grows faster than the rich, which implies that the poor country can catch up with the rich country, this is known as the ß convergence type (Barro, 1991). The theory has absolute and conditional convergence. Absolute convergence occurs when the growth model parameters are equal; the theory assumes that per capita income will equalise over time and rich countries grow slower than poor countries. Meanwhile the conditional convergence relates the movement of steady state growth with the exogenous factors (technology, population growth, and savings) with constant per capita income or consumption level and capital per labour ratios between regions. This is conditional because the external factors differ across regions. The second concept is a cross-sectional dispersion, measured by the standard deviation of the logarithm of per capita income or product across country or region. The σ Convergence occurs when the dispersion declines over time. The ß convergence tends to produce σ Convergence (Garcia and Soelistianingsih, 1998). The convergence occurs if the distribution of the growth rate among regions falls over time (Pike et al., 2006).

2.2.2 Divergence-Led Regional Development Theories

This section discusses theories on divergence economic development based on three schools. (i) German regional scientists studied the geographical unevenness creating land use models. (ii) The American economic disparities school that concerns with the role of spatial economic concentration, and (iii) The Marxism theories approached uneven regional development in the absence of counter measures of congestion within the developed regions.

Location Theory

The location theory focused on production; the difference with the earlier models was its emphasis on exploring the relationship between geography issues and production. This theory provides an analytical framework for location choice for economic activity and inter-regional linkages. Location theory for location decision is important for efficiency transport cost; it enhances production and distribution. Location growth theory initiated by Von Thünen (1966) whose thesis was on studying agriculture activities in Europe, and extended by Weber (1929) with studies on industrial locations in Germany. These theories were then followed by Hoover (1948).

While Von Thunen and Weber studied the supply side, Christaller and Losch were interested in the demand side of location theories. Christaller (1966) formed theories on city rank, city size, and its distribution. This theory assumes that (i) regions are smooth, (ii) they have isotropic surfaces, (iii) they have the same distributed purchasing abilities, and (iv) that consumers are rational agents. The market area is called the 'range' and the minimal market area for produce to do economic activities is called the 'threshold'. Extending Christaller's theory, Losch argues for a system of lowest-order (self-sufficient) farms, which were regularly distributed in a triangular-hexagonal pattern (Losch, 1954). The market area theory argued that the largest market area should be the location of economic activity. This theory argue that location proximity to market is important for manufacturing industry to ensure the higher profit. The further the distance, the higher transportation cost and reduce the product's competition price. McCann and Sheppard (2003) concluded that the theory captures the market behaviour that dynamic relationships between spatial nature of the market, industry structure, and the economic strategies that are used.

Cumulative Causation and Growth Centre Theories

The increasing returns idea introduced by Kaldor (1970, 1981) and refers to the region's economic ability to specialise and intensify its economic potential. His idea was that increased input would generate a higher quantity of outputs, and, with accumulation over time, a region would produce products faster and more efficiently compared with other regions. This competitiveness results in regional specialisation (Armstrong and Taylor, 2000).

The cumulative causation theory, developed by Myrdal (1957), emphasises growth in a circular and cumulative way, which brings unevenness and polarisation of development among regions. This theory views increasing returns as an effect of the agglomeration of external economics and the historical path of localities. Furthermore, Myrdal shows that effects between factors of production and growth in developed regions impacts peripheral regions. The development of the prosperous regions would benefit other regions through labour and resource linkages, known as the 'spread effect' or 'trickle-down effect' (Hirschman, 1958). The accumulation of this effect would lead to economic growth and development through channels of technological diffusion and markets. The opposite of this concept is the absorption of resources by rich regions , known as the 'backwash effect'. In this concept, rich regions develop faster and higher economic growth rate by exploiting poor regions' resources. The effect is embedded in the nature of trade liberalisation in neoclassical perspectives (Hirschman, 1958). Furthermore, the lack of intervention and soft state has established increasing polarisation among regions (Myrdal, 1957).

The Verdoom effect states that the growth of labour productivity depends on the growth of output. Positive and strong growth in labour productivity and output become mutually reinforced in a circular causation way (Pike et al., 2006). In addition, the growth pole refers to mobilising natural, social, and economic resources to a particular industry that becomes the propulsive industry. The growth pole concept is also based on potential linkages between propulsive industries and local industries through forward and backward linkages on the supply chain (Hirschmann, 1958; Perroux, 1950). The geographically concentrated growth poles become the growth centres with a national policy on regional planning that allocates resources to selected industries in a few regions. This policy would expect to generate a leading region that promotes the trickle–down growth effect to surrounding regions.

The modernisation theory argues that undeveloped countries should mobilise natural, social, and economic resources, and focus it on selected industries (growth poles) in certain regions (growth centres) (Perroux, 1955). This idea was a counter argument to Schumpeter (1951) that claimed that inter-regional transfer equalizes production and capital overtime. However, regional transfer is uneven and tends to concentrate on growth centres because of agglomeration economies. Hirschman (1958), who identified special regions as growth centres and lagging regions, supported this view argues that development can be achieve through the existence of trickle-down effects between regions. This concept has been a regional policy for developing countries with limited development budgets; it establishes a region that will grow rapidly and expects it to multiply and spread the effects (Armstrong and Taylor, 2000).

New Trade Theory and New Economic Geography

Recent literature on divergence theory is the new trade theory that studies specialisation and concentration and how they influence and shape trade (Martin and Sunley, 1998). In the imperfect competition, specialisation is the cause of increasing returns of the differential factor endowment (Krugman, 1990). The Marshallian externalities are more likely to occur in the regional level than at the national and international levels. Recent studies on this literature (Krugman, 1990, 1991; Martin and Sunley, 1998) claim that agglomeration and geographic concentration influence the growth of regions. The spatial clustering of regions with labour, capital, and the network of organisational technology are geographically localised rather than mobile. Furthermore, urbanisation causes growth spillovers that lead to agglomeration and shape the competitiveness of firms within the localised economic region.

Another contemporary divergence theory is the new economic geography (NEG) theory that emphasises a core-peripheral economic relationship that is rooted in the theory dating back to late 1950s initiated by Hirschman and Myrdal that acknowledged a relationship between the two locations. The first relationship is the polarisation (Hirschman, 1958) and backwash effect (Myrdal, 1957) that shows a tendency of major industries to grow and act as a magnet with the ability to draw people and resources from other regions. The second relationship is the trickle-down or spread effect development, which refers to economic growth that spreads from the core regions to peripheral regions.

New economic geography (NEG) is an analytical theory that focuses on centripetal and centrifugal forces of power to balance development, determining the size and distribution of spatial concentration. The centripetal forces are described as forces that attract factor production to form geographic concentrations following Marshallian ideas about the advantages 'people following the same shelled trade get from near neighbourhood to one another'. In his words, Marshall (1920) states 'the mystery of trade become no mystery, but are as it were in the air'. The factors include (i) market size, with the larger the market the larger the attraction, (ii) linkage size, with the larger attracting more firms, and (iii) labour pooling to provide more unskilled and skilled workers. Krugman (1991) recognised that specialisation allows economies of scale and external economies (Perrons, 2004). This leads to the accumulation of growth, which is locked-in, and path-dependency that increases development unevenness between poor and prosperous regions. The other force is the centripetal that disperse economic activities from one region to another through various policies such as land and unwilling to move price and external of diseconomies, such as congestion. The balance of centripetal and centrifugal forces will establish spatial concentration.

Moreover, when there is a trade barrier, the wage structure between regions will be the same. But when one region is more attractive (proximity to a market or a larger market) and the production factor moves to the region, that region's wage will be higher than the other. Although the other region has a lower wage, firms do not move because of the benefits of proximity to a market and a larger supplier (Venables, 2006). As trade freeness increases, a clustering effect will be felt and location will determine price (dispersion force). The NEG theory also explains the importance of a pooled market as specialised labour benefits both labour and firms since an efficient labour force offsets the competition effect (Krugman, 1991). Labour pooling assists firms to look for skilled labour and triggers knowledge-spillover between similar firms within a region through labour mobility, direct social contact of workers, or observation of intensive activities (Venables, 2006).

The main gap in the NEG theory is its consideration of tangible aspects to the cluster approach. Tangible aspects, such as a greater economic scale, tend to form a spatial concentration and lower transport costs will increase geographic concentration as firms can supply a range of products to markets from a single location (Krugman, 1991). The NEG views specialisation as arising from the accumulation of economic activities, efficiency, and comparative advantage, which leads to savings and revenue increase due

to internal locality interaction. Hence, the region will develop further than other regions, leading to unevenness of growth between regions or between core-peripheries.

Dynamic Model

The dynamic model was developed by Quah (1993) and it makes predictions on cross-section dynamics by linking three observations: (i) countries are endogenously categorised into groups, (ii) specialisation production allows exploiting economies of scale, and (iii) ideas are an important engine of growth (Quah, 1996). The literature explains that the results are (a) growth coalitions, or a convergence club, the model delivers predictions on coalitions' memberships across sections of economies; and (b) different dynamics are generated, depending on the initial distribution of characteristics across countries.

In addition, the results also shows the characteristics of convergence club, which are: (i) polarisation, refers to the condition where the rich become richer, the poor poorer and the middle class disappears; (ii) stratification, where there are multiple modes in the income distribution across countries; and (iii) divergence, where two economies, initially has similar development level, separates over time so that one eventually becomes wealthier (Quah, 1996). When more than two coalitions form, stratification is more likely rather than coalition. With two coalitions, the distribution dynamics suggest that the economy moves into two main poles (rich and poor) while the middle class evaporates. Economy clusters occur at high and low parts of the income distribution. The outcome, the number of coalitions and their compositions, depends on the initial distribution of income across the entire cross-section. If the countries initial incomes are similar, a single coalition occurs, and if the income initial distribution differs, a multiple convergence forms.

Marxism Approach on Regional Development

The Marxist approach builds on the political critique of neoclassic economies as it views regional growth as episodic and historic for convergence and divergence process eras. Marxism argues unevenness forces regions to specialise in geographical function. A region has to be able to perform and grow at a higher rate over time in a particular industry that established the region as a centre of production, administration, or research and development (R& D). Transition in development refers to changes of the position and role of a region in spatial division of labour.

The Marxist approach in regional development is interested in different periods of industrial restructuring and spatial division of labour at the regional level. The spatial division of labour suggests that places become specialise in a particular function, such as headquarters, R&D, and administration. Over time, this location specialisation leads to a hierarchical relationship between regions. Economic geography was one of the branches of geography that was the most dramatic example of the shift in thought.

The debates on the unevenness of spatial development literature produced five schools of thoughts (Scott, 2000). First, the Anglophone and French Marxism urbanism school that studied inter-connections between land rent, housing provision, and urban planning. Other research includes poverty, job loss, and deindustrialisation. Another stream was on the uneven development at the regional, national, and international scale (Forbes, 1984; Harvey, 1982; Smith, 1984). A more orthodox Marxian studied class struggle and labour theory of value and structural crisis as the essential foundation of any viable research programme. On the other hand, the heterodox Marxian (with a background in spatial analysis) studied highly technical analyses of core process within the political economy and spatial effects. This quantitative term began in formal Neo-Ricardian and Scraffan models of spatial structure of capitalist production's impact on the capital investment, technological change, and employment relation with locational structure. In the socio-economics field, Harvey (2007) asked a geographic question in terms of Marxism political economy. In this, Harvey argued that spatial analysis and regional science, as an apologetic technocratic construction, appeared to be silently serving to mask the structurally determined injustice of capitalism. The socio-spatial dialectic concept was concerned with the role of space in social theory (Soja, 1980). He studied how forces of capitalism accumulate and related social structures create and recreate geographic realities in so-called 'social-spatial dialectic' and class tension.

The spatial fix concept offers to restructure the geography of capital to counterbalance over-accumulation (Harvey, 2007). Spatial fix provides a way to transform the geography of capitalism that inherited over accumulation in the system. The notion suggests that incorporating more territories to access capital and production networks (Schoenberger, 2004). Furthermore, the expansion and improvement of built environment such as transportation networks, water supplies, and communication systems that enhance the system's ability to create wealth. The uneven development could not be separated from spatial fix as a means to restore the imbalance (Harvey, 2006). In space terms, there are views on spatial fix, which is first, a way to allocate

capital to other regions to resolve over-accumulation of production, and second, a way that capital is invested in fixed and immobile infrastructure and suburbanisation facilities. However, Harvey argued that these two views of spatial fixes stimulated each other to further accumulation and if the flows failed, the fixed capital was devalued and lost, leading to further spatial disparities. The rise of periodic accumulation is inherited from capitalist development that forces new spatial, technological, and social 'fixes' of order. This underpinned further equally unstable configurations of regional growth and decline. Thus, because this is embedded in the capitalist system, it could end the long-term regional divergence (Harvey, 1982; Storper and Walker, 1989).

While spatial fixes are in process, unevenness is occurring simultaneously in a globalise world. For instance, in the 1970s global cities had property booms such as in London, New York and Tokyo; while huge debts in Eastern Europe, Latin America and Asia (Schoenberger, 2004). The study of UK economy in the 1990s by Martin (1988) argues that, besides politically and geographically, the southern part of UK was traditionally host to the R&D division, and it had more advantages with more skilled labour and managerial headquarters leading to flexibility of production, compared with the northern region. In the Marxist view, this case is an asymmetry condition where labours and machines reached its profit and accumulation maximums, leading to over-accumulation and unavoidable downsizing of production. Thus, new locations for production are required to restore profits.

2.2.3 The Organisation of Regional Innovation

Institutional economic geography refers to the fundamental principle that underlies new economic structures that allow industries to contract out or have external production to improve flexibility and adaptability.

Territorial Innovation Model

The new production system is combined with fast changing technologies to differentiate demand compared with the previous industrial organisation. The internalisation occurs if the transaction is frequent and considered to be more beneficial to minimise transaction cost. The following discussions on regional innovation models are based on various frameworks by the territorial innovation model (TIM), the regulationist approach, cultural and cognitive turns, and creative regions (Lagendjik, 2006, Krätke, 1999, Storper and Salais, 1997; Scott, 2000; Storper and Venables, 2004, Moulaert and

Sekia, 1999; Barnes, 2001, and Florida, 2008). This literature review on these theories and empirical studies suggest divergence development occurs due to the difference in structural organisations, socio-economy and policy, and cultural traditions at firm and regional levels.

First, the study of innovation on individual firms concerns the impact of Fordism and post-Fordism on industrial development. The importance of the divide becomes obvious when certain appropriations of historical forms of capitalism can be described as distinctive regions of accumulation and 'nodes of social regulation'. The research took this further with the addition of a moment when there is 'window locational opportunity'. The debates occur when labour market flexibility and the glorification of the entrepreneur comes at the expense of worker rights and welfare.

Flexible production can be viewed as a combination of a socio-economy embedded with a communication network in a disintegrated production. The socio-agents, formal and non-formal, shape local networks, and collective strategic capacities form by regulation of institutions at the production level (micro-level). Storper and Scott (1988) linked flexible production with agglomeration, assuming that being located in the same place would reduce externalities, improve transaction cost, just-in-time processing, and idiosyncratic and inter-unit transactions. They also viewed flexible production as a form of production with the developed ability to shift from one type of production or process to another, and adjust quantities of output without any major impact on efficiency. In addition, the post-Fordism Marshallian model and flexible specialisation influence the oligopoly power of multinational companies (MNC). This concept regarded regional uniqueness as a source of regional competition. The research aimed to respond to the policy roles in regional areas to increase the region in a globalise world and a condition where the nation could not provide further support in local interest.

Second, the regional innovation characterized by territorial based agglomeration, innovation and local business interconnection growth in sectors on neo-artisans, high-technology content, financial service, and specialized products. These industries identified as a spatial system of proximity of agents, action, interaction, communication, and adaptability when set in a wider socio-cultural context, creates a different angle of analysis.

Dicken (2007, p. 22) defines a geographical cluster of economic activities as two types, sectoral based and spatial based. There are two types of agglomeration economies, urbanisation economies and localisation economies. The former, in general,

are clusters of economic activities and sharing of infrastructure. For example, urban areas and metropolitan areas, which are a clustering of firms within the same or related industry, and with its proximity, the cluster provides specialised networks and the sharing of knowledge that leads to skilled workers and concentrated activities to produce goods and services. In other words, the sectoral based leads to specialisation of activities and localisation economies, while a spatial based economy leads to a generalised cluster and urbanised economies.

The externalities are divided into traded and untraded interdependencies between firms. Traded interdependency is a direct transaction between firms (supplier and inputs), thus, spatial proximity is important to reduce transport costs. Untraded interdependencies is a less tangible concept, where it ranges from a pool of labour, institutional existence, economic agglomeration with face to face (F2F) social and cultural interaction, and enhancement of knowledge and innovation between firms. The untraded interdependencies refer to social and cultural basis of an economic cluster that determines the process and progress of agglomeration (Storper, 1997). The approach views the tacit knowledge on know-how and ideas sharing as having a more determinant role in clustering progress and innovation than the codified knowledge, a know-how knowledge on tangible activities such as writings and diagrams. The untraded interdependencies approach argues that the tacit knowledge stays in a specific location and is accessed only through interaction and sharing ideas in untraded social and cultural interactions. Meanwhile, the codified knowledge is more tangible and can be transferred and travel by space and is non-location specific (Coe et al., 2007, p. 136).

In the economic geography literature, the study of the impact of regional innovation is based on several basic theories. First, drawn up on institutional and organisation socio-economic theories, network concepts are studied as intermediate institutional firms of social organisation that are not market- nor organisational-hierarchical, but based on cooperation (Cooke and Morgan, 1998). This concept emphasises high trust among participants that enables the sharing of information and benefits without being tied to restrictive contracts. This high level of trust is viewed as leading to innovation and adaptation for development, through collabouration, reducing monitoring and lower contract cost for agents (Sunley, 2000). Second, the social capital force by trust may increase the ability to learn and adapt to change (Cooke and Morgan, 1998). The literature suggests there are influences of social capital and trust to development progress, within various disciplines, including economics, sociology, political science,

and education. Third, the network form of organisation has become more universal over time, as can be seen in Silicon Valley, where firms are linked through networks of parts of production processes, technology, human resources, and other factors of production. Fourth, the evolutionary theory approach regards how places change over time in terms of historical trajectories and the unpredictable nature of development as "gradual understanding allows to recognised types of path and place dependency that shaped the historical geography and their future development" (Sunley, 2000). This leads to the thought that labour mobility follows economic activities. The last concept is a collective learning approach, which is the basic argument for recent theories on innovative milieus and learning regions. Collective learning is a dynamic process of accumulation of knowledge transfer among members through interactions with rules, norms, organisations, and procedures (Capello, 1999). This approach's foundation idea is the interaction of human, social, economic, and supporting assets within the territorial context. Collective learning differs with learning in terms of forms of social interaction that are seen in the relationship between the strong link of supplier and the customer relationships continuity over time.

From these theories, innovation theorists developed regional approaches to understand local economic divergence. First, the new industrial spaces (NIS), which are based on economic evolution and the regulation approach on technological changes, and industrial districts (ID) are tied together with technological changes that determine its flexible specialisation. The innovative milieu (IM) emphasises strong relations with social-cultural and collective learning through its embedded networks. The institutional thickness approach refers to the network web of public, quasi-public, and private organisations and the formation of bottom-up regional coalitions. The learning region approach argues that central to the regional adaptive ability to develop is the capabilities to learn and interactive relationships of knowledge production, learning, and the interaction of regions (Cooke and Morgan, 1998).

Finally, the research on global division of labour is concerned with economic activities at the global level that influence local growth. At the global level, innovation activities are established with the integration of firms on research and development, production and supply of regional and national levels. At this level, there is evidence of division of labour, production and innovation (Dickens, 2007; Scott, 1999). The figure below illustrates the global innovation and production hierarchical system of cities (Fig. 2-2). In the figure, London act as the global city as the centre for R & D, innovation and

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finance, while Singapore act as the hub for production hub and Batam as the location of manufacturing sites for production.

Present literature on global-impact analysis recognises cluster patterns that occur following a reduction in transport cost with high importance of face-to-face contacts and high externalities. The emergence of "superstar" regions reflected with large scale firms that are globally dynamic These regions developed because of spatially dependent transaction cost are heterogeneous of high externalities, expanded of high transaction cost other activities and low cost of transportation (Quah, 1996). These factors, together with market accessibility, create superstar regions that attract further talent and highly skilled people and economy (Florida, 2008). The agglomeration and economic concentration of highly skilled workers added with social interaction among them has led to a spiky world with large divergence between regions. This confirms the importance of social institutions for these new centres to compete at the global level such as innovation centres, skill transfers pools, and technological sharing (Scott, 2006). Thus, divergence and polarisation over time limits the number of super-regions following the accumulation and agglomeration of social capitals that accumulate as with physical capital.

Figure 2-2. Illustration of the Global Division of Labour
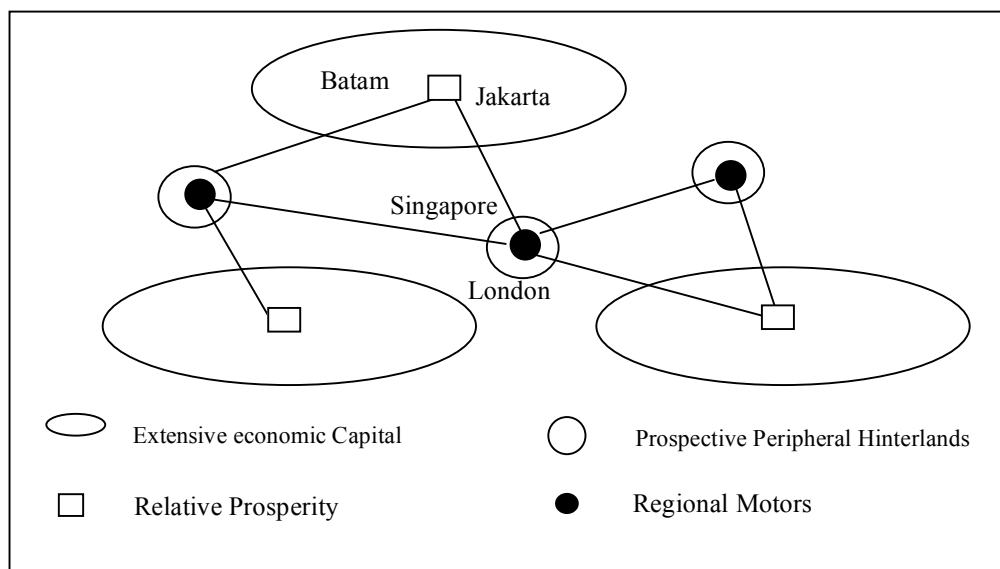
Source: Adapted from Scott (1999)

2.3 State Restructuring Impact on Regional Growth

This section explores theories and literature on the impact of devolution and trade liberalisation.

2.3.1 The Role of the State on Regional Economic Development

The World Bank report shows that devolution weakened the central government's capacity to distribute growth, in both a political and financial way (World Bank, 2001). Prud'homme (1995) argues that a centralised government could produce a more balanced distribution of resources. The result is that the central government has been less successful in solving disparities across regions (Rondinelli and Neill, 1986). Furthermore, the authors found that the regional governments tend to be an additional layer of bureaucracy that will contract national economic growth. The following subsections discuss the impact of administrative and fiscal decentralisation in detail.

Neoclassical regional growth theories have popularised the notion that uneven regional development is inevitable during national development. Among known authors are Hirschman (1958), Myrdal (1957), and Williamson (1965) who argued that selected sectors or locations would have a higher concentration and growth compared with others. Furthermore, as regions cannot develop themselves, there is a need to develop growth poles; this introduces inequality, with an inevitable concentration of economic activities.

Myrdal (1957) viewed the state as the most important engine for growth and structural transformation. The state is the initiator and coordinator in relation to the private sector. In this sense, the state is created with political determination and comprehensive administration reform. Myrdal argued three non-economic conditions of state, which are the attitude towards life and work; institutions that favour economic growth, land tenure systems, private institutions, employment and trade, and voluntary organisation; and the political administration agencies that need to be efficient to manage development.

While Friedman (1966) explained the role of state on different development stages: pre-industrialisation, transition, industrialised, and post-industrialised. In the first stage, the state has little attention on spatial arrangements and is devoted to creating human and material bases for industrialisation. In the transition period, the state begins to organise regional arrangements following early industry and resource exploitation and distribution. This effort continues in the industrialisation period where regional

problems continue and increase. The state also coordinates regional development and adjustments to ensure regions are complying with the common market organisation. In post-industrialisation, the state focuses on the service sector and emphasises the distribution of wealth at the urban and metropolitan levels, such as the metropolitan development in the United States of America (USA).

In the 1960s western countries adopted the welfare state, where state policies were initiated towards greater regional equality while promoting spread and backwash effects. The concept follows Myrdal (1957, p. 39) that suggest the policies emphasised the critical role of the welfare state in reducing interdisparities through backwash and spread effects. The backwash effects occur when rich regions become more productive and absorb resources from its poorer neighbours. The spread effect occurs when rich regions stimulate economic production of poor regions. This increase in demand allows the poor regions' economies to be included in the chain of circular and cumulative growth, making poor regions richer (Myrdal, 1957).

The problem with the welfare state is that the spread effect in poor countries is weak due to poor integrated policies, while in the rich countries there is more success in maintaining economic programs. Hence, the more there are richer and higher income people, the more force to introduce rational generosity. The welfare state uses democracy to carry out egalitarian policies with sacrifices on the part of the rich regions. This leads to stronger capacity to offset market forces and promotes economic development.

There are two channels in the system of causation with two types of influence, the market and policies. The more effective counter to backwash effect is a stronger spread effect, which leads to less regional inequality. Thus, this empowers the political base to propose egalitarian policies in the welfare state.

The emergence of the regional policy was due to occupying settlements' local endowments, natural resources, and an adaptation to external demand. As time passes, each region becomes autonomous economically and socio-culturally with its administration and commercial and trade activities. This continues with industrialisation where there is a concentration of investment at the centre. The role of the government on regional distribution of public investment is based on (i) the dispersal based on political decision and needs, and (ii) the concentration of growth of selected regions that cause shortages of urban facilities, thus public investment favours the region.

However, as Myrdal (1957) asserted, most developments exhibit characteristics of circular and cumulative causation; the external economies in the rich regions and backwash effects cause markets to increase interregional differences. To address this, government intervention to reduce disparities is crucial to support development in the lagging regions. In this sense, the state attempts to counter the polarisation effect of market forces, such as emigration of capital and talent and tax advantages, through public investments. State spending promotes convergence through spread effects from investments in education, transportation, and communication to strengthen centrifugal forces of economic growth. In addition, effective aid to the establishment of industries requires income tax reduction, tariff protection, and bank credit policies (ibid, p. 199). There are also preferential exchange rates and the protection of industries, which can help the lagging regions to satisfy their needs, and taxes, if importing to the lagging region. However, the economic relationship and trade networks with the advanced regions should also be preserved as it should be seen as a source of supplies and complementary, rather than as a competitor, to the advanced regions (ibid, p. 200). As economic growth is circular and cumulative causation, government investment can expand overtime through mechanisms of development.

The least risky investment is infrastructure and social overhead capital as found in the advanced regions. However, this might not be correct as each region has a distinct economic structure with local endowment, such as entrepreneurship and mechanism, which influences its economic development. Therefore, intervention policies and spending should be grounded on the respective region's economy structure in industry, agricultural, and service sectors (Hirschman, 1958, pp. 195–195).

Currently, many developing countries have a state structure inherited from the colonial regime from laws and tax collection to administration and political order. There are two types of problematic states, the soft state and the oppressor state. The soft state has weak laws, as a rule, and the government defines it, which becomes the source of corruption (Myrdal, 1957, p. 226). This refers to the unwillingness among rulers to obey rules laid down by the democratic process and thus the state is not able to implement policies against the interests of bureaucrats or powerful groups. The oppressor state is defined as the condition in which the state's economically advancing regions and social groups have the resources to use the state as a tool to advance their own interests (Myrdal, 1957, p. 44). Both of these problematic states fail to promote balanced

regional growth and are more likely to widen the gap between advanced and lagging regions.

2.3.2 Administration Autonomy

The impact of devolution to convergence has been somewhat diverse across the literature. Musgrave's (1959) theory of public sectors states that there are three main objectives: efficiency in allocation of resources, income distribution, and macroeconomic stability. Gil Canaleta et al. (2004) thought that the first objective could be addressed through devolution, while the latter, two could only be performed by a central government. The decentralisation proponent's main argument is that decentralisation promotes economic efficiency (Calamai, 2009). At the social capital level, devolution would encourage effective civil society that, in turn, would be the most effective monitoring tool for government performance, based on society and the people themselves. Transparent and good governance can be established, leading to better public service.

The problems occurred from the realization of devolution has been predicted and discussed widely in the literature (Fig. 2-3). Generally, it been argued that decentralisation promotes economic inefficiency and overlapping administration responsibilities (Rodríguez-Pose and Bwire, 2004). The first potential problem of decentralisation is the lack of expertise and human capital that might hinder the benefits of decentralisation. These factors are crucial to promote efficient allocation of government and resources deliver better policies and strategies (Rodríguez-Pose and Ezcurra, 2010, p.622). Richer and more dynamic regions have more capacity to extract resources through tax collection or through political advantage to central government. Decentralisation also means more levels of bureaucracy that could reduce stimulation for private investments and efficient public service. Devolution is argued to impact competitiveness among local administrations, resulting in new ideas and innovative policies (Rodríguez-Pose and Gill, 2005).

Islam (2003) argued that the result of the level of decentralisation was significant disparity, both among provinces and municipalities/regencies. In his example, effective and decent administration within a region would lead a region to earn large shares of provincial funds and left other regions to compete for the remaining funds. Furthermore, he claimed that decentralisation might also encourage inefficient development, with two or more neighbouring regions developing the same infrastructure. Decentralisation may

also limit people from one region to lose public service from another region (Islam, 2003). The embedded social interaction and capital accumulation allows rich regions to have larger economic activities, capital, and skilled labour. These regions, with more abundant factors and resources, would develop faster and thus offset among regions would fade out. Inevitably, differences among regions would increase and divergence occurs.

Second, literature on decentralisation mainly focuses on the actors' demands and neglects the supply side. The supply side concerns the quality and skills of local government officers with limited skill and managerial ability (Prud'homme, 1995). In the centralise regime, the central government has better institutional capacities with greater salaries, experience and more efficient administration, which is in contrast with the regions' capacities. Furthermore, central government officers have higher human capital through better education level and on-job-training compared the local officers. In decentralisation, the institutional capacities influence the development mechanism that increase regional disparities (Rodríguez-Pose and Gill, 2005). While in decentralisation, regional development are operate by local officers with low education level and inadequate national policy knowledge hinders optimum public services at the local level.

However, in modern growth theory, there is much emphasis on the supply-side policies than the Keynesian theory, that put concerns on taxation, spending and demand (Armstrong and Taylor, 2000, p.356). This supply-side policy requires fundamental change social systems and political and institutional arrangements. For instance, networks of cooper, new norms of behaviour, institutional capacities and innovative policies. These examples are discussed in further detail in the following section of organisation of regional institutions.

Hence, presently the institutional capacities issues have been considered to determine regional economic divergence. Different institutional capacities and social endowments may undermine the potential benefits to generate and implement policies that match the regions' need and public service (Rodríguez-Pose and Ezcurra, 2010, p.623; Rodríguez-Pose and Ezcurra, 2011, p.622). Another potential impact of decentralisation on disparities is the different capacities of regional assemblies. In the devolution era, assemblies should enhance regional voice in the national level and monitor and guide the implications of national policies on the respective regions (Armstrong and Taylor, 2000, p. 357). Their existence is crucial to improve coordination of local development

institutions and actors. Thus, direct election in decentralisation are important to produce local assemblies with appropriate human capital and institutional capabilities to support economic development progress.

Third, the emergence of governments with particular private interests; these interests can lead to business relationships and even corruption of public servants. The focus on economic growth leads to inappropriate competition between local governments to attract labour and capital. As the degree of political power devolved, the distribution of finance influences over central policy making causes asymmetry of power between regions (Rodríguez-Pose and Gill, 2005, p. 412). In this condition, the centre government faced conflicting demand of the regions when the set of sub national governments are highly heterogeneous and different interest. Thus, the centre is likely to appease regional governments with the greatest threats, and opportunity to its own legitimacy. Poorer and less influential regions will be less protected by then centre, while richer and more powerful regions benefits the most from the decentralisation. This condition undermines the central government's role to ensure economic development equality between core and peripheral regions.

Figure 2-3. Decentralisation Impact on Regional Disparities Framework
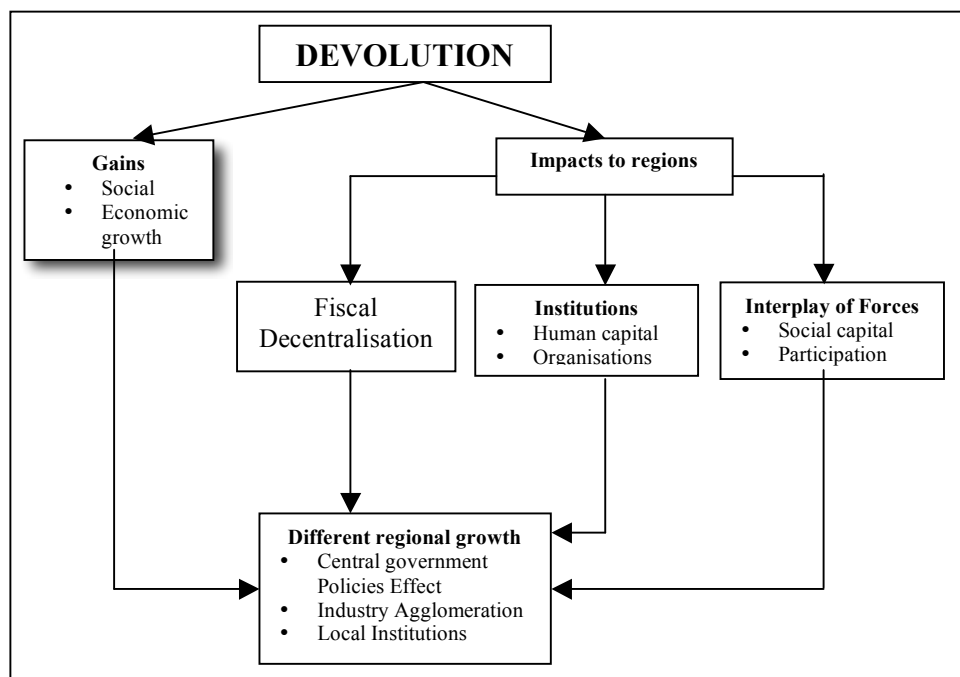
Source: Author's interpretation

2.3.3 Fiscal Decentralisation

Fiscal devolution has two impacts on regional disparities, financial and non-financial. In the financial impact, the difference in tax policies and welfare regulations will differ with the region's economic performance. The autonomy that regions gain allows regions to customise taxes and welfare policies based on its development objectives, such as tax holidays, tax targets, and other financial policies. Different region sizes and regulations cause regions to earn revenue variation due to larger economic activities and taxed workers.

While this seems to be a decent solution, one of the effects is the non-financial outcome which rich regions gain political power through significant contribution to DAU (Rodríguez-Pose and Gill, 2005). This situation represents factual divergence where rich regions have more voice and influence in central government policies. This confirms that a strong central government role is crucial in the devolution era. Strong central government decision-making is important to minimise the effect of competition and fiscal capacity. The central government is also important to mediate welfare costs that ensure zero-sum competition, fosters access to capital market and reduce tax bases for less advantaged regions (Rodríguez-Pose and Gill, 2005).

The implementation of decentralisation has generated new tension and conflicts within the state that are shaped by the interplay of actors and related issues. Thus, regional competitiveness in terms of trade liberalisation and state agencies objectives to attract Foreign Direct Investment (FDI) on the local level will be one area that tensions between devolution and efforts to maintain strong forms of national co-ordination occur (Tewdwr-Jones and Phelps, 2000). The core of this research is to understand the implication of globalisation from above and regionalisation from below. State agencies are the key in advancing globalisation.

Devolution potentially causes regional disparity because of the lack of necessary size to deliver public service efficiently (Rodríguez-Pose and Ezcurra, 2011, p.622). The economic scale and scope are required to provide public services that are capital intensive and large fixed facilities (Prud'homme, 1995; Rodríguez-Pose et al, 2009, p.2044). As smaller regions have smaller area and population with less cost-effective to deliver public goods and services, they have less capacity to deliver efficient public policies. The limited capabilities to guide and oversee the process to deliver efficient public policy potentially raise development gap among region. There are abundant

studies on the role of intergovernmental transfers has been associated with regional economic growth. The studies show different effects of fiscal decentralisation on regional disparities and growth. For instance, a study by Kessler and Lessmann (2010) shows that fiscal decentralisation in the OECD countries has a positive and significant impact. The cross-section and panel analysis found that countries with higher levels of intergovernmental transfers and grants have higher interregional disparity than countries with lower transfers. Thus, fiscal decentralisation *per se* has the capacity to increase economic gap among regions.

Decentralisation also influences the region's capacity to generate own source revenue (OSR), especially tax. In the short run, the transfer of power to tax will benefit regions with a more developed economic through greater tax base (Rodríguez-Pose and Ezcurra, 2010). Thus, this becomes incentive for regions to compete and deliver higher economic growth. This incentive are greater for less developed regions as they have more need for development by fiscal competition and flexible labour markets than the advance regions. This competing objectives need a strong system of redistribution of intergovernmental transfer fund and strong regulatory systems, which in the absence of this requirements will only increase disparities and growth divergence.

Furthermore, limited tax base will also cause several development problems if the local institutions capacities are inadequate. First, weaker institutional system of local governments suffers more corruption and less transparent organisation. The government is also captured by elites that are rent seeking and collusion. This hinders the government to decide effective regulations and on contrary, introduce regulations that harm the economic development such as levies and other apportionment to raise revenue (Rodríguez-Pose and Ezcurra, 2010, p. 625). The local government will also lack of qualified human resources as result of poor respond and efficient policies at the local level.

As a result, inadequate or unfunded mandates are common in process of decentralisation, especially in a to down decentralisation that are earmarked fro certain expenditures (Rodríguez-Pose et al, 2009, p.2044; Rodríguez-Pose and Ezcurra, 2011). This reduces the degree of regional governments to adjust spending on local preferences and compromise policies and services. In this sense, regions have to find their own revenue sources through taxes, decrease spending per capita, or increase efficiency (Rodríguez-Pose and Gill, 2005, p. 414). They will have to rely on more levies and compulsory appropriation to fund their limited economic growth potential (Rodríguez-

Pose and Ezcurra, 2010, p. 625). This concerns over how poorer regions will challenge richer regions on attracting investments with their deficient infrastructure endowments and inadequate institution for revenue administration (Rodríguez-Pose et al, 2008; Oates, 1993).

It has been long acknowledged that good OSR is crucial vertical assignment to ensure that local taxes do not distort movement of economic goods and activity and that they benefits to provide the right sorts of cost signal to the community on fiscal decisions (Oates, 1993). Importance of own local revenue for two reasons, first, Central fund always come with strings attached that will influence local programs. If local depends heavily on central transfers, local programs will be results of negotiations between central and local authorities. Second, heavy reliance on central transfer will discourage incentives for local responsibilities to expand programs with low impact to localities. Thus, OSR is crucial at the margin of local programs to play proper role of fiscal decentralisation (Oates, 1993, p.241).

Regional capacities also influences the quality and effectiveness of the provision public services. Regional capacities become more important and crucial as each regions has different needs and preferences of public services. For instance, citizen have choice to increase their welfare by locating at the preferred combination of taxes and services (Armstrong and Taylor, 2000). People have freedom for political vote based on their preferred taxes and public services. Thus, further development difference become more apparent with these variety of public services. Another problem is the difference in catchments areas if the boundaries of tax jurisdiction of these public services are reaped (Armstrong and Taylor, 2000). For example, commuters into urban areas use and benefit from urban facilities financed by city citizens, while they pay lower taxes in rural areas (Armstrong and Taylor, 2000, p. 355).

Other critiques argue that decentralisation would force local governments to compete with other regions leading to unnecessary inefficient development. Decentralisation often results in the separation of government units that take expenditure development and financing. These may fail to internalised source cost of spending decision and hinders welfare. For instance, by financing their expenditure, the incentive for sub-national governments to exercise due discretion in spending is compromised since they do not have to be responsible for any excess expanses. Strong central government are required to avoid this overspending and enforce maximum spending. On the other hand, strong central government is also needed to implement budget plans regardless

Imprecise estimation of price of oil to forecast revenues and overestimation of current and capital regional spending. This additional revenue, which is shared with regions, increases their fiscal revenue that leads to unplanned regional savings. Furthermore, the restriction of expenditure budget, concerns of corruption charges, and difficulties on tenders to implement projects should be minimised by the central governments (Lewis and Oosterman, 2009, p.44-46). In this case, a strong budget constrain by the central government to control regions expenditure whilst maintaining regions incentive to spend development budget become a crucial determinant to avoid inefficiency (Rodríguez-Pose and Gill, 2005, p.410).

In addition, related with the political and administrative power, fiscal policy that allocate intergovernmental transfer fund on a discretion basis provides richer regions to influence centre decision than a predetermine formula. With poorer infrastructure, tax base, and less influence over the discretion aspects of central government finances, the regions often lacks resources and power necessary to address local problems (Rodríguez-Pose et al, 2009; p.2044). As a result of weaker institutions and lower public spending, the influence that lagging regions over political process and territorial development are lower, including access to distribution of funds that are limited (Rodríguez-Pose and Ezcurra, 2010, p.625).

These limitations that smaller regions faced and the influential power that the rich regions are interested, leads to the political competition for central's patronage. As with private sectors that have incentives with profits, public sectors also have incentives to compete for central government patronage through fiscal and lobbies. These competitions for national resources will waster regional government's resources and leads to a dead-weight loss. The resources wasted by regions spent in lobbying the central government does very little for the national development as a whole (Rodríguez-Pose and Gill, 2005, p.414-415). However, the competition to attract central government's fiscal transfers and domestic and foreign investments are also positive if the regions improves polices for public goods and services. For instance, local electors will independently move to other regions, which drive the local governments to compete to provide better and more efficient policies (Rodríguez-Pose and Ezcurra, 2010). Competition also constrains inefficient, rent seeking, and corruption practices. Competition also encourages and accelerates innovative policies and practices to meet public service and development. Following this, the transfer and adoption of innovation to other regions promotes aggregate efficient. This will hinder zero sum development

that occur if regions are forced to compete inefficiently through diseconomy practices and poor policies to attract investment and human capital.

The problematic implementations discussed above provide explanation how decentralisation has not realized a more balance economic development that the devolutionist hoped. Thus, social, cultural, and political benefit should be treated carefully as greater capacities to implement policies and deliver public goods does not guarantee positive effect on economic growth (Rodríguez-Pose and Bwire, 2004, p. 1926). As a result of regional initial differences, decentralisation benefits regions with a greater capacities fulfil allocative and productivity effective, such as better social endowments and institutions (Rodríguez-Pose and Ezcurra, 2010). In addition, inadequate local government capacities with fiscal decentralisation worsen the disparity that has already occurred (Silva, 2005). Consequently, this undermines the equalizing role of the central government to transfer economic activities from the core to peripheral regions. Thus, decentralisation and disparities are two side of the same coin, there is tension between pursuing goals of economic development equalisation and decentralisation of authority (Rodríguez-Pose and Ezcurra, 2010, p.623). These problems shows there is lack of link and effect between decentralisation and higher economic growth.

2.3.4 Trade Liberalisation Impact

This section discusses theories and debates on trade openness and supranational trade integration. Currently, it is common for supranational integration to include trade liberalisation agreements as a prelude to further institutional process, such as NAFTA, ASEAN FTA and Mercosur.

Trade integration has two effects on regions or countries, trade creation and trade diversion (Schiff and Winters, 2003). Trade creation refers to shifts of domestic production to more efficient imports and cheaper goods. This leads to welfare improvement through specialisation in production on comparative advantages. Trade creation also increases welfare for non-members because the members' income and prosperity spills over to the rest of the world. On the other hand, trade diversion happens when the lower cost of imports is replaced by higher import costs from member countries. This occurs because of preferential trade agreements among member countries. Welfare is reduced and the efficiency of allocation of resources declines.

Thus, trade liberalisation impacts regional growth, depending on the strength of each power, trade creation and trade diversion.

Armstrong and Taylor (2000) added the accumulation effect to the previous effect, as with higher investment opportunities across member countries, there will be a higher rate of investment return and lower risk due to a variety of investment options, hence this attracts more and more investment to the regions. The impact from the administration is the establishment of public service agencies related with free trade. Regions can determine their trade advancement through the agencies they have.

Schiff and Winters (2003) asked whether growth is caused by non-discriminatory trade liberalisation among members or by regionalism. To answer this, we need a method to evaluate Regional Integration Agreements (RIA) member countries' economic growth. The first approach is a gravity model that measures trade between two countries using quantitative data on GNP, population, distance between the countries (proxies for transport cost and business contacts), and physical endowments (coastal borders, landlocked, or an island). The gravity model studies confirm that trade increases within the RIA members. Recent work by Frankel, Stem, and Wei (1997) on the analysis of eight RIA found that for 1970–1992, there is a significant increase in each year for inter-bloc trade (trade creation) and a decrease in the bloc's trade with the rest of the world (trade diversion). Other studies conclude that free trade agreements tend to create core-peripheral regions based on its gains and one of the determinant factors is geographic distance (Paelinck, and Polèse, 2000; Elliott and Ikemoto, 2004).

The following discussion explores the potential impact of trade liberalisation on regional disparities. There are two important factors that explains the impact of trade openness, external and internal factors (Ocampo and Parra, 2007, p. 110). First, the external economic shocks such as the effects of global economy that systematically on world market (P.104). The global economy condition influence economic growth fluctuation and changes through commodity price and cycles in international finance. In addition, external factor also influence regional economic growth as the efficiency of trade liberalisation is linked with the trade composition rather than trade per se by both New Economic Geography (NEG) and H-O (Rodríguez-Pose and Gill, 2006, p. 1205). The paper studies the link between trade and disparities on eight countries found that in six countries there are evidence that changes in trade composition preceded regional disparities level. A higher ratio of manufacturing proportion to agricultural and raw materials on trade composition is associated with higher economic disparities.

Furthermore, the type of industry sector that dominate a region also influences the region's economic performance. The reason is that manufacturing industries tend to agglomerate and allocate proximate with urban areas, which leads to concentration of activities and labour. On the other hand, agriculture tend to spread activities and labour can be reallocate following new agriculture lands (Rodríguez-Pose and Gill, 2006). This is more profound in the service sector as it requires location-specific factors to develop, such as institutions, socio-economic interaction among agents, and highly specialised labour within the locations. In addition, Sjöberg and Sjöholm (2004) pointed out that trade liberalisation may have affected convergence through the high concentration of activities it creates, although they realised that the effect may differ across countries and regions. However, even if trade openness does not have spatial consequences per se, the sectoral impacts lead to spatial impacts because each district has a different composition of industrial sectors. The level of the sector's development and the degree of the sector's composition in a district determines the district's economic development. Thus, developing countries, with greater disparities dimension and larger reliance on primary sector, trade and protection market globally, faced further regional disparities (Rodríguez-Pose and Gill, 2006, p. 1217).

Another external factor is the dominant role of sovereign state that limits the regulating authority of supranational agencies to achieve its common agenda. The bargaining power between the sovereign and supranational agency are influenced by institutional arrangements and culture that the trade liberalisation are embedded. In the case of AFTA, the dominant role of sovereign state means that each state sets it own trade liberal commodity modules with undermines the sectoral integration. As a result, trade values among AFTA members are lower and stagnant growth rate compared with non-AFTA members (Tongzon, 2005). Furthermore, the regulation of trade liberalisation also influence the disparities level among regions. First, as only selected sectors that are included in trade liberalisation, regions that have small proportion or lack of such sector will have lower penetration rate on trade liberalisation. These regions will have smaller market access to promote their products as trade liberalisation provides larger market access for the selected sectors product. Thus, larger and more diverse economy regions have higher gain from trade liberalisation compared with poorer regions. As a result, these region's economy are less dynamic and lower incentives to develop which exacerbates regions disparities. Following the endogenous

growth model, higher market access implies higher product demands and revenues that finance research and grants (Lucas, 1990, p. 73).

The other factor is the domestic factor that should be seen in terms of interaction with external factors. The first domestic factor are social factors such as institutions and human capital, and the availability of infrastructure that play passive role as "framing conditions", rather than direct determinants of regional economic growth (Ocampo and Parra, 2007, p. 100-101). The effect of trade openness on economic growth depends on structural or institutional conditions (Rodriguez, 2007b, p. 200). Thus, regional disparities in the developing countries are also exacerbated by the political and social discontent (Rodríguez-Pose and Gill, 2006).

Another domestic factor is the specialization of regions that influence the production economic of scale and market access. This capacity is realized by factors such as the achievements to enter markets, economic scale and transforming production structure (Ocampo and Parra, 2007, p.101). In this sense, Schumpeter (1961) argues that the introduction of new goods and services, marketing strategies, and new market accessibility. Globally, the level of exposure to international trade have increased economic growth from 2.9 percentage in 1970s to 5 percentage in 1980s (Dollar and Kay, 2002; Rodriguez, 2007b, p.184). In addition, it should be noted that different character of technological change occurs between advance and lagging regions. For example, in the developed countries innovation are related with technological wave, in developing countries these technological innovation are linked with attraction of sectors, act and technology developed in the advance countries (Ocampo and Parra, 2007, p.113). Thus, trade directly shapes and influenced the level of regional economic performance.

Domestic factor also determine the trade impact by the type of manufacturing products that influence the capacity of exports to generate growth. To achieve this, the manufacturing goods and services should have high technology contents. In their paper, Hausmann, Hwang, and Rodrik (2005) confirms this argument that the importance of the quality of exports reflects regional's technological content which determinants their economic growth. While a study by Ocampo and Parra (2007, p.117) provides another evidence that during the period 1962-2000, per capita growth in developing countries was negatively correlated with continuity on the export of primary goods and natural resources. In contrast, countries that have higher economic growth are linked with exports on high and medium technology manufacturing. This confirms that the labour-

intensive exports or stage in the process of high-technology production chain, diminishes the growth potential of these exports. The study shows that the highest GDP per capita growth moved from natural resources to manufacturing exporters. In the case of countries, for instance, Indonesia and Malaysia, despite relies on natural resources exports, also diversified to low and medium technological manufacture (Rodriguez, 2007a, p.129).

Similar story applies to the sub-national levels as regions with abundant local endowment and infrastructure accessibility have a higher capacity to attract investment and economic activities. A similar process occurs in regions with richer infrastructure. Based on a simple economy graph, one can see the impact of economic integration for regions: as demand increases, wages and working hours increase. The opposite event occurs in poorer regions with economic activities and wages becoming stagnant or declining. This leads to divergence among regions, but as neoclassical economics assumes, the economy will find its equilibrium and results in a balanced economy where the poor region will experience another economic development as the rich regions become too expensive for production (Baldwin and Wyplost, 2006).

Another domestic factor is the geographical location of the region, especially bordering regions as it has distance proximity with the neighbouring countries. The bordering regions with a economic sector and local endowments could involved in the trade liberalisation. Literature argues that as trade integration increase, bordering regions become the the gate and hub to the inlands. However, studies shows that trade liberalisation impact on bordering regions are insignificant and largely depends on the trade integration level (Logan, 2008; Rodríguez-Pose and Sanchez-Reaza, 2005). For instance, bordering regions had higher economic growth during the GATT period compared with the NAFTA regime. However, the economic growth rate remain lower than during the substitution era (Rodríguez-Pose and Sanchez-Reaza, 2005). The study also shows that higher economic growth in the bordering regions compared to inland regions increases the level of regional disparities.

There are empirical studies on the impact of trade liberalisation on divergence. Findings from empirical studies show the impact of trade openness varies between studies. The paper by Sjöberg and Sjöholm (2004) using coefficient variation argued that trade liberalisation has a small impact on disparities but it promotes concentration as trade openness relies on FDI, which is expected to be more concentrated than domestic invesment. The opposite is true with domestic firms that are based on home

localities before expanding and considering bigger cities. The research also emphasised the lack of international hub ports for industry and investment in the regions. The study by Sanchez-Reaza and Rodríguez-Pose (2002) introduced the idea of bordering states and found that oil and bordering states increase divergence among regions. However, by using absolute models this study neglects variation in the economic structure of economies.

In a similar method, Fujita and Hu (2001) compared policies with the bias of open-door policy of special economic zones and the infrastructure of the coasts. The descriptive statistics analysis indicates accumulation causation, as Myrdal argued, with the early FDI attracting more suppliers and products, which increased production and FDI that sought higher returns. The importance of technology transferred with the establishment of joint ventures in high technology industries between foreign and domestic firms. This was confirmed by Rodríguez-Pose and Gill (2006) that found divergence or discontinuance of convergence in cross-country cases. Using the ratio of agriculture and manufacturing to approximate trade reform, the study has several implications. First, regions with manufacturing have higher growth and subsistence regions are lagging behind. Second, as manufacturing and FDI favour large and concentrated urban areas, it is likely that rich regions become richer and poor regions poorer.

In Indonesia, Aswicahyono et al. (1996), using provincial data, found that trade reforms have little impact on distribution in regards to industrial sectors. Despite the changes, it does not differ significantly from the prior decentralisation period. Rivas (2007) studied the impact of trade liberalisation that NAFTA had on Mexican regions using econometric analysis and found that trade liberalisation is likely to benefit states with higher incomes and infrastructure. The study approximates trade openness as the ratio of trade activities with GRDP. The paper found that trade openness promotes convergence but trade openness increase disparities if it is interacted with other variables such as infrastructure and per worker income. However this measure neglects sectoral contribution and state policies. Using similar econometrics analysis, Madariaga et al. (2004) studies the impact of different free trade agreements on Mexico regions. The study shows that economic growth and convergence occur during the Mercosur with macroeconomic stabilisation from 1994 to 2002. However, contrast economic performance during the NAFTA with less effect of convergence between Mexico and the USA.

Rich regions and bordering regions that have physical proximity to advanced countries gain the most from free trade agreements, as found by Juan-Ramón and Rivera-Batiz (1996). Trade will increase population and economic concentration following a cycle process where urban areas with extensive infrastructure and facilities attract people and economy leading to agglomeration, migration, and a brain drain, and this, in turn, causes centripetal forces for further economic development (Armstrong and Taylor, 2000; Florida, 2008). This agglomeration and cumulative of causation was confirmed by Logan (2008). He found that trade increased employment rate and labour concentration. However, the study did not confirm a spatial effect using tariff and local endowments data in the USA. The research used trade activities and lag variables to control for past economic conditions and minimised endogeneity with dependent variables.

2.3.5 Institutional Change on State Restructuring

The institutional approach offers a comprehensive analytical tool to overview institutional influence on divergence of economic performance. The institutionalism literature provides a complementary tool of mainstream economics to analyse institutions as rules of economic agent behaviour and to observe historical embeddedness (North, 1994b). While neoclassical economics focuses on the operation of the market as a single and independent subject, institutionalism provides additional analyses in understanding how and what determines economic development. The institutional analysis provides an analytical tool to understand the role of path dependence and feedback effects on institutions' variations that determine economic divergence.

Specifically, this research applies the historical institutionalism approach and refers to the study of how social and political institution structure interactions influence distinctive national trajectories (Hall and Taylor, 1996). The distinctive trajectories lie in the political theories, where institutions of polity and economic structure conflict and cause unevenness in the structuralism that saw policies and economics as the principal factor of collective action of generating different outcomes. This study employed historical institutionalism to overview ways of variation in pre-existing institutions, at local and national levels, that determined the degree of local capacity to establish institutions and policies necessary in economic development. This research studied the two characters of historical institutional approach, which are the critical juncture and

feedback effects (Thelen, 1999, p. 394), in understanding the persistence of Indonesian regional economic divergence. Path dependence can be viewed as a path that certain institutions choose regardless of previous knowledge and restrictions. Another definition is the inability to break free from its own history or whose outcome evolves as a consequence from its history (Martin and Sunley 2006). The feedback effect suggests that, with past trajectories, institutions continue to evolve and respond to changing political conditions and thus, reinforcing distinctive patterns (Thelen, 1999).

This research adopts North's characteristics of institutions that determine economic performance (1994a, 2005). Institutional analysis application in economic studies emphasises the role of property rights and the transaction cost effect on economic performance Property rights fit in the neoclassical and endogenous growth theories as property rights act as a determinant factor to explain how investment and ideas affect economic growth. Weak property rights lead to low levels of investments and the consequence is poorer economic growth (Angeles, 2011).

Property rights refer to the rights to use and optimise the property or investment that a person has for their own benefit. This is the right of the individual over their own labour and the goods and services they possess (North, 1990, p. 33). Thus, 'the more likely a sovereign alter property rights for his or her own benefit, the lower the expected returns from investment and the lower in turn the incentive to invest' (North and Weingast, 1989, p. 803). Property rights provide incentives and disincentives for individual actions through extending formal rights granted by the government (Hodgson, 2007, p.152). The human's interest in property rights is a function of legal rules, organisational forms, and enforcements and norms of behaviour, as defined by the institutional framework. Some valued attributes are in the public domain and individuals have to pay to capture these resources, which is a transaction cost. Because a transaction cost changes radically between periods and regimes, the mix between the formal protection of rights and individual attempts to capture rights or devote resources varies significantly (North, 1990, p. 33).

Institutions provide the structure for exchange and determine the cost of transacting and the cost of transformation. Institutions required to accomplish economic exchange vary on the level of complexity, motivation of the players, and the ability of the players to measure and enforce the environment (North, 1990, p. 34). Furthermore, the literature differentiates institutions that are necessary, based on the level of economic exchange. The small-scale production and local trade exchange requires repeat actions, cultural

homogeneity, and self-enforcement. The transformation cost is high as specialisation and division of labour is basic. As the size and scope increase, economic exchange requires impersonal exchange, trust, bonding, and a merchant code of conduct. Following the increase in complexity level, the increasing role of the state becomes apparent to protect merchants and the revenue of potential economic activities. However, the state becomes the source of insecurity and a higher transaction cost. Finally, the presence of third-party enforcement is critical to successful modern economies and economic growth. Effective third-party enforcement is maintained through a set of rules that then create effective informal constraints (North, 1990, p. 35).

This adaptation of new institutional economics (NIE) into the historical institutionalism framework is required as the study's aim to answer how pre-existing institutions determine current regional economic performance. Historical institutionalism was established in political science to understand public policy processes and outcomes (Hall and Taylor, 1996; Skocpol, 1979; Thelen, 1999). The application in regional economic development, as in this study, requires an integration of political and policy inputs and economic outcome. Thus, by applying this NIE perspective, this research provides a framework to explain the impact of variation in political institutions to economic divergence across regions.

The analyses of historical institutionalism framework are as follows (Fig. 2-4), (i) to identify independent institutional variables as critical antecedent factors in the preceding conditions. These pre-existing institutions are identified as determinants and are studied in the first timeframe of an antecedent period. (ii) To combine the effects of causal factors, the pre-existing institutional capacities and the critical juncture, produce a long-term divergence outcome. During the critical juncture, local governments faced different choices with a 'usable past' and capacities gained during pre-existing conditions. The AFTA and decentralisation act as external shocks that generates further different regional development paths.

(iii) As a result, pre-existing government experiences influence divergence in institutional capacities that shape economic performance. At this stage, variation in institutional arrangements influence economic divergence through feedback effects that either differentiate the policy–making process or magnify the possibilities of a particular policy chosen. The study provides two case studies to view the antecedent institutions' roles in regional economic divergence. The historical-comparative study follows previous empirical analysis by other research (Eaton, 2004; Sinha, 2004, Skocpol, 1979;

Sorensen,2010; Zukowski, 2004) to identify common causal factors and to explain common phenomena between regions.

Figure 2-4 Model of Historical Institutional Analysis and Economic Performance
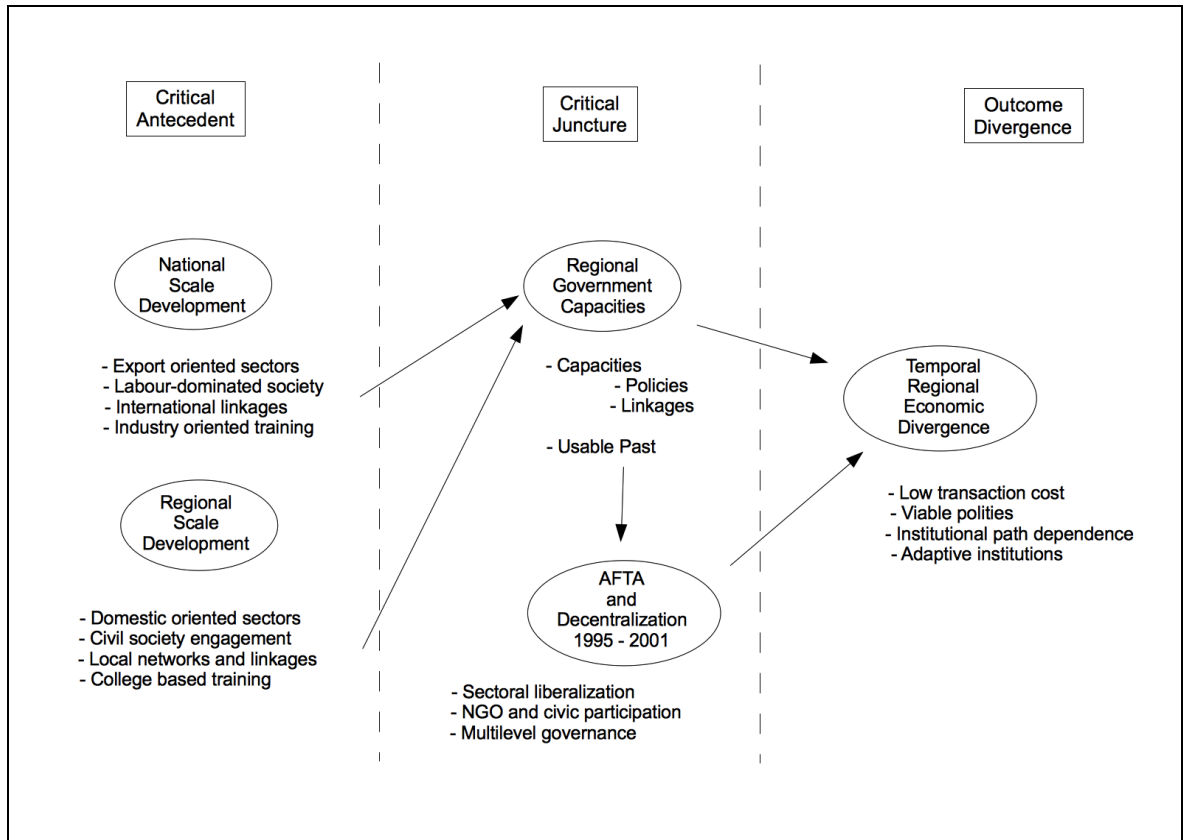
Source: Adapted from Slater and Simmons (2010)

Chapter 3 Methods for State Restructuring Impact Analysis

In investigating the impact of the ASEAN Free Trade Area AFTA and devolution on Indonesian regional economies, this research combines two methods: quantitative and qualitative. The quantitative economic geography methods involve the analysis of secondary statistical data along with econometric analysis to draw research conclusions, whereas the qualitative technique adopts case study research that explains causal links and investigates contemporary phenomena within real-world contexts. The specific historical institutionalist approach serves as an analytical tool for studying the role of institutions at different periods.

3.1 Cases

3.1.1 Indonesia

The regional development of Indonesia was selected to study the effect of regional trade liberalisation and decentralisation. The country is considered to exhibit large variations in regional development rates, and has recently experienced a political and economic shift from a three-decade centralised regime to decentralisation (Fig. 3-1). The combination of globalisation, industrial re-organisation, and rise of local economies as the major effect of the economic dynamics of Atlantic Fordism (Jessop, 1997) has also affected the Indonesian economy through the AFTA implementation and decentralisation in the last decade. Furthermore, these events have given rise to the spatial selectivity of special regions (Brenner, 1999) and a shift in the decision-making process, from government to governance (Jessop, 2002). However, after almost a decade of state restructuring, differences in local policies and institutions determine the economic performance across regions.

Regional disparities are more pronounced in developing countries because these nations display a greater scale of disparity, which is rooted in political and social discontent (Rodríguez-Pose and Gill, 2006). In 2001, Indonesia began shifting to a decentralised form of governance, in which the central government transfers significant political and administrative authority to the sub national level.

Figure 3-1 Map of Indonesia

Source: Bertrand (2004).

Observing a decade of the implementation of Indonesian decentralisation, researchers state that this implementation appears to contradict arguments that this type of governance improves government services and public reforms (von Luebke, 2009). The country needs to learn to adopt democratic values and gain confidence in espousing such an approach. The study shows the continuity of non-transparent and elite-centric agreements on public employment, government contracts, and party list positions. The paper studies on districts in Java, Sumatra and Sulawesi shows increasing acknowledgement of public opinion and improvement of electoral incentives. For instance, higher demand for minimum service standard, and expansion of support programmes to promote independent and investigative journalism to ensure good governance.

Involvement with the AFTA has forced Indonesia to reduce and eventually eliminate the trade barriers imposed on the manufacturing sector. The effect of this trade openness becomes more significant when the size of regions is considered. With more than 500 districts and each with a local economic structure, it is expected significant differences and varying scales of trade liberalisation effect (Feridhanusetyawan and Pangestu, 2003). Rich regions with large economy base and higher trade rate will gain wider market access from trade liberalization, while poorer regions with less efficient products will struggle to penetrate the market and compete with other regions. Thus, poorer regions potentially became market destination for import products as Ramasamy (1994) argues in the early stage of AFTA that the agreement would increase imports to 60 percent.

The literature provides insight to predict the impact of trade liberalization. This increase in imports will affect economy because ineffective industries will struggle to compete with cheaper and higher quality imported products. Furthermore, Rodríguez-Pose and Gill (2006) argue that trade liberalization increase development gap for regions that are lagging in manufacturing industries as these industries allocate near industrial agglomeration and urban areas. This could be expected for a substantial number of rural districts in Indonesia.

Similar to economic issues, the size and scale of socio-political dynamic issues in Indonesia are broad. The decentralisation has caused regional splitting at the provincial and district levels. The splitting advocates argue that the provinces and districts are too large, which combined with poor infrastructure has isolate people from access to services such as health and education. Other reasons for regional division are religion,

ethnicity, and bureaucratic and political rent seeking (Booth, 2011; Fitriani et al., 2005). The transfer of political power to the regions has also caused instability in these areas. Direct elections have been criticised as monopolised by local elites rather than encouraging of accountable regional governments. In the early stages of the decentralisation, former civil servants successfully won elections at the district levels. These leaders are descended from the New Order and continue to exploit resources for self-enrichment or wealth accumulation to boost status rather than regional development. The scale of the territorial dynamics of Indonesian regions is reflected in the catch phrase *Bhineka tunggal ika* (Unity in diversity) as a consensus amongst disparate cultures in finding unity (Kingsbury, 2003, p. 99). With more than 700 regional languages (Lewis, 2009) and 300 ethnic groups (Kuoni, 1999) spread among five main islands, Indonesia is a culturally and traditionally diverse country. The lack of acceptance of diversity has been demonstrated by the numerous conflicts and wars, as well as considerable social segregation, throughout the nation. For instance, in Kalimantan, ethnic and religious issues have caused conflict between the Dayaks and Maduran immigrants because of the Dayaks' differing civilisations and 'unhealthy' lifestyles (Kingsbury, 2003, p. 104).

Indonesia was chosen as a case study in the current research because of its rich district-level statistical datasets. Available data include socio-economic statistics covering gross regional domestic product (GRDP), population, levels of education, road accessibility, and fiscal data. Furthermore, detailed data on plant-level manufacturing and complete AFTA tariff data for the period under observation are accessible. Manufacturing industry development in Indonesia regions is widely diverse on types, numbers, and advancement. In econometrics analysis, the manufacturing industry can be use as a proxy for regional economic level to analyze the impact of state restructuring on regional disparities. First, in trade liberalization variable, manufacturing industry data is crucial to construct input tariff data, which is based on manufacturing production proportion. Second, various variable from manufacturing industry also act as control variable to define regions' economic structure, endowments and characteristics. The Indonesian district-level geographical map is also freely available from the National Agency for Survey and Mapping (*Badan Koordinasi Survei dan Pemetaan Nasional/Bakosurtanal*).

The dynamic characteristics of Indonesia make it an appropriate case for studying the effect of state restructuring prompted by trade liberalisation and decentralisation on

regional development. First, statistical analysis that provides evidence of divergence in regional development is crucial for establishing the argument of this thesis. Second, this study intends to determine the extent of the effect of trade liberalisation and decentralisation on regional divergence across the periods under observation. Finally, the study explores the role of institutions, along with state restructuring, in determining the pathways for regional development. In the latter, particular focus is directed toward embedded institutional capacities that influenced the effect of state restructuring on local development. The current study explains the effect of state restructuring induced by trade liberalisation and decentralisation on the variations in regional development.

3.1.2 Batam and Bandung

Variations in regional development cannot be studied only at one particular period. These should be viewed as a continual and evolving process that progresses along a certain path dependence. The presence of an event as a disturbance to this path serves as an opportunity for further analysis of variations. To explore the impact of institutional arrangements of state restructuring on regional development, specific regions as case studies are required. Noting that Indonesia is a culturally and economically diverse country, two districts, City of Batam and Bandung (Fig. 3-2) are selected as case studies to explore the impact of state restructuring on regional development. The previous chapter on quantitative impact does not require such case study as the analysis does not consider local institutional arrangements and political situation that might influence state restructuring impact on the regions.

There are two reasons that this thesis chooses both cities as the case study. First, both cities have large and significant manufacturing industries that has established since the centralized regime. The establishments of manufacturing industries in both cities received support from the central government Batam in 1978 following the creation of bonded zone by the central government (*Keppre*s. No.41/1978; Phelps, 2004). While the Bandung manufacturing industries was accelerated by the *Paket Oktober* (Pakto) 1992, which provide funding and land for manufacturing activities in the city (Fromhold-Eisebith and Eisebith, 2002).

Figure 3-2 Map of Batam and Bandung

Map of Indonesia, City of Batam and Bandung

Legend
Indonesia Districts

Source: Authors Analysis (imputed data)
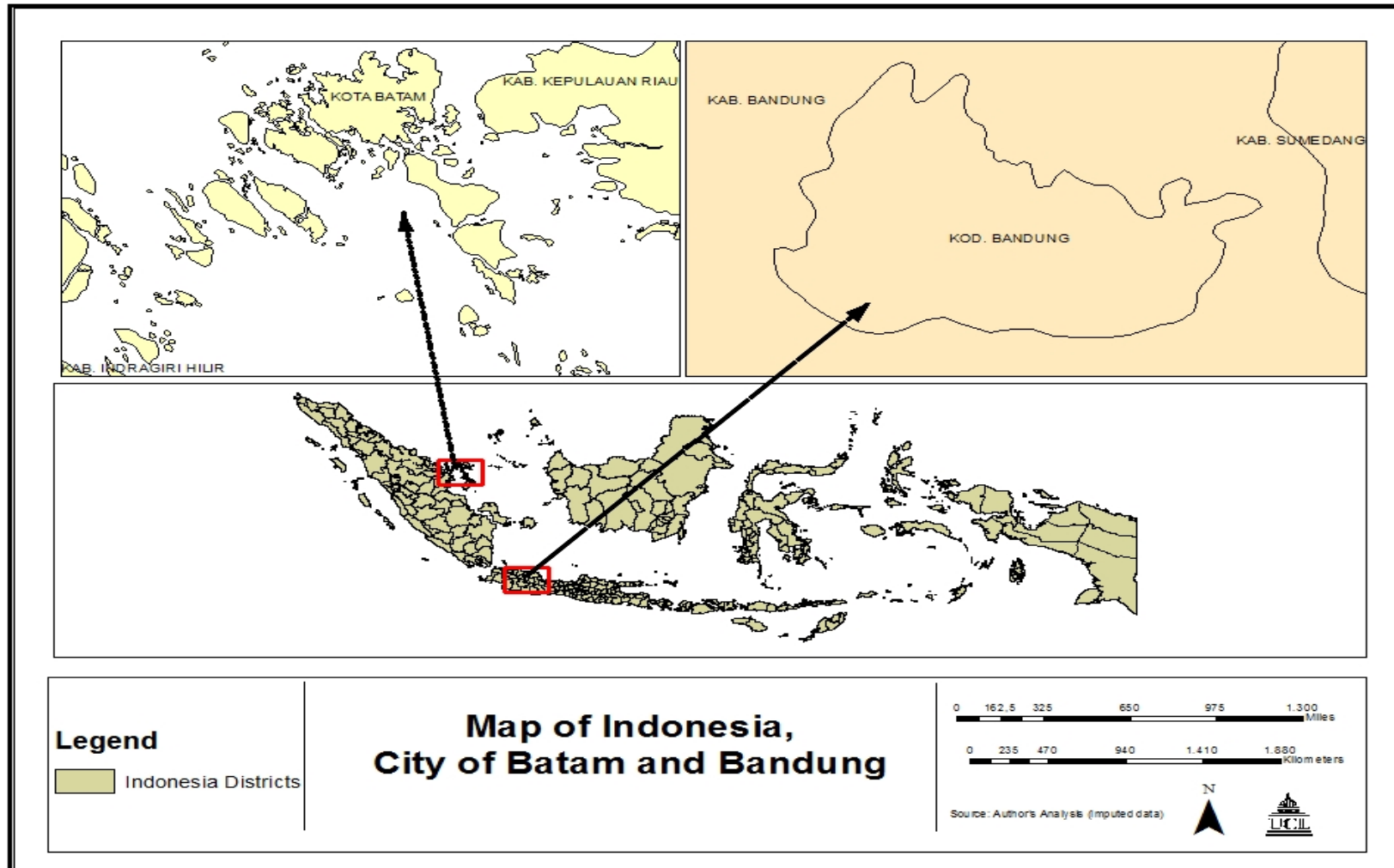
Second, both cities also have main city neighbours that provide significant market for the manufacturing industries. Batam is in close distance and expected receive Singapore's departing manufacturing plants following its shift as the region's financial hub. While Bandung with only 122 km or 2 hours road distance from Jakarta, has a large market and transportation hub for its manufacturing production.

These factors are considered to choose Bandung and Batam as the case study for this research. As they have similarity on economic structure, relationship with the central government, and market access, the hypothesis is that institutional arrangement of each city influences the impact of state restructuring. Following historical institutional, this chapter presume that past knowledge and culture bounded institutional shift that took place as a respond and adjustment to state restructuring (Thelen, 1999, 2004). Other research discipline has also recognized the importance of institutions and culture on economic performance such as community studies (Rodríguez-Pose and Storper, 2006), property development and housing (Doak and Karadimitriou, 2007) and technological innovation (Taylor, 2009)

The development of Batam is an important regional case study in acquiring an overview of the state restructuring effects. The city is the only special economic zone in Indonesia for more than three decades, and its development is heavily dependent on state policy. The city also symbolises the location where trade liberalisation encounters regional autonomy in the post-decentralisation period. In addition to exploring the relationship between actors and institutions over the study periods, this research also analyses how historical institutions and path dependence determine the city's current policies and future path.

Meanwhile, the industrial region of Bandung is the subject of debate on regional development and path dependence. Once known as an industrial manufacturing region, the city changed gradually into a service and creative city. The presence of universities, which are near Jakarta, and the pool of highly skilled young professionals created a new economic mode and brand for the city. The institutional analysis emphasises how previous institutions determined the city's response to governance and the creation of a new development path. Particular attention was paid to the networks amongst the local government, NGOs, and academicians to illustrate how such factors influenced the shift in economic mode. These case studies provide research insights through analysis on different institutional arrangements and embedded actor networks. Furthermore, by

acknowledging path dependence and historical differences, this thesis seeks antecedent institutions and past knowledge that bind local policies. This approach enables the elucidation of the economic policy and growth divergence amongst districts despite three decades of centralisation and devolution.

3.2 Mixed Methods Analysis

The decision to adopt the mixed methods analysis, and its combination with quantitative and qualitative methods, is based on the nature of the research question. The research questions, which were deduced rather than induced, were formulated through a critical review of relevant literature and current conditions in Indonesia. This thesis examines Indonesia regional development with the district (municipality and regency level) as the spatial unit of analysis. The dynamics of regional development in Indonesia should be understood and viewed through statistical analysis before elucidating the variations in the state restructuring effects.

The mixed method enables comprehensive analysis and enhances the validity of research because one method serves as a test on another (Read and Marsh, 2002). The quantitative method, in which the econometrics analysis of local endowments is performed, explores the determinants of economic growth. This exploration is crucial to understanding the local economic structure and institutional arrangements as the foundation of the qualitative study. The qualitative method features the use of in-depth interviews to clarify the role of local endowments and institutional arrangements in economic growth.

Because the empirical studies are based on distinct methodologies and research aims, the specificities of the methodology are explained in each of the chapters presenting the methods used. It should be noted that the hypothesis of this thesis is that state restructuring provides opportunity to accelerate economic growth through promoting property rights and lower transaction cost.

Chapter 5 answers the first research question if the state restructuring affect regional disparities by presents formulas from economic growth literature and various graphs to enable visualisation of economic growth at the district level. In chapter 6, several econometric formulas are the primary tools used to examine the regional economics, industrial, and political variables as regional economic growth determinants. The econometrics analysis shows the extent of these determines effecting regional economic growth.

The qualitative analysis in chapter 7 studies the extent of institutional arrangements influence public policies and economic development. Institutional arrangements that prioritise improvement on property rights and reducing transaction cost leads to more innovative policies. This chapter adopts the historical institutionalist approach to interpret regional divergence with case studies on the districts of Batam and Bandung.

3.2.1 Desktop and Quantitative Research

The first specific question was approached by desktop research on descriptive statistics and regional economic distribution indices. In the data analysis, wealth distribution in Indonesian regions was examined using systematic inequality and inequality variations (Fan and Casetti, 1994). Systematic inequality comprises three types: dispersion indices, such as coefficient variations and standard deviation; the Lorenz approach, which includes the Gini coefficient and dissimilarity index; and the entropy index with deployment of the Theil index. Another measurement index is the rank size rule, which was used to examine inequality amongst regions with the same level of wealth. However, the systematic inequality approach is disadvantageous in that it explains only overall inequality and does not reveal sub-regional inequality dynamics. Inequality variations explore the expansion of the above-mentioned measurements.

The first measurements are the decompositions of the Theil index to within and amongst regional inequalities; the second is the expansion of rank size, which shows the dynamics of inequalities amongst regions at different levels of wealth; the third involves mapping of the distribution of wealth amongst regions using the individual region's inequality values. The regions under observation for this approach were defined at the regional (west, central, and eastern parts of Indonesia), provincial, and district levels. Finally, the industry concentration within a region is measured with the Herfindahl index (H-index) for the employment size and value added on three discrete years, 1993, 1996, and 2005.

3.2.2 Econometric Analysis

In the econometric analysis, the effect of the decentralisation and AFTA on regional convergence from 1993 to 2005 was examined. To obtain the statistics data from the Bureau of Statistics/*Badan Pusat Statistik* (BPS), tailored requests and direct contacts with the Bureau was necessary. The second specific question on determinant of regional economic growth is answered with formal convergence equation following the neo-

classical approach (Islam, 2003). Traditional convergence analysis and the spatial dependence effect with the GDP per capita growth rate in each districts is the dependent variable. This is the most common variable used and is considered the best proxy for economic growth, as indicated in non-spatial (Barro, 2000; Fan and Casetti, 1994; Sánchez-Reaza and Rodríguez-Pose, 2002; Rivas, 2007; Fujita and Hu, 2001; Garcia and Soelistianingsih, 1998; Resosudarmo and Vidyattama, 2006) and spatial literature (Arbia and Piras., 2005; Rey and Montouri, 1999; Rey, 1991).

3.2.3 Institutional Analysis of Regional Development

The analysis focused on the previous decentralisation and AFTA institutions, as well as on the overview of the evolution that shaped regional economic divergence (Fig. 3-1). Using historical institutionalist theory, the qualitative analysis proposes the argument that the regional economic variation in Indonesia is related to past institutional capacity. Following historical institutionalism, the analysis was concerned with the components of the framework, including critical antecedents, critical junctures, and reproduction of institutions, as adapted from political science (Hall and Taylor, 1996; Skocpol, 1979; Thelen, 1999; Pierson, 1996).

Research Procedure

The analysis of historical institutionalism and economic growth was illustrated with a context-based strategy and decision-making, as well as with networks and conflicts between actors. This illustration was directed toward the specific place of the Batam and Bandung municipalities in post-trade liberalisation and decentralisation. Furthermore, the case study was contextualised by connecting the analysis at this level of institutional evolution and policy innovation with key issues that occurred at higher governance levels and external processes that determined economic growth. This includes the supranational, national, and regional levels that were influenced through formal, informal, and cultural rules.

In institutional analysis, narratives are essential to contextualising and constructing empirical situations (Healey, 2007). In this sense, narratives are sequences of connected events and the relationships between events and their consequences. After constructing such narratives, interpretation and conclusion are generated with coding techniques. This approach, as with other qualitative methods, is expected provide insights that

combine the effects of several factors and 'multiple conjectural causation' (Silverman, 2005).

To gather such narratives, semi-structured interviews were conducted with experts including government officers at all levels, NGO officials, and international consultants such as the APCO Worldwide and ASIA Foundation. All categories of interviewees represent agents at different stages of the institutional process (see Appendix D). Thus, each category of interviewees shows the roles, influence, path dependence, and path breaker that contributed to the regional economic growth differences. The interviews normally lasted for approximately 60 minutes.

The interviews aimed to acquire historical data and reveal the individual subjective experiences of the respondents who were involved in institutional building. Emphasis was placed on institutional building, network, and discourses that prompted the actors to innovate economic policies. Furthermore, the interviews explored how the respondents constructed policies, networks, and innovation that determined innovation in policies. The information from the interviews was analysed using the standard coding technique and compared with other sources such as field observations, official documents, and newspapers.

The interviewees selected based on their core competence and experience with the research topic. If possible, the chairman or highest rank bureaucrats were interviewed, as it is assume that institution leaders have comprehensive knowledge on its organization institutional issues.

The interview structure is refers to institutional theories and additional questions are aimed to confirm findings from the quantitative chapter analysis. First, the interview explores the experts' views on state restructuring issues and the role of economic variables on regional development. This is performed to support and justify the quantitative chapter analysis. Second, the interviewees explain about impact of state restructuring on their institution and institutional adjustment efforts to respond state restructuring.

The respondents were contacted through the personal networks provided by the research supervisor, the author's professional networks, and other colleagues. The snowballing technique was also employed to identify potential interviewees through suggestions provided by previous respondents; these potential respondents were also selected based on professional knowledge and job position. An informal relationship with gatekeepers is crucial for gaining access to key experts and ensuring effective

interviews. The snowballing and gatekeeper methods are regarded as the best approaches to distributing semi-structured questionnaires to senior government officers and other socio-economic stakeholders. The survey consisted of 15 questions grouped into three main parts: political and economic background, state and local policy discourses, and past and current effects on economic development. The interviews were conducted to select government agencies at three levels, NGOs, and higher education actors for a total of 32 interviewees.

The empirical study does not represent overall regional institutional building and economic growth. The case studies were used to illustrate how institutional building, action, and innovation determined economic growth within a specific location. Thus, the narratives presented in the analyses were limited to a certain regional institutional capacity and to the external conditions that were considered. This study does not comprehensively describe the complexity and extent of regional institutional capacity and economic growth. However, it provides insight into the relationship between institutional building and economic growth in a developing country, which can be applied to conceptual frameworks and replicated in other cases.

3.3 Validity, Reliability, and Ethical Considerations

There has been concern over the reliability of measurements, specifically whether the statistical data are reliable. The extremely noisy nature of the GRDP data from the Statistical Bureau is noted by McCulloch and Syahrir (2008). Eng (2005) shows significant differences in the methods and survey collection coverage for the national account survey. The author argues that these changes have caused new accounts to be higher than those reported in earlier publications. Such changes include greater details in the input-output survey and data availability, more coverage on survey collection, more international cooperation and advice from international agencies such as the Asian Development Bank and IMF, and the high rate of expansion and diversification as a result of the Asian fiscal crisis in 1997. Therefore, careful use and interpretation of the statistical data in Indonesia are required. In the current work, several steps were taken to ensure that the limitations in the data do not severely diminish the research validity. First, more up-to-date statistics was used and frequently revised. For example, the 2004 data were examined and compared with the 2005 and 2006 publications to ensure data

consistency. Second, additional data manipulation and adjustments were conducted following any change in policies, such as the expenditure budget that was integrated into a single variable in the decentralisation. In the qualitative analysis, attempts to reduce threats to validity and reliability were also made. Both validity and reliability are threatened to the degree of subjectivity in the measurements and observations of researchers. To reduce such threats in this study, data that support documents were collected and additional interviews were conducted to corroborate the interview notes. The interviewees chosen were those with prominent positions, and were asked about personal experiences and opinions regarding the topic to ensure internal validity.

This research complies with ethical principles. Permissions were obtained before the interviews were conducted and before the reports were gathered. Several data were collected exclusively for this research and others are available publicly from the given organisation's office or website. To ensure interviewee anonymity, the list of interviewees shows only job responsibility and date of interview, as requested by some of the respondents.

Chapter 4 Background on Regional Development and State Restructuring in Indonesia

4.1 State Restructuring's Impact on Regional Development: Introduction

The economic policy shift toward trade liberalisation and decentralisation has occurred globally. State restructuring should be viewed as a window of opportunity to promote regional development balance. However, presently there is a widening gap between regional developments because of variation on local capacities. Since the centralised regime came into power, regions have demanded equal development to level out the disparities they have encountered between the western regions versus the central and east regions. Poorer regions expressed their disappointment with the central government's development policy and demanded larger income transfers and more authority to administrate their region.

Following the financial crisis of 1997 and the fall of the New Order regime, Indonesia entered a new political order, one based on decentralisation. In the post decentralisation regime, regions separated and expanded into a greater number of regions based on economic and cultural backgrounds (Booth, 2011; Fitrani, et al. 2005). On the other hand, in 1993 the ASEAN FTA decreased trade barriers between the ASEAN members. The author selects the period spanning 1993–2005 because the implementation of decentralisation in Indonesia occurred beginning in 2001 and the full implementation of the AFTA-CEPT program for the original countries began in 2002.

This chapter explores institutional changes at both the national and regional level. The chapter is organized as follows: The next section discusses institutional arrangements during the centralised regime while the following section addresses uneven development during the same regime. The final section explains institutional arrangements that came about as a result of state restructuring.

4.2 Centralised Regional Development Institutions

After the political riot in 1965, the new regime ruled Indonesia for more than thirty years (1966–1997). The New Order regime, under President Soeharto, represented its main political principle with an image displaying a free pluralistic society, symbolized by a parliamentary (*Dewan Perwakilan Rakyat*/DPR) general election every five years.

The general election became a political ritual because for six consecutive elections the MPR re-elected President Soeharto by acclamation. Early on its power, the new regime's political view was one of strong anti-communism, economic stability, and inward-focused development. The New Order formulated a ruling style based on Pancasila and UUD 1945, with constitutional order, political symbology and cultural cohesion (Canonica-Walangitang, 2004) at its principle. The idea was to promote order, stability, security and economic development to protect against the repetitive of chaos of 1965. During this period, the political ruling style immobilized any potential unrest. The controls it placed on institutions made it impossible to replace the President.

The local parliaments (*Dewan Pewakilan Rakyat Daerah/DPRD*) had very limited political authority due to a lack of control over local official appointments and resources. Their political power was limited to recommend a governor or mayor candidate as it was the central government, with approval from the President, that appointed the heads of regions at the provincial and district level (Canonica-Walangitang, 2004, p. 93). In addition, the MoHA, on the recommendation of the governor, appointed the regents and mayors. Another role of the provincial parliaments was to elect regional delegates to represent their respective regions in the People's Consultative Assembly (*Majelis* Permusyawaratan Rakyat/MPR). The provincial parliament's representatives totalled 147 persons, with each DPRD province represented by at least four and at most eight members. The main task of these representatives was to elect the President.

The military roles present throughout Indonesia's state policy history were significant during the country's various political periods, including in the old and New Order regimes. Under the Old Order, the military played an important role in maintaining national security and integration. Under the New Order, the military assumed the dual roles (*dwifungsi ABRI*) of military and political/social overseer (Rosser, 2001). This became the basic relationship between the military and economists, one that later was institutionalized, and its factions became known as "economic technocrats." In the following subchapter, we explore the roles of "economic technocrats" in shaping Indonesia's economic policies following the fall of politico-bureaucrats.

During the New Order, the state re-formed into an integralist nation (Negara Integralistik) as an alternative to following liberal and social-based state ideologies (Canonica-Walangitang, 2004). The state emphasized unity, with no divide between the state and the people. According to this concept, the state controls the existing social

organizations and regulates the new ones. The decision makers are bureaucrats, not politicians, since the state has autonomy in both policy and decision-making. Specifically, the President's economic advisors were divided into two factions, the technocrats and the nationalist/politico-bureaucrats. The technocrats are a group of western-trained economists supported by the IMF, which guaranteed Indonesia would receive development resources from the international economy. Despite skilfully balancing the differences between the two factions, this practice produced negative effects.

The central government controlled regional politics and wielded administrative authority. There were 27 provinces and 306 districts level administration with a government organisation structure that are directed by the central government. The first tier of the regional government was the provincial administration, headed by a governor, and the second tier was the district level, which was governed by regents (*bupati*) in the case of regencies and mayors (*walikota*) in the case of municipalities.

The main idea behind the New Order regime was unity and regional administration, which was considered an extension of Jakarta bureaucracy (Canonica-Walangitang, 2004, p. 92). These local governments had only administrative roles and oversaw the implementation of policies, rules and regulations. This bureaucracy administration shaped the hierarchical system in which governments at the national level are subordinate administration units that fall under Jakarta-based departments and agencies. To fund this development program, 80% of the total public expenditure in the provinces was disbursed from the national budget by central government's departments and agencies while the remaining 20% was administered through instructions from the President (*Inpres*). The latter was for infrastructure and other development proposes (Lewis, 2005).

Economic development in the New Order regime began under the government known as the "*Kabinet Pembangunan*" (Development Cabinet). The first cabinet's main attempts revolved around tackling economic affairs with the following policies: reliance on oil, revenue, export, foreign direct investment (FDI) and massive input on foreign aid. The period also witnessed a fundamental economic policy transformation at the hands of the western-trained economist technocrats, with assistance from IMF and the WB experts. There was also the establishment of intergovernmental group on Indonesia (IGGI) and its successor, the consultative group on Indonesia (CGI), which were dominated by the USA and Japan.

The economic policy of the New Order was divided into four periods: 1967–1973, 1974–1981, 1982–1986 and 1987–1997. Because political and economic policies in the centralised regime determined the state restructuring process of the 1990s, this section explores only the first three periods. The first period, spanning 1967 through 1973, marked an initial acceleration of economic growth in industrial development. The policies of this period emphasized an open door to foreign investment, foreign exchange and policy substitution.

Regional cooperation and an inward-focused orientation, with heavy reliance on high revenues from the oil-based industries, marked the second period. During this oil boom period, Indonesia's revenue improved significantly as a result of oil prices, which appreciated seventeen times over a seven-year period. The emergence of public enterprises as part of the national economy was also a hallmark of this period. The third period, spanning 1982 through 1986, marked the end of the oil boom, with Indonesia's revenue dropping as a result of plummeting oil receipts, which had amounted to as much as three-quarters of export earnings and two-thirds of government revenue. This revenue decline became a huge problem, one that led to changes in policy framework. In the post-oil economy, that framework structurally shifted to a state-led one. The structural adaptation included:

1) A reaction strategy that included devaluation
2) An institutional adjustment of the financial and tax system
3) Deregulation packages

In the last period, that spanning 1987 through 1997, the economic policy gradually shifted from state-led protection to a competitive and market oriented industries (Canonica-Walangitang, 2004,). The period also marked the first time that non-oil and gas exports exceeded oil and gas exports. This economic performance was signify with the rise of foreign expatriates and investments in manufacturing industry. The policy shifted to a market-oriented economy in which the private sector became the driven sector. Various trade reforms followed such that Indonesia became one of the new industrial countries (NICs). Indonesia's foreign economic policy during the New Order was one of economic liberalisation, growth in economic stability and a highly centralised government.

This period also witnessed the changing role of the President's advisors from politico-bureaucrats to technocrats. In the 1970s, the nationalists and the engineers influenced national economic policy. This period witnessed the development of Indonesia's development of high-technology industries under the leadership of B. J. Habibie whose notions became known as the habibienomics (Canonica-Walangitang, 2004). In the last period of the New Order regime, technocrats drew a Program for Stabilization and Rehabilitation as Decree No. 23, which became Indonesia's economic recovery and development guide. Throughout the New Order regime, members of the cabinet who heavily supported social and political reforms rather than economic- and market-driven reforms opposed the technocrats (Winters, 1996).

4.3   Spatial and Industry Uneven Development

Three decade of centralised regime leads to a wide and severe regional disparity. Indonesia experienced its most rapid development during the New Order regime, with income per capita increasing from US$ 50 to US$ 1000 between 1965 and 1997. Indonesia's GNP during this same timeframe increased 7–8% annually and 3–4 % in the following decade. Because Indonesia is an open economy, external factors, such as the decline in oil prices and the world economy recession, affect the economy significantly.

A study in pre state restructuring period in Indonesia regional development using neoclassical convergence analysis by Garcia and Soelistianingsih (1998) shows that convergence declined from 0.39 in 1975 to 0.28 in 1993. Meanwhile the β convergence analysis showed that the annual converging rate is 2.4% annually for absolute convergence and 4.5% annually for conditional. These results explain that Indonesia's income distribution is converging across time and thus heading toward Kuznets' curve (Tambunan, 2006). Another study by Akita and Lukman (1995) renders opposite evidence with increasing disparities with the comparison of coefficient of variation (CV) between the richest and poorest provinces increased from 5.6 to 7.7 in 1975 and 2002, respectively. This study also revealed that government investment and expenditure is uneven, with investment in Riau being 30 times that in the East Nusa Tenggara province.

Data in transition period between 1998 and 2001 shows that the economic crisis impact most significant in Java Island (Akita and Alisjahbana, 2002). The paper shows an extreme comparison that Java Island, which only comprising 6% of total island area but it has 58.6% of the population and 54.1 % of the non-oil GDP, while Papua Island

with 20% of the total island area has 1.0 % of the population and 1.6 % of the non-oil GDP. This figures shows that Indonesian disparities are most significant between Java-Bali and the rest of the country (Hill, 2000, pp.230). In these Islands, the country's footloose industrial activities are concentrated, where both export-oriented and import-substituting activities take place, such a pattern is consistent with the theory of sub-national comparative advantage. The land prices and wage levels in these islands are higher as is the role played in commercial assets. The proximity to political powers is also greater. Furthermore, these islands are also providers of high-value services such as finance, education, health, and international transportation. For instance, the BPS provincial data in 2004 showed that the poverty rate in Jakarta was 3.18% compared to Papua at 38.69%. At the same time, the education rate was 9.7 years in Jakarta and 5.8 years in the province of West Nusa Tenggara/*Nusa Tenggara Barat* (NTB). In addition, economic disparities also occurred in 14 Indonesia metropolitan areas, with 11 of these being located in Java (Bappenas, 2006).

Similar picture was found via sectoral analysis, with the manufacturing industry exceeding agricultural and service industries. Indonesia's industrial structure change corresponded with the global industrial structure change, with less agriculture and increasing manufacturing and service industries (Kuncoro, 2004b). Agriculture's share in the GNP declined between 1968 and 2004 from 51% to only 15.4 %. Meanwhile, the manufacturing sector contribution increased from 8.5% to 28.3% during the same period. In the early 1970s, the number of workers in the agriculture sector represented 67% while manufacturing contributed 7%. Since 2006, the share of agriculture workers had declined to 44.5% while manufacturing labours had risen to 12.16%. This tendency illustrates that Indonesia is still an agricultural-based country with an emerging manufacturing and service sector.

Indeed, between 2001 and 2005, the manufacturing GDP grew by an average of 5.4% annually and contributed 29% of the total GDP. Moreover, manufacturing accounted for nearly 12% of the employed labour force, which reached almost 93 million in 2004. In the same year, the large and medium industries (20 or more workers) employed only 40% of the total manufacturing workforce, an increase of 36% over 1986. The manufacturing industry had higher labour productivity than the average overall industry, with a large variance taking place within the industry. The valued-added of workers employed in manufacturing contribute on average twice as much as

the average whole sector workers. Relative productivity remained largely unchanged over the period 1988–2000.

The data between 1976 and 1996 showed no major increases in the manufacturing industry's labour productivity, except for small industries (less than 20 workers), which were mostly part of the informal sector. A study on Indonesian manufacturing estimated that medium firms (20 to 99 workers) experienced the lowest rate of increase at 0.3% (Berry, et al., 2001). Meanwhile, the productivity growth for large firms (100 workers or more) peaked at 3.4% between 1986 and 1996 during a period of significant inflows of foreign direct investment that ended with the 1997–1998 crisis. The differentials in productivity growth explain the persistence of the productivity gap between medium and large firms in Indonesia. That gap increased from about 220% in 1975 and 1986 to 290% in 1996. A summary of employment growth from 1994 to 2005 according to firm size is displayed in Table 4-1.

In the trade sector, from 1971 to 1982 when the economy was dominated by natural resources and from 1982 to 1996 when various economic reforms (e.g., trade, investment and financial liberalisation) was introduced, Indonesia's GDP rate increase by 3.27% to 5.26% annually. Later, the Asian monetary crisis slowed down Indonesia's economy and fell an average of 0.39% annually during the timeframe spanning 1997–2002. After the crisis, Indonesia's GDP growth rose 4.78% to 6.3% annually, with the service sector experiencing the highest growth at rate of 7%. During this period, Indonesia GDP per capita is $1,003 and GDP growth of up to 5.4% annually (Kuncoro, 2007). The country also had surplus trade activity, with a trade balance between US $11–24 million from 1997 to 2005.

Table 4-1 Firm Employment Size in Medium and Large Manufacture, 1994 and 2005

Firm Size (Employment)	Total Firm	
	1994	2005
20-49	9300	10931
50-99	3021	3305
100-199	2276	2527
200-499	1974	2180
500-999	901	966
1000+	691	820

Source: BPS, Author's own calculation

4.4 Regional Institutional Shift in State Restructuring

The institutional shift that resulted from decentralisation and the AFTA are discussed from regional perspectives. The decentralisation enhanced the role of local governments and introduced new governance between various levels of governments.

The Role of Asian Financial Crisis

To examine the politico-economy situation that leads to the state-restructuring in Indonesia, two factors should be reviewed. The first factor is the financial crisis that hits Indonesia economy that leads to the second factor, the latent social and economic unrest. The global economy situation that strikes Indonesia and East Asia in 1997 plays a crucial factor in shaping the politico-economic shift in Indonesia. The financial crisis became an external shock that shake the foundation of the New Order regime. Financial crisis destabilized the economy and increased inflation that plummeted the national economy.

This thesis argues that financial crisis as a exogenous factor that triggers domestic politico-economy shift. In the economy side, the result of the on-going deregulation and trade liberalization was the new actors (business actors and conglomerates) that protest their objection on the financial situation that hampers their business and wealth. On the other hand, as the financial crisis pressures deepened, political and social unrest emerged. While politically, the crisis awaken the latent unsatisfactory regional actors. Intensive demands emerge to overcome uneven regional development as a result of three decades of the New Order regime. The regime's strong centralized and patronized governance were replaced by demands to locally manage local natural resources and taxes revenues. The unfair revenue sharing proportion and top-down governance with low political participation limits the regions' from its own development plans. Following the fall of New Order regime, new ideas and discourses emerge to shift political and administration responsibilities, especially the intensification of decentralization discourse across Indonesia. The result of this two events was the fall of the centralized New Order regime. Along with this, the dominant role of politico-bureaucracy and technocrat ended marked with Habibie's lost in the general election 1999.

During the transition period, Habibie administration attempted to accelerate the regional decentralisation with the legislation of two decentralization law, which are the

No.22 for political and administrative devolution and 25 in 1999 for fiscal devolution. Decentralisation began in 2001 despite doubts regions' administrative preparedness and human capital capacities (Seymour and Turner, 2002). There are two reasons that sets decentralization applied at the district level. First, the political reason was to prevent provinces that might leads to independent conflicts.

While the governmental and efficiency proponents claims that local are more proximate to understand and have the knowledge of local needs. The implementation of the decentralisation law is reflected with several administrative and fiscal transfers. First, the local offices (kantor wilayah) of the state ministries were converted as regional agencies, implying that the development are funded by central government and performed by regional governments, rather than by the central government as in the centralised regime. Second, the legislation of laws and regulations that are significantly different substantially and quality. Each regions have individual developmental objectives and interests that are channelled through the creation of these policies. However, these administrative and political autonomy appeared to harm economic growth climate such as more than 200 local regulations has been cancel by the central government because it threatens investment climate with more levies and additional taxes, promotes inter-region competition and increase rent seeking.

There are two reasons that unpinned local development during the centralised regime. First, the head of regions, Governor, Mayors and Regents, are appointed by the central government without direct and transparent election process. This leads to the absence of political and economic responsibilities by the local governments to develop the regions. Second, as the head of regions are appointed by the central government, their have limited authority politically and economically. This hinders their capacities and responsibilities to established viable policies to mobilise local resources for economic development.

Decentralisation and Government Administration Shift

Following the financial crisis and political changes it experienced, Indonesia set up its decentralisation era. The implementation of law (Undang-undang) 22/1999 and 25/1999 marked a new administration and fiscal decentralisation in Indonesia. The decentralization was conducted at the local level as political and government reason. Political reason was that the provincial level might leads to independent conflicts. While the governmental and efficiency proponents claim that local governments are closer to

understand to the people and have the knowledge of local needs. This law marked the abolition of a hierarchical relationship between the central, provincial and district governments. Meanwhile, Law 25 regulated the financial relationship between the regional and central governments (Booth, 2003). Undang-undang 22/1999 had several points, which boiled down to reducing the central government's power and increasing the power of the DPRD/local parliamentary.

According to the decentralisation Undang-undang 22/1999, decentralisation at the provincial level was of the de-concentration and devolution form. On the other hand, municipalities/regencies and villages work from the devolution form. The local governments are responsible for transportation, health, local economics, and other local region-specific sectors (Chandra, 2008). Decentralisation, however, includes several sensitive sectors such as foreign policies, national security and defence, national finance, law, religion, macro economy policies and macro political policy. The law enables regions to form cooperations with other organizations in a foreign country, both public and private owned. These opportunities should to be an opportunity for the regional governments to expand local development through domestic and international cooperation agreements.

The district governments are responsible for making political decisions such as government acts and regulations. They also hold responsibility for implementation. The functional office is autonomous and falls under the municipal/regency government. While the provincial government, in addition to administrating its own provincial government offices, also coordinates the central government's provincial agencies, such as the field administration offices in education, religion and port administration. The decentralisation law granted higher authority and responsibility for the local parliaments (DPRD). At both the province and municipality/regency levels, the members of parliaments are elected through direct political election. The local parliament is responsible for representing the people and observing the government administration. It is also charged, together with the government, with generating acts and regulations.

The undang-undang 25/1999 has several points, which revolve around fiscal laws on shared revenues for local governments. The fiscal decentralisation law also provides local governments with the ability to borrow domestic and foreign funds for regional governments, The law, however, does not specify whether the regional government means provincial or district governments. Furthermore, the law does not specify how much funds the regional governments are allowed to borrow. Following literatures on

decentralisation (Rodríguez-Pose and Bwire, 2004; Rodríguez-Pose and Gill, 2005; Seymour and Turner, 2002), the fiscal decentralisation in Indonesia has five main goals. First, to decrease fiscal imbalances between the national and regional government (vertical imbalances) and between regions (horizontal imbalances); second, to improve public services; third to enhance national resources' exploitation efficiency; forth to improve governance, transparency and accountability in fiscal transfers to regions; and fifth, support fiscal in macroeconomic policies. Furthermore, fiscal decentralisation extends the power to raise local taxes and promote local finance management accountability to regions.

Currently almost a decade of decentralisation, there are numerous cases that hinders regional growth including local regulations that harms investments, natural resources related social and political conflicts, and overlapping administration and responsibilities. These problems and its impact on regional development are discussed in the following empirical chapters.

The ASEAN Free Trade Area in Indonesia

The ASEAN Free Trade Area (AFTA) was established at the ASEAN summit in 1992. Its council supervises, coordinates and reviews the implementation of the Common Effective Preferential Tariff (CEPT) scheme for ASEAN FTA. The main objective of this agreement is to increase the international competitiveness of ASEAN industries and the region as an investment destination. This aim is pursued by minimising the costs of investing and business to attract more FDI and intra-regional investment and trade activities. The AFTA has four key measurement goals for trade liberalisation: (1) reduce tariff rates under CEPT-AFTA; (2) eliminate non-tariff (NTB); (3) prohibit quantitative restrictions; and (4) enhance trade facilitations such as standard harmonization and test and certification of products.

The main tool for the ASEAN free trade area's success is the common effective preferential tariff (CEPT) that established in 1993. The CEPT gradually lowering and abolish intra ASEAN trade tariff based on industrial sector rather than product-by-product. This approach is more reliable and easier to implement as studied by Elliot and Ikemoto (2004). This regime stipulated that all products from ASEAN country members must have at least 40% ASEAN content. Research by Narjoko and Amri (2007) shows that the tariff under AFTA remains progressive. It has fastened the zero tariff targets as of 2003, which have ranged between 0% and 5% in the 15 years since 1993. AFTA

responded to the Asian financial crisis of 1997 by accelerate the zero percent tariff target, which is to be achieved in 2010 for ASEAN-6 and in 2015 for new country members. This former objective has been applied with exception on commodities included in the sensitive list (SL) of individual original members. The intra-trade is enhanced through the reduction and eventual elimination of trade barriers while allowing members to preserve domestic trade policies toward the rest of the world. Hence, AFTA is meant to be a rallying point for greater economic integration within the member countries. It is also intended to make the countries more competitive for foreign direct investment (FDI).

The ASEAN FTA (AFTA) CEPT consists of four main product categories, the inclusion list (IL), the temporary exclusion list (TEL), the sensitive list (SL), and the general exclusion list (GEL), all included either in the Fast Track Programme or the Normal Track Programme (Chandra, 2008). The IL category is composed of products under immediate CEPT liberalisation and should be included in the Fast Track Programme tariff-reduction measure. The TEL consists of products that are protected for a certain period of time and should be transferred into the IL by January 1996. The SL specifically consists of agricultural products as well as other non-tariff barriers. The sensitive list appears because several member countries are agricultural producers and consumers. Lastly, the GEL is a list of products that were excluded from the national trade liberalisation programme for security reasons.

Products that can benefits from the CEPT procedures are as listed below (ASEAN Secretariat):

1. The product should be in the inclusion list of both the exporter and importer country and the tariff should be either above 20% or below 20%.

2. The product has experienced declining tariff progress that has been approved by the AFTA commission.

3. The product should have, at least, 40% ASEAN content.

4. All products with tariffs between 0% and 5% are automatically included in the CEPT.

The tariff lines and reduction policies in AFTA as individual countries sets their own tariff schedules and choose list of goods and commodities that are included in the CEPT tariff. For example, the Fast Track Programme stipulates that product with a tariff higher than 20% should be reduced to 0%–5% in 10 years (in January 2003). Similarly, products below a 20% tariff will be reduced to 0%–5% percent within seven years.

Under the Normal Track Programme, products with tariffs above 20% may be reduced to 20% in five to eight years, and then further reduced to 0%–5% in the subsequent seven years. Moreover, products with a tariff below 20% would be reduced to 0%–5% within 10 years. As for ASEAN-6, in 2005 there 99% of CEPT IL target was reduced to a 0%–5% tariff and 64.2% achieves the zero tariff. In 2005, all CEPT lists were transferred to IL and the average tariff was 1.87% compared to 12.76% in 1993. Despite the tariff being lowered, export performance within ASEAN member countries remained at a low level coming in at 22.5% in 2005, a slight increase over the 21.1% in 1993 (Chandra, 2008).

There is also a difference in schedule deadlines for original and new member countries. The original members achieved the deadline for a 5% tariff reduction in 2002. Only those products that were included in the inclusion list (IL) in 2002 were not reduced to 0%–5%. The new framework advised that the original six countries eliminate the CEPT in 2007 and that the new members do so in 2012. Overall, in 2002 the CEPT product list's 2003 deadline was met and more than 99% of the ASEAN six countries are now subject to a rate between 0% and 5%. An extension for the new members to realize CEPT and schedule deadlines was granted. For instance, in 2005, Cambodia, Myanmar, Laos and Vietnam (CMLV) countries had achieved 87.2% on the CEPT IL, and 71.05% are currently are at the 0%–5% tariff.

Chapter 5 Dynamics of Indonesian Regional Disparities

5.1 Introduction

Competition due to economic globalization has encouraged Indonesia to deregulate industrial tariffs and enter trade liberalisation such as the ASEAN Free Trade Area in 1992. Another event, following the financial crisis 1997 and the fall of the New Order regime, the country has shifted into a highly decentralised system. Regional development in the state-restructuring era is determined by international economy and local capacities. Studies of the regional disparities have been widely linked with devolution and trade liberalisation across the world. International studies show that industrial types (Fan and Scott, 2003), and main economy sector and political order (Shankar & Shah, 2003), affect the level of disparities between and within countries. Consequently, theories and econometric analysis on regional inequality and convergence have also been developed in the last two decades, for example, Quah (1993), Martin and Sunley (1998), and Barro and Sala-I-Martin (2004).

There are two aims for this chapter, first, to understand regional spatial disparities; second, to explore the presence of sectoral-based spatial divergence. This chapter argues that the institutional shift that occurs in Indonesia should not be seen only in regional economic disparities, but also as geographical and sectoral differences. Given the change of political regime and the increasing trend towards devolution and trade liberalisation, it is important to examine whether such institutional shifts influence regional development in Indonesia. This chapter found evidence of geographical disparities with significantly higher economic growth difference between Western and Central and Eastern regions. The sectoral analysis shows high industrial agglomeration in the Western region.

The chapter starts with a section on data and methods of statistical analysis. This is followed by a distribution indices analysis across regions that includes coefficient variation (CV), Theil index, and σ Convergence. The next section explores geographical and sectoral convergence analysis. Finally, the conclusion draws on the findings from this chapter.

5.2 Research Data and Methods

The study uses district-level statistical data of gross domestic product (GDP) per capita for geographical analysis, and uses firm-level data for industrial sector analysis. Based on the reference year 1999, the study used 292 districts as the initial condition before the decentralisation. While there are more than 20,000 firms annually for the manufacturing statistics data.

Table 5-1 displays statistics of variables used in the chapter. The dependent variable is growth per capita GRDP, which is used as a dependent variable for the convergence in section four. The other variables are GRDP per capita and population variables that will be used throughout the chapter for various disparities and convergence analysis. This study follows several regional convergence studies on Indonesia (McCulloch & Syahrir, 2008; Miranti, 2010) that divides the economic period into three eras: liberalisation (1990-1996), transition (1997-1998) and recovery period (1999-2002).

Table 5-1 Descriptive Statistics

	Mean	Standard deviation	Minimum	Maximum
Growth per capita	.6435281	1.067996	-1	24.9815
GRDP per capita, initial year	14.5959	.8375872	12.17857	18.22126
Population, initial year (log)	13.1002	.8619931	10.03162	16.00864

Source: Author's own calculation

Graphical Distribution

To observe regional economic distribution, I use the Lorentz curve by using the initial GDP per capita level and its growth. This method calculates the area between the Lorenz curve and the 45° line. The further the Lorentz curve is from the line, the higher the disparities (Gil Canaleta et al., 2004).

Distribution Index

Distribution index is a generalisation of three indices that relate distribution and disparities across regions. The first index is the coefficient of variation (CV) following Williamson (1965) as the dispersion index to describe the variation in the income of a region. The higher the CV index the larger the disparity among regions. The formula is written as follows:

$$CV = \frac{\sqrt{\frac{1}{n}\sum_{i=1}^{n}\left(x_i - \frac{1}{n}\sum_{i}^{n}x_i\right)^2}}{\frac{1}{n}\sum_{i}^{n}x_i}$$

(1)

Where xi is the x variable of the it^h region (province or municipalities/regency), n is the number of regions, pi is the population of the ith region, and P is the total population. Since this research studies the disparities among regions, CV is constructed from regional income or gross regional domestic product (GRDP) per capita (Fujita & Hu, 2001). The weakness of this method is that it considered only initial and end points of the period that do not take into account fluctuations within the period. Thus, any coefficient measured should be seen as an indicator the dynamic between periods (Azzoni, 2001).

An alternative measurement for regional inequalities is the Gini Coefficient. The equation of Gini coefficient as follows:

$$G = \frac{1}{x}\sum_{i} p_i \sum_{j} p_j \left| x_i - x_j \right|$$

(2)

The Theil index is an entropy calculation that decomposed inequality index analysis from a higher spatial scale to lower level regions, as well as between and within groups of regions. In some literature, the group could be regions of a country while others are groups of provinces. Many studies have used this method to analyse factors determining income inequality (Gil Canaleta et al., 2004). Following Akira and Alisjahbana (2002), this study considers hierarchical structure of inequality in Indonesia: region, province, and district. With district as the underlying regional unit, the inequality measures province as the sum of district inequality, and region as the sum of all provinces. This is measured by Theil inequality index as below:

$$T = \sum_{i=1}^{n}\left(\frac{P_i}{Pid}\right)\ln\left[\frac{P_i}{P_{id}} \Big/ \frac{Y_i}{Y_{id}}\right] = \sum_{i=1}^{n} p_i \ln t_i$$

(3)

Where: P is the total population
             Y is GRDP per capita
             Subscript i is provinces
             Subscript d is districts

n=26 for the number of provinces in this empirical analysis.

This research requires this index to exhibit and compare inequality at three spatial levels of administration (region, province, and district), and to allow analysis of a certain district contribution to provincial inequality. With these analyses, the research can reveal convergence progress among regions within a particular country across time. The offset of using this index is that it requires large data at various spatial levels over a long time-period with complex mathematical methods.

The last index in the distribution indices is to view presence of income convergence among regions. There are two types of convergence analysis, the σ convergence and ß convergence. The σ Convergence is measured as the standard deviation of GDP per capita within province and district, and ß convergence is a regression analysis to study the convergence rate (Barro, 1991). The ß convergence analysis is discussed and applied further in the following quantitative chapter.

The σ Convergence analysed dispersion of GDP per capita in each administration level. While ß Convergence explains that the faster the poor regions grow relative to the rich regions, the sooner they catch up, therefore, convergence will be faster. The cross sectional dispersion of per capita income or product is measured with its sample variance of log given by:

$$\sigma^2 = \frac{1}{N} \sum_{i \to 1}^{N} \left[\ln(y_{i,t}) - \mu_t \right]^2$$

(4)

Where μ is the sample mean of ln(yi,t). If N is large, the sample variance will be close to the population variance. From equation (1) we can write the equation for the evolution of σ²:

$$\sigma^2 = (1 - \beta)^2 \sigma_{t-1}^2 + \sigma_t^2$$

(5)

However, this is not a satisfactory condition as new disturbances may arise whether the value of σ is above or below the steady state. (Petrakos et al., 2005; Barro et al., 2004). As an empirical study, this study will be applied to a cross section of convergence analysis across province and municipality/regency in Indonesia between 1970-2005.

Geographical Distribution Indices

This chapter uses geographical distribution indices to acknowledge spatial variation of regional economic development. The first method is the rank size method that ranks the regions' GDP per capita gradually, and regresses the GDP per capita with its rank. The rank size function allows us to describe the highest and lowest level of disparities across time based on regional ranks (Fan & Casseti, 1994).

Another geographical distribution index is the cross section dynamics in economic growth models (Quah, 1993, 1996). This method adopts technical calculation from the Markov transition matrix, in which a square matrix describing the probabilities of a particular value moves from one state to another in a dynamic system. By substituting the transition matrix with a stochastic kernel, we can show the probabilities of transition between a hypothetically. The stochastic kernel is obtained by estimating the density function of the distribution in a given period, t+K, conditioned on the values corresponding to the previous period. Hence, the joint function at moments t and t+K is estimated and divided by the implicit marginal distribution to obtain the current conditional probabilities (Ezcurra et al., 2006 p. 406). In the matrix, each row represents the probabilities of moving from a respective row to the other states. The first column explains the number of provinces in a particular GDRP per capita state in the initial year. This method measures income, Ft, at a given time t+1, Ft+1, using M to map distribution into another.

This study is important to analyse the dynamic position of a particular region within the regional system. Over time, the analysis of cross section dynamics could show the presence of convergence or divergence of regional economic development. Using this method, Quah (1996) concludes that there is divergence among regions, with a limited number of regions having higher growth rate than other regions. This evidence leads to bi-polarisation of coalition of the club convergence and the divergence convergence dynamic rate. The ability to demonstrate the dynamic position of each region across time while integrating neo-classical B convergence analysis is the strength of this measurement. The weak point is that the measurement category depends on the knowledge level of the researcher. The more experience researcher has with this calculation, the more accurate the calculation and analysis will be.

The evolution is describe by the following motion:

$$F_{t+1} = M \cdot F_t$$

(6)

Sectoral Distribution Indices

The Herfindahl index (H-index) is utilised in order to measure industrial localization within a region. The measurement calculates P_{ij}, which represent the proportion of industry sector i in region j (Equation 5). The symbol P_{ij} is defined as X_{ij}/X_i, where X_{ij} is the activity of sector I in region j and Xi is the total amount of activities sector i in a region (Rhoades, 1993).

The H-index has the highest value of one; this explains that activity in sector i is concentrated in one region. The lowest value of zero shows that the activity of sector i is perfectly dispersed. In this research, the H-index analysis covers the industry establishment and employment data. A small index indicates a competitive industry with no dominant players. If all firms have an equal share, the reciprocal of the index shows the number of firms in the industry. When firms have unequal shares, the reciprocal of the index indicates the 'equivalent' number of firms in the industry. There is also a normalised Herfindahl index where it ranges from 0 to 1. An H* index below 0.01 indicates a highly competitive index; an index below 0.1 indicates an un-concentrated index. It is computed in Equation 7. However, this index fails to observe the relationship between regions and their spatial dependence. An economic spill-over from region A to region B will be considered as a decline of economic growth in region, hence a close observation is needed to accompany this index. Furthermore, the index neglects to draw an absolute conclusion based on the comparison between industries within a region (Sjöberg and Sjöholm, 2004).

$$H = \sum_{i=1}^{n} P_i^2$$

(7)

$$H^* = \frac{(H - 1/N)}{1 - 1/N}$$

(8)

5.3 Regional Economic Distribution Indices

5.3.1 Spatial Pattern of Wealth and Growth

As decentralisation is at the district level, this research also analyses the provincial level to get an overview of the distribution of inequality as determined by common traditions, and to understand this within provincial inequalities. Following Fan and Casetti (1994), this chapter examines wealth distribution in Indonesian regions using two approaches: the systematic inequality, and the inequality variations.

The first method measures the regional distribution using the Lorenz graphs shows the inequality level between Indonesian districts using constant price year 2000 (Fig. 5-1). The further the Lorenz curve is from the normal line, the higher the disparity level. Thus, we can see that in the first graph, which is the non natural resources GRDP, per capita has a larger area of Lorenz curve. This indicates higher disparities compared with the natural resources, shown in the second graph. This explains why we need to be cautious when measuring disparity levels using the natural resources GDP, as it might cause a bias result as been shown here:

Figure 5-1 Lorenz Curve GRDP per capita and GRDP per capita (non-natural resource)
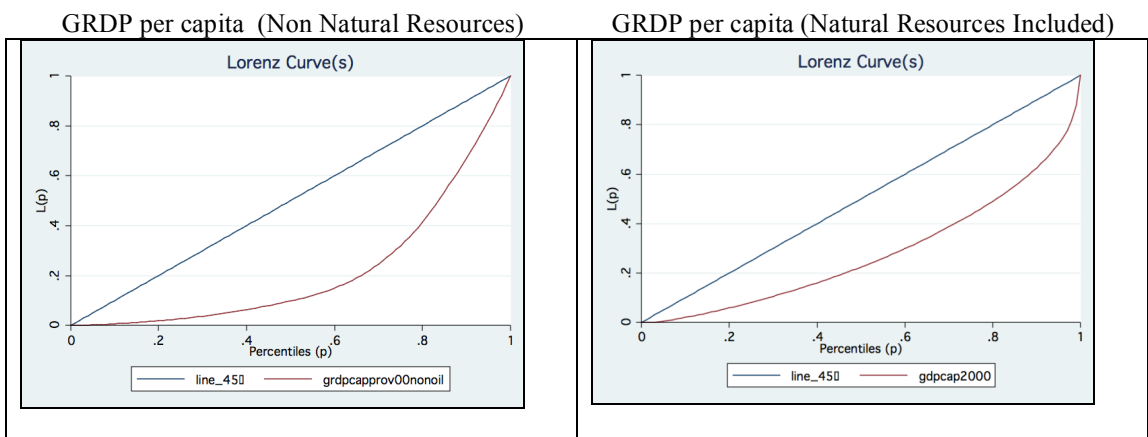
Source: Author's own calculation

The second method uses the σ convergence analysis to measure the standard deviation of the log provincial GDP per capita between 1971-2005 for all provinces except East Timor (Fig. 5-2). The graph indicates that Indonesian disparities increased with the start of the oil and natural resources trend in early 1970s. The regional dispersion of provincial GDP per capita increased from 0.25 to 0.3 between 1971 and 1975. After the oil boom period in 1984, the dispersion fall and hit the lowest in 1995, when it reached 0.25. Afterwards, financial crisis causes dispersion between the

provinces, but presently the σ Convergence levels are similar to those before the financial crisis. It can be seen that the inequality index in Indonesian provinces based on coefficient variation are around 0.8. During the early 1970s, provincial GDP per capita dispersion was about 0.9 and it fell in the mid 1970s as the economy developed. In the early 1980s, the oil boom and change in Indonesia's account record led to sudden growth in the disparity indices (Resosudarmo and Vidyattama, 2006). Almost two decades later Indonesia experienced the financial crisis in 1997. This had a significant effect on Indonesian disparity and increased the index to 1.01. The disparity increased because several provinces still experienced growth in their economy: Jakarta, Riau, and East Kalimantan. Besides that, decentralisation and trade liberalisation may also have caused an increase in the disparity index before it decreased in 2005.

Figure 5-2 Dispersion of per capita Provincial Incomes, 1971-2005
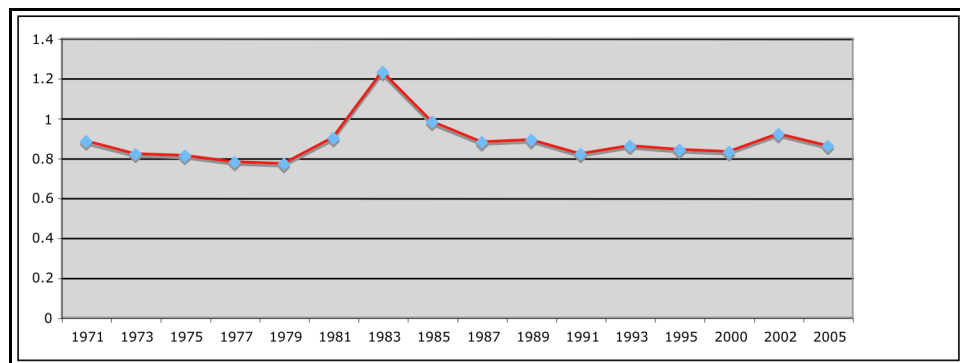
Source: Author's own calculation

The third method uses a comparison between administration levels. Inequality rates between districts are higher than between provinces, and after decentralisation, there is convergence between districts (Fig. 5-3). Inter-provincial inequality has been relatively stable except during the financial crisis that peaked at 0.388 before it declined. On the other hand, there were rapid declines in inter-district inequalities after the decentralisation period. The graph shows that there is evidence of inter-provincial and inter-district growth convergence. The three measurement graphs indicate a decline in inequality during the periods and sub periods under observation (Fig. 5-4). The two references in 1998 and 2001 explain inequality dynamics during the sub periods with inequality declining rapidly during 1994-1997 before it increased again in 1998. During the transition period, inter-district inequality dropped slightly, and it continues to decline throughout the post-decentralisation period.

Fourth, the distribution indices figure indicates that districts disparities among provinces in Indonesia have declined over the years (Table 5-2). However, if we decompose to three types of regional division–within province, between province, and between regions-we can observe that disparity among districts within provinces has declined sharply, whereas disparities between provinces have also declined although not significantly over the period. An interesting finding is that disparities between regions (Indonesia's regions are commonly separated into the western, middle, and eastern parts of the country) increased from the early 1990s and peaked during the early 2000s before reaching its current position. This supports that the eastern region of Indonesia has been severely left behind in terms of its economic welfare.

To indicate spatial disparities, the distribution indices are measured by province and major island (Table 5-3). The GDP per capita of Indonesian regions has increased slightly by about 12%, that is, 2.3% annually between 1995 and 2000. Table 5-2 indicates that the richest group of regions accounts for ten times that of provinces in the poorest group in each observation year. An interesting analysis is that after the financial crisis in 1997, Indonesian regions experienced a divergence, with increases in the log variance of regional GDPs of 31%. In 2005, the regional disparities gradually converged, although not at the same level as before the crisis, with a convergence rate in the log variance of regional GDP of 7%.

Figure 5-3 GRDP Province and District Inequality index

Source: Author's own calculation

87
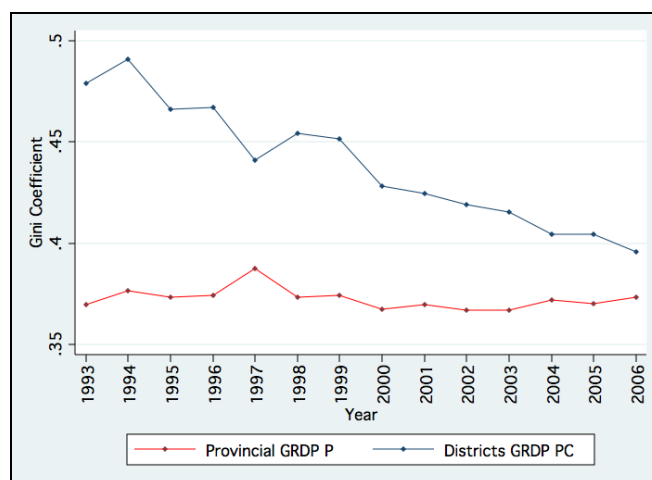
Figure 5-4 Inter-district inequality per capita GDP, 1993-2006
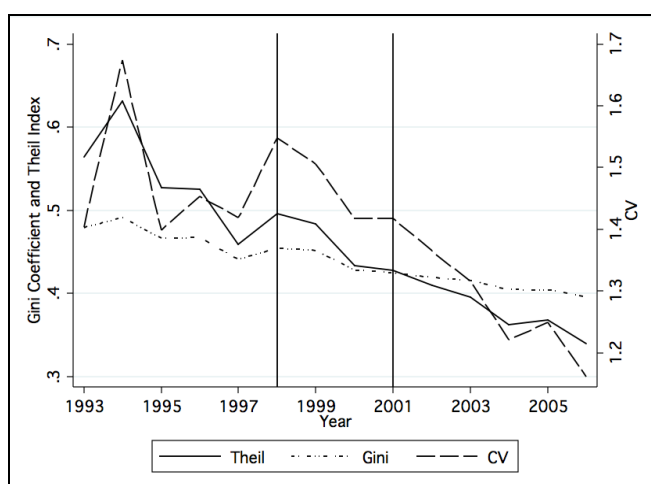
Source: Author's own calculation

Table 5-2 Measurement of Disparities 1993 - 2006

Year	CV	Theil	Gini Coefficient
1993	1.40413	0.56381	0.47917
1994	1.67420	0.63149	0.49103
1995	1.39815	0.52686	0.46629
1996	1.45366	0.52556	0.46721
1997	1.41834	0.45913	0.44085
1998	1.54714	0.49618	0.45442
1999	1.50618	0.48322	0.45155
2000	1.41737	0.43366	0.42807
2001	1.41751	0.42757	0.42469
2002	1.36499	0.40980	0.41909
2003	1.31536	0.39587	0.41564
2004	1.22128	0.36179	0.40444
2005	1.24887	0.36790	0.40438
2006	1.16180	0.33914	0.39596

Source: Author's own calculation

To overview provincial disparities between different levels of wealth, I use the rank-size and cross-section dynamics analyses. The graph below (Fig. 5-5) shows the relationship between the rank of provinces and distribution of GDP per capita in Indonesia between 1993-2006. The graph indicates that distribution between the highest GDP per capita provinces is more scattered than the distribution between middle and low GDP per capita provinces The pattern has remained relatively stable across the period under observation, except during the financial crisis from 1997-1999 when the distribution between rich provinces was less steep compared with other periods. While the range of GDP per capita in the rich regions increased on average during these periods, the average GDP per capita for middle and poor provinces remained the same.

To show the dynamics of regional wealth and growth, I use the cross section dynamics model as proposed by Quah (1993, 1996). Equation (6) calculates for Indonesian provinces during one five-year transition between 2000 through 2005 using provincial GRDP per capita and the national average (Table 5-4). The results of the estimations are reflected in the graph, in which the GRDP per capita is compared with the annual averages of Indonesian regions (100). The table's first column is the total number of transitions with starting points in that province's income. For example, the second row shows that in the overall sample—across 26 provinces during one 10-year transition—15 provinces are in state 2, with incomes between 40 percent and 80 percent of the Indonesian GRDP per capita average. The next columns in the same row indicate that 50% of these 2 provinces remained in the same state, and another 50% became wealthier and transited to state 2.

The analysis shows that province levels remain less persistent, as argued by Quah (1993), since only less than 80 % provinces in state 2 and 4 stay in the same state. This fact shows that Indonesia's provinces experienced a dynamic development, both growth (for middle income provinces) and decline (for the rich province). It is interesting to note that there are more provinces in the middle-income range that increase or decrease compared with those that remain in the same state. To conclude, with higher state provinces moving to lower state, and low and middle state provinces transiting to higher states, it can be assumed that the convergence process might be operating among Indonesia regions.

5.3.2   Spatial Distribution of Manufacturing Industry

This section explores the agglomeration level of an industry in order to understand its industrial contribution to a region. This research follows other studies that used the H-index to study industrial contributions to spatial disparities with different concentration measurements, such as income, population land use, worker productivity and value added rate (Fan and Scott, 2003; Sjöberg and Sjöholm, 2004).

The geographical distribution of manufacturing in Indonesia at provincial levels is shown in Table 5-5. The table indicates that the highest concentration of the manufacturing sector is in Java. In 1993, the island accounted for more than 80 percent of employment and value added total shares in Indonesia's manufacturing sector. In 2005, the employment share increase to 84.3% but the value-added share dropped to 79.2%. A study by Balisacan and Fuwa (2004) explains a significant increase in

employment and value add share in West Java province was due to structural change in the manufacturing sector and this influences the fluctuation. From this analysis, it can be revealed that although employment share increased in the post state-restructuring period, the value-added share decreased to 33.5% in 2005. The shift in manufacturing sector shows that it is moving from Jakarta to West Java as indicated with a decrease of Jakarta's employment share from 11.7% in 1993 to 9.1%. However, the value added share has increased slightly to 18.6% although it has not reached the initial level.

Two other provinces that have substantial amount of manufacturing is North Sumatra and Riau province. In North Sumatra, there is a decreasing trend for the period for both employment and value-added share from about 5.3% to 3.6%, and 3.6% to 3.5%, respectively. The Riau province provides an interesting finding, as there is evidence of a persistent increase in the value-added share despite the employment share that has decreased from 1.9 % in 1993 to 1.5 % in 2005. This finding confirms the region's economic advantage earned by being in a free trade zone (FTZ), and a part of the Singapore-Riau-Johor growth triangle.

The intra province concentration pattern is shown in Table 5-6. The figures indicate the largest districts within the provinces and the district's manufacturing employment and value-added shares. Several points can be concluded from the data shown in the table. First, the largest districts indicate differences in employment and value-added shares; the situation illustrates different spatial distribution and manufacturing industries. Second, there is a dynamic of the largest districts over time, with 15 of 26 provinces having different largest districts in manufacturing employment and/or value added shares. Third, the manufacturing employment and/or value added shares in the largest districts decreased in 13 provinces. The case of West Java shows that the industries have expanded to the border districts and have moved from the traditional provincial capital. The figures show that the highest employment and value-added shares shifted from Bandung and Serang to Bekasi, which borders on Jakarta. In Riau province, however, the Batam district retained the highest employment and value-added shares within the province, which confirms the previous argument regarding its status as a FTZ and its inclusion in the Singapore-Riau-Johor growth triangle.

Table 5-3 Districts GDP per Capita Variation of Log, Theil Index, and Gini Coefficient (in thousand Rupiah)

	1995			2000			2005		
	CV	**Theil**	**GC**	**CV**	**Theil**	**GC**	**CV**	**Theil**	**GC**
Aceh	0.839	0.420	0.352	1.006	0.323	0.356	0.561	0.138	0.283
North Sumatra	0.267	0.037	0.151	0.340	0.057	0.189	0.326	0.051	0.171
West Sumatra	0.466	0.091	0.225	0.347	0.058	0.186	0.282	0.037	0.147
Riau	0.893	0.286	0.354	0.734	0.258	0.389	0.675	0.205	0.342
Jambi	0.000	0.000	0.000	0.192	0.018	0.105	0.224	0.024	0.122
South Sumatra	0.317	0.049	0.177	0.371	0.069	0.211	0.334	0.057	0.191
Bengkulu	0.330	0.055	0.165	0.345	0.061	0.182	0.382	0.075	0.209
Lampung	0.513	0.106	0.220	0.213	0.022	0.114	0.234	0.026	0.124
Jakarta	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
West Java	0.703	0.197	0.336	0.727	0.211	0.350	0.709	0.204	0.345
Central Java	0.731	0.215	0.353	0.655	0.171	0.310	0.686	0.183	0.318
Jogjakarta	0.500	0.107	0.235	0.462	0.092	0.213	0.448	0.087	0.207
East Java	1.603	0.561	0.470	1.725	0.608	0.478	1.623	0.565	0.468
Bali	0.489	0.097	0.221	0.376	0.062	0.184	0.358	0.057	0.182
West Nusa Tenggara	0.206	0.022	0.115	0.727	0.202	0.316	0.741	0.212	0.331
East Nusa Tenggara	0.512	0.100	0.214	0.480	0.088	0.198	0.481	0.091	0.210
West Kalimantan	0.513	0.112	0.248	0.393	0.070	0.200	0.399	0.072	0.190
Central Kalimantan	0.671	0.186	0.314	0.267	0.039	0.134	0.207	0.021	0.115
South Kalimantan	0.355	0.061	0.192	0.426	0.086	0.231	0.430	0.085	0.227
East Kalimantan	0.353	0.058	0.185	0.890	0.309	0.405	0.839	0.277	0.382
North Sulawesi	0.353	0.061	0.194	0.601	0.173	0.329	0.574	0.159	0.312
Central Sulawesi	0.316	0.051	0.171	0.304	0.052	0.163	0.296	0.048	0.159
South Sulawesi	0.334	0.048	0.159	0.347	0.055	0.181	0.412	0.075	0.210
Southeast Sulawesi	0.242	0.029	0.126	0.335	0.054	0.179	0.413	0.081	0.223
Maluku	0.457	0.098	0.242	0.444	0.100	0.249	0.412	0.083	0.226
Papua	1.650	0.872	0.630	1.916	0.979	0.636	1.673	0.782	0.578
Sumatra	0.645	0.147	0.272	0.966	0.276	0.354	0.752	0.184	0.299
Java & Bali	1.141	0.345	0.406	1.318	0.389	0.410	1.265	0.375	0.406
Kalimantan	0.650	0.177	0.326	1.332	0.456	0.452	1.234	0.407	0.429
Sulawesi	0.348	0.054	0.178	0.456	0.090	0.233	0.465	0.097	0.245
Maluku and Nusa Tenggara	0.611	0.148	0.288	0.680	0.172	0.302	0.692	0.173	0.300
Papua	1.650	0.872	0.630	1.916	0.979	0.636	1.673	0.782	0.578

West Indonesia	0.962	0.272	0.370	1.308	0.417	0.434	1.196	0.361	0.408
Central Indonesia	0.774	0.234	0.368	0.592	0.164	0.323	0.585	0.162	0.320
East Indonesia	2.029	0.632	0.432	2.010	0.618	0.432	1.610	0.467	0.398
Off Java	1.193	0.316	0.371	1.434	0.442	0.428	1.221	0.352	0.392
Java	1.206	0.372	0.416	1.369	0.418	0.424	1.311	0.402	0.420
Mean	**1.197**	**0.335**	**0.389**	**1.421**	**0.437**	**0.430**	**1.252**	**0.370**	**0.405**

Source: Author's own calculation

Figure 5-5 Provincial Rank and GDP per capita (Constant Price, IDR)
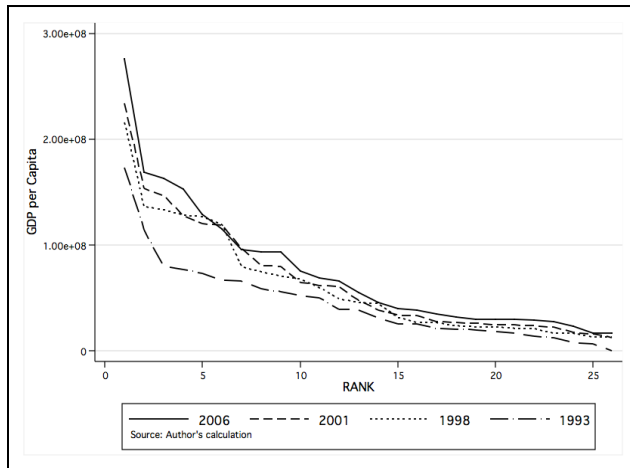
Source: Author's own calculation

Table 5-4 Real GRDP per capita (relative to national average)

First order (2000 to 2005)
Grid: (0,0.4,0.8,1 and ∞)

	Upper Limit			
(Number)	40	80	1	∞
(2)	50	50	0	0
(15)	0	80	13.3	6.7
(4)	0	50	25	25
(5)	0	20	20	60

Source: Author's own calculation

Although some provinces show signs of industrial dispersal, concentration increased in some provinces. A more detailed analysis of spatial distribution and industrial dispersal is discussed below.

Table 5-5 Spatial Distribution of Manufacturing (Share of Total Labour and Value Added Percentages)

Province	Share of Employment			Share of Value Added		
	1993	1996	2005	1993	1996	2005
Aceh	0.5	0.4	0.1	1.0	0.6	0.3
North Sumatra	5.3	4.3	3.6	3.6	3.9	3.5
West Sumatra	0.5	0.4	0.4	0.4	0.4	0.7
Riau	1.9	2.9	1.5	2.5	3.8	4.8
Jambi	0.7	0.7	0.6	0.4	0.4	1.4
South Sumatra	1.5	1.2	1.1	1.0	1.2	2.2
Bengkulu	0.1	0.1	0.1	0.0	0.0	0.0
Lampung	0.9	0.9	1.4	0.9	0.7	1.5
Jakarta	11.7	10.6	9.1	20.2	17.7	18.6
West Java	34.7	36.3	38.3	29.9	40.3	33.5
Central Java	12.6	12.9	15.2	10.5	5.6	5.7
Yogyakarta	0.9	0.9	1.1	0.4	0.5	0.5
East Java	21.1	20.9	20.6	22.0	19.5	20.9
Bali	0.7	0.7	0.6	0.2	0.2	0.2
West Nusa Tenggara	0.2	0.2	0.1	0.0	0.0	0.0
East Nusa Tenggara	0.0	0.0	0.1	0.0	0.0	0.0
West Kalimantan	1.2	1.0	1.2	0.9	1.0	0.9
Central Kalimantan	0.5	0.4	0.4	0.4	0.4	0.3
South Kalimantan	1.2	1.2	1.0	1.6	1.0	0.8
East Kalimantan	1.6	1.4	1.3	2.2	1.3	2.4
North Sulawesi	0.4	0.3	0.3	0.2	0.1	0.4
Central Sulawesi	0.1	0.1	0.1	0.1	0.0	0.0
South Sulawesi	0.8	0.8	1.0	0.6	0.6	0.9
Southeast Sulawesi	0.1	0.1	0.1	0.0	0.0	0.1
Maluku	0.5	0.6	0.1	0.4	0.3	0.1
Irian Jaya	0.3	0.4	0.4	0.4	0.3	0.3

Source: Author's own calculation and adapted from Sjöberg and Sjöholm (2004)

Table 5-6 The Largest District within Province and its Share of Total Manufacturing (Employment and Value Added)

Province	Number of Districts	Employment				Value Added			
		1993		2005		1993		2005	
Aceh	10	East Aceh	53.9	East Aceh	36.0	North Aceh	47.6	North Aceh	63.9
North Sumatra	17	Dairi	31.3	Deli Serdang	35.8	North Tapanuli	30.8	Medan	27.4
West Sumatra	14	Padang	60.5	Padang	51.1	Padang	72.9	Padang	85.5
Riau	7	Batam	37.7	Batam	61.4	Batam	57.3	Batam	34.1
Jambi	6	Batang Hari	42.0	Batang Hari	60.0	Batang Hari	51.9	Batang Hari	85.7
South Sumatra	10	Palembang	39.4	Palembang	41.4	Palembang	53.1	Palembang	65.8
Bengkulu	4	South Bengkulu	63.3	South Bengkulu	59.4	South Bengkulu	42.1	South Bengkulu	45.9
Lampung	7	Cemntral Lampung	40.2	Tanggamus	32.8	Tanggamus	46.5	Tanggamus	32.8
Jakarta	1	DKI Jakarta	100.0	DKI Jakarta	100.0	DKI Jakarta	100.0	DKI Jakarta	100.0
West Java	26	Bandung	18.6	Bekasi	30.3	Serang	17.2	Bekasi	29.4
Central Java	35	Semarang	14.9	Semarang	12.6	Semarang	50.3	Semarang	25.1
Yogyakarta	5	Sleman	46.4	Sleman	43.3	Sleman	43.8	Yogyakarta	58.7
East Java	37	Sidoarjo	19.2	Surabaya	18.0	Surabaya	30.1	Kediri	24.1
Bali	9	Denpasar	46.5	Denpasar	34.3	Denpasar	52.1	Denpasar	33.9
West Nusa Tenggara	7	West Lombok	44.2	East Lombok	30.8	West Lombok	34.3	Central Lombok	32.4
East Nusa Tenggara	13	Kupang	58.4	Kupang	51.4	Kupang	77.1	Kupang	55.1
West Kalimantan	7	Pontianak	65.7	Sambas	53.4	Pontianak	65.3	Sambas	46.9
Central Kalimantan	6	East Kotawaringin	48.7	West Kotawaringin	50.7	West Kotawaringin	52.6	West Kotawaringin	73.2
South Kalimantan	10	Barito Kuala	41.8	Banjarmasin	42.2	Barito Kuala	48.1	Kotabaru	35.7
East Kalimantan	6	Samarinda	61.6	Samarinda	39.4	Samarinda	44.5	Kutai	64.5
North Sulawesi	7	Bitung	49.2	Minahasa	58.2	Bitung	54.5	Minahasa	87.5

Central Sulawesi	5	Donggala	49.5	Palu	50.5	Donggala	54.4	Banggai	46.8
South Sulawesi	23	Ujung Pandang	48.0	Ujung Pandang	44.4	Ujung Pandang	33.1	Pangkajen e Islands	38.0
Southeast Sulawesi	5	Kendari	53.7	Kendari	38.8	Kendari	51.0	Kolaka	81.1
Maluku	5	North Maluku	51.1	Ambon	52.9	North Maluku	58.5	Ambon	64.8
Irian Jaya	10	Sorong	40.4	Sorong	28.8	Sorong	47.3	Merauke	37.2

Source: Author's own calculation and adapted from Sjöberg and Sjöholm (2004)

The Herfindahl index for the total manufacturing sector at the province and district level is presented in Table 5-7. The figure shows a constant increase of manufacturing concentration. For example, the employment data shows that the Herfindahl index value was 0.199 in 1993 and increased to 0.211 in 2005. The figure for value added data reveals similar result, although the figure increased before the financial crisis, it returned to its initial value in 2005. The results indicate increasing regional manufacturing growth divergence at district level.

Table 5-8 displays changes in the Herfindahl index in the provinces between three periods. The table shows that after trade liberalisation and decentralisation, manufacturing concentration remained concentrated in a few districts. Concentration was high in provinces with small manufacturing and lower in provinces with large amount of manufacturing. For example, East Java, Central Java, West Java and Riau provinces had a lower concentration rate compared with other provinces. However, as Balisacan and Fuwa (2004) acknowledge, this result may be biased by the number of districts within a province affecting the measured rate of concentration, that is, provinces with small number of districts tend to score higher in concentration levels. Thus, the literature suggests further analysis using change in concentration is needed. Yet, no clear pattern of concentration has developed, a decreased concentration is found in 15 provinces for employment and in 13 provinces for value added. Comparing results between the periods shows that before the financial crisis the concentration rate for both indicators increased, while afterwards the provinces had developed a different pattern of manufacturing concentration. For instance, before state restrictions, provinces located in the Central region of Indonesia, such as Bali, Nusa Tenggara, and Kalimantan had an increase in employment and value-added concentration. After the state-restructuring, manufacturing concentration rate decreased by 15 % in employment, and 19% in value-added.

Using a similar method as in Balisacan and Fuwa (2004), which resorted to data from the period 1991 to 1996 and found an increase on spatial income for the Philippines, this analysis showed that significant decreases for these manufacturing provinces between 1993 and 2005.. The main manufacturing provinces in Java Island had increasing concentration rates during the period under study, except for East Java province. The West Java and Central Java provinces showed increased concentration rates by 40% and 11% between 1996 and 2005, respectively. In all periods, employment concentration in East Java province decreased slightly, while the value added

concentration peaked before the financial crisis and then decreased slightly in 2005. The Sumatran provinces showed contrasting concentration development, with an increase in the employment concentration rate and a decrease in the value added concentration rate. In particular, Riau Province had higher values with 19 % in the employment concentration rate and more than a 27% decrease in the value-added concentration rate.

Table 5-7 Concentration of Manufacturing – National Level (Herfindahl Index)

Administration Level	Employment		Value Added	
	Province	District	Province	District
1993	0.199	0.035	0.193	0.064
1996	0.207	0.033	0.238	0.063
2005	0.211	0.040	0.191	0.063

Source: Author's own calculation

Table 5-8 Concentration of Manufacturing – Provincial Level (Herfindahl Index)

Province	Employment			Value Added		
	1993	1996	2005	1993	1996	2005
Aceh	0.351	0.254	0.279	0.339	0.347	0.481
North Sumatra	0.217	0.215	0.226	0.196	0.224	0.196
West Sumatra	0.386	0.373	0.303	0.557	0.646	0.735
Riau	0.268	0.341	0.406	0.399	0.447	0.324
Jambi	0.333	0.330	0.436	0.382	0.298	0.743
South Sumatra	0.314	0.300	0.292	0.363	0.428	0.460
Bengkulu	0.484	0.311	0.451	0.309	0.380	0.391
Lampung	0.347	0.350	0.254	0.360	0.339	0.258
Jakarta	1.000	1.000	1.000	1.000	1.000	1.000
West Java	0.119	0.114	0.190	0.117	0.142	0.205
Central Java	0.064	0.064	0.068	0.283	0.102	0.114
Yogyakarta	0.346	0.331	0.318	0.366	0.466	0.421
East Java	0.100	0.109	0.097	0.184	0.196	0.143
Bali	0.280	0.241	0.210	0.323	0.358	0.249
West Nusa Tenggara	0.281	0.205	0.199	0.238	0.346	0.224
East Nusa Tenggara	0.380	0.315	0.301	0.610	0.751	0.345
West Kalimantan	0.466	0.465	0.355	0.466	0.393	0.321
Central Kalimantan	0.365	0.378	0.350	0.393	0.429	0.556
South Kalimantan	0.318	0.312	0.285	0.374	0.313	0.283
East Kalimantan	0.425	0.371	0.253	0.354	0.315	0.453
North Sulawesi	0.303	0.257	0.474	0.354	0.359	0.777
Central Sulawesi	0.358	0.283	0.325	0.390	0.345	0.308
South Sulawesi	0.265	0.298	0.247	0.239	0.293	0.261
Southeast Sulawesi	0.373	0.401	0.256	0.342	0.529	0.673
Maluku	0.383	0.266	0.502	0.449	0.274	0.544
Irian Jaya	0.260	0.243	0.226	0.313	0.235	0.250

Source: Author's own calculation and adapted from Sjöberg and Sjöholm (2004)

A Study of Sectoral Inequality: Case of High-Technology Manufacturing

This section provides a case study to show sectoral unevenness in the high technology industry. The high technology industry is regarded as an innovation industry and has been linked with regional economic growth. A higher share of high innovation industry sector is expected to have more impact on regional development. Literature suggested that sectors that are particularly high in technology have innovations in electricity, manufacturing, and transportation equipment. In Indonesian statistics data, these industries are included in the classification, ISIC 38.

The summary of innovation activity levels and regional economic growth can be viewed in Table 5-9. For both periods, the Jakarta province has the highest patent, value added levels, and the highest GRDP per capita, followed by West Java, East java, and Riau. Among the regions, Riau has the highest concentration of industries (LQ) explaining that high-tech manufacturing is highly clustered within the region (Fig. 5-6). It can bee seen that the high-technology industry has a positive impact on economic growth. Riau has the highest cluster, and by increasing its patent and value added rank, it gained a two-fold increase in GRDP per capita, industry activities, and employment from 1993 to 2005.

To provide an overview of the impact of high-tech spatial concentration on regional economic development, this research uses the correlation model following Florida (2002) and Capone (2010). The spatial concentration of this high-tech industry has a positive correlation with growth in population, employment, and manufacturing value-added growth. The correlation graphs in Figure 5-6 shows the linkages between industrial activities with regional economic performance.

Table 5-9 Economic Performance in 1993 and 2005

	Riau		Jakarta		West Java		East Java	
	1993	2003	1993	2003	1993	2003	1993	2003
GRDP per capita	66.7	149	233	273	115	153	244	173
Industry Output (Billion Rp)	7600	24900	35400	46200	65100	119000	60700	42800
Industry Employment	163576	573762	88201	84705	3666286	6152146	3891068	2752171
Patent rank	4	4	1	1	4	3	4	2
Value added rank	7	4	1	1	2	2	3	3
LQ	3.267579	2.100142	2.046888	1.400626	1.103143	1.288283	.7865382	.9569725

Source: Author's own calculation

Figure 5-6 LQ and Population Growth
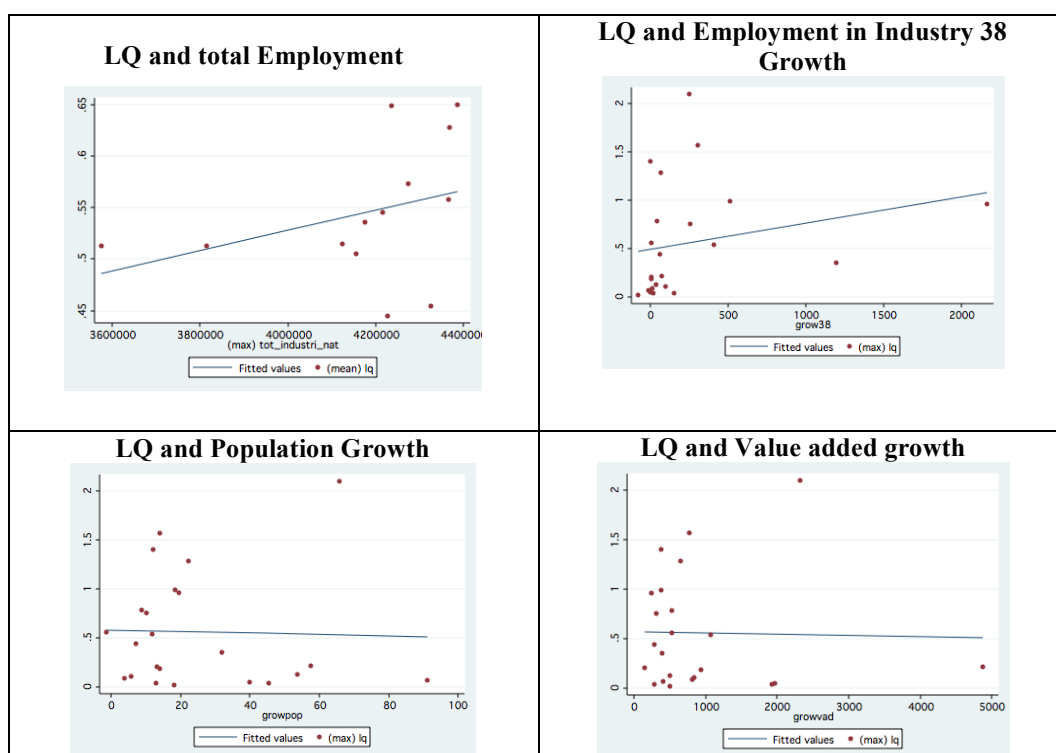
Source: Author's own calculation

Table 5-10 Regional Dispersion of Innovation Activities and Labour Productivity

Province	Number of Observation	Industry Innovation[1]		Labour Productivity[2]		Correlation[3]	
		1993	2003	1993	2003	1993	2003
Riau	7	0.39	0.46	1.20	0.87	0.28	- 0.13
West Java	25	0.40	0.81	3.66	1.72	- 0.12	0.31
East Java	37	0.53	1.14	1.68	1.73	0.11	-0.02
Indonesia	292	1.51	3.92	2.66	2.20	0.02	0.11

Source: Author's own calculation

Notes: 1. Coefficient of variation of industrial value added per input
       2. Coefficient of variation of GDP per worker per input
       3. Correlation coefficient between spatial distribution of innovation activities and labour productivity

Regional dispersion in innovation activities and labour productivity across three selected regions and the whole of Indonesia are displayed above (Table 5-10). The distribution on innovation activities appears to be highly concentrated (CV=3.92. At individual regions, there is a significant increase in dispersion since 1993 with the highest dispersion is found in East Java (CV=1.14), while Riau has the highest spatial concentration of innovation activity (CV between 0.46).

The degree of labour productivity dispersion is lower than innovation activities level. At the country level, productivity rates across Indonesian regions have a weak convergence rate (from 2.66 in 1993 to 2.2 in 2003). The regional figures show again, that East Java has the highest degree of dispersion (1.73) while Riau shows the highest concentrated productivity (0.87). The last two columns provide the degree of association between regional distribution of innovation activities and labour productivity. The two events are positively correlated for Indonesia and some of the regions. The correlation has increased form 0.02 in 1993 to 0.11 in 2003. However, there are no constant associations within the regions explaining the limitation of industrial innovation in Indonesia, or that labour productivity increases are due to imported technologies, rather than a result of local innovation.

This discussion shows the diversity of Indonesia's manufacturing distribution activities and cluster industries. The results confirmed that Indonesia has limited innovation activities and cluster industries in selected sectors within regions. However, this should not be linked directly with regional innovation and knowledge spill-over levels. Regions with high concentration and clustered manufacturing do not necessarily

indicate dense innovation and research activities; rather they merely show more links between industries in the regions.

5.4 Conclusion

This chapter shows the persistent disparities following uneven development and industrial location. At the provincial level, higher economic growth are found mainly in western part of Indonesia and significant lagging districts in the central and eastern part. In addition, the analysis also shows that higher industrial agglomeration in poorer provinces, which hinders dispersion of districts economic growth.

There are several conclusions that we can draw from this chapter. First, this research uses several distribution indices that give evidence about regional disparities that persisted during the period under observation. In general, all analyses indicate that there were patterns of increasing regional disparities during the height of economic growth between 1993 and 1996. These figures decrease in the decentralisation period, which suggests a catching up process with regard to wealth by the poorer regions.

Second, several analyses were conducted to observe a geographical regional disparities pattern. First, the dynamic cross-section analysis (Quah, 1993) indicates that at the provincial level, there is shift of states, with lower regions transferring to higher state and vice versa; this shows convergence process. Second, distance proximity to capital shows no significant evidence of regional economic growth. This result confirms McCulloch and Syahrir's (2008, p.14) finding, which use the spatial distance from Jakarta, has no obvious impact on a district's economic growth.

Third, using the standard deviation of GDP per capita, this study shows that the western part of Indonesia has a higher growth rate compared with the central and eastern parts. Indirectly, this confirms that manufacturing regions such as Riau, West Java, and East Java provinces have higher economic growth than rich natural-resources provinces such as Papua and East Kalimantan in the east part of Indonesia.

Fourth, regional government ability to specialise its sectors determines its local development and competitive advantages. Whilst the regional level has more authority and responsibility for its respective regions, national policy on trade liberalisation and development budgets remain important. This chapter provides evidence that high technology industry locations are concentrated into four regions in Indonesia that have advance infrastructure and market access. In the last section, a case study with the electricity, manufacturing, and transportation equipment industries (ISIC 38) shows that

industrial concentration has weak positive correlation on labour productivity. In 2003, West Java is the only region that has a stronger correlation between these factors. This finding could imply that, between 1993 and 2003, the growth of innovative industries in the respective ISIC in West Java are higher compared with industries in Riau, East Java and the rest of Indonesia. Both national and regional governments should cooperate to improve hard and soft infrastructure in order to enhance regional development, and strengthen its competitiveness in the globalization era.

The next two empirical chapters study the differences in economic structure and industrial endowments that have significant divergence in the regional economic development in Indonesia.

Chapter 6 Decentralisation and ASEAN FTA Impact on Regional Economic Performance

6.1 Introduction

Devolution and trade liberalisation are seen as policies to promote regional economic growth. This research studies the democratisation and post-authoritarian Indonesian regional development. However, devolution and trade liberalisation do not always accelerate regional economic growth, as each region has different local endowments, institutions, and economic structures. Thus, given the large differences in cultural and economic endowments, Indonesia, with more than 290 districts, is an interesting case study to explore the determining factors of sub-national growth.

Decentralisation introduce higher transaction cost for manufacturing firms with regulatory burdens including bribes and the worsening situation of firms in Indonesia (Asia Foundation, 2002; Kuncoro, 2004a). Fixed cost on regulations impose a larger burden on small firms and contribute more to the informal sector. A study by the Asian Development Bank (2008) showed that firms spent ten percent of their time completing forms and more than half of their time is spent in dealing with local government regulations. Lengthy liquidation procedures impose additional costs on the process of reallocating resources to more productive uses. According to a World Bank (2008) report, Indonesia ranks 135 out of 175 countries in terms of the ease of closing a business. Beside regulatory burdens, manufacturing firms in Indonesia faced domestic challenges of trade tariffs and non-tariff barriers elimination in ASEAN FTA. However, the regions are also under pressure, as local products that struggle to compete with import products will threat local economic development.

There are limited studies available on developing countries that question the impact of devolution and trade liberalisation on regional economic growth. This study continues to research economic convergence analyses like De Hoyos and Iacovone (2011), Logan (2008), Fujita and Hu (2001), Sanchez-Reaza and Rodríguez-Pose (2002), and Rivas (2007). The study also incorporates studies on the impact of trade liberalisation including those of Azzoni (2001), Gil Canaleta et al. (2004), McCulloch and Syahrir (2008), Resosudarmo and Vidyatamma (2006), Rodríguez-Pose and Bwire (2004), Rodríguez-Pose and Gill (2005), and Silva (2005).

The purpose of this study is to understand the economic impact of state-restructuring on Indonesia's regions between 1993 and 2005. The econometric analysis is used to observe the effect of devolution, ASEAN FTA variables, and selected control variables on the growth of district GRDP. The research finds that there is evidence of regional convergence throughout the period under observation. While devolution has significantly increased economic divergence, the ASEAN FTA appears to have an insignificant impact on Indonesia regional economic growth.

The rest of this paper is divided into five sections. The next section discusses the methodology models and stylised formulation. The third section discusses the data for the econometrics analysis and descriptive statistics of the variables. Section four analyses the OLS and panel regressions for three periods: 1993-2000, 2001-2005, and 1993-2005. The final section presents concluding remarks, and contributes to the debate about regional disparities in Indonesia.

6.2 The Theoretical Model

6.2.1 The State-Restructuring Impact Model

This section shows the model of the state restructuring impact on regional economic growth. The model is derived from a simple Cobb-Douglas production function using several variables related with decentralisation and AFTA trade openness. The model in this research follows a basic estimation model suggested by Rivas (2007) with slight adjustments to Indonesian districts. The model begins with a Cobb-Douglas production function:

$$Y_{it} = A_{it} K^{\alpha}_{it} L^{\beta}_{it} \varepsilon_{it}$$

$$(1)$$

With the i and t represent region and time period. Y is the real income, A is the level of technology, K represents the physical capital stock, and L is the number of workers.

If function (1) is expressed in per worker terms and factors in natural logarithms, the function becomes:

$$\ln y_{it} = \ln A_{it} + \alpha \ln k_{it} + (\beta + \alpha - 1) \ln L_{it} + \ln \varepsilon_{it}$$

$$(2)$$

Where all the variables are the same as in function (1), but the lowercase are expressions in per worker terms.

Following Rivas (2007), I modified the function (2) to calculate income growth per capita and take natural log differences for each period as follows:

$$\ln y_{it} - \ln y_{it\text{-}1} = (\ln A_{it} - \ln A_{it\text{-}1}) + \alpha (\ln k_{it} - \ln k_{it\text{-}1}) +$$
$$(\beta + \alpha - 1) (\ln L_{it} - \ln L_{it\text{-}1}) + (\ln \varepsilon_{it} - \ln \varepsilon_{it})$$

(3)

The equation expanded as the capital is divided into two terms, C and I. Term C is used to represent capital such as government and private investments that is used in the production function that determines economic growth directly. Meanwhile the I term reflects physical capital that effects the production process indirectly, for example, public infrastructure and change of political order. Thus, the function becomes:

$$\ln k_{it} - \ln k_{it\text{-}1} = f(\ln C_{it} - \ln C_{it\text{-}1}) + w(\ln I_{it} - \ln I_{it\text{-}1})$$

(4)

Where f and w are linear functions.

In order to capture the economic growth from state-restructuring, the physical capital is shown as a function of two terms. The first term is private investments in each district. The second term is the level of GRDP per capita as the initial income variable, and used to capture the convergence level, as seen in the convergence literature. The function is:

$$f(\ln C_{it} - \ln C_{it\text{-}1}) = d(\ln C_{it\text{-}1)}) + z(\ln y_{it\text{-}1})$$

(5)

Where d and z are linear functions.

While to capture indirect effects variables, this research uses state restructuring of decentralisation and trade liberalisation. Two other variables that supports the economic development are the public infrastructure and government politico-bureaucracy condition, which is represented by the lobbying capacity by local governments. These variables are explained in the empirical analysis chapter in page 117. The last variable is the bordering effects which is the interaction between AFTA CEPT tariff with dummy variable of regions in the border. The function becomes:

$$w(\ln I_{it} - \ln I_{it\text{-}1}) = p(\ln I_{it}) + q1(D_{it}) + q2(T_{it}) + 1(\ln N_{it}) + s(\ln C_{it}*S)$$

(6)

Where p, q1, q2, l and s are linear function.

Combining function (5) and (6) into (4), the overall function for capital function is:

$$\ln k_{it} - \ln k_{it-1} = d(\ln C_{it-1}) + z(\ln y_{it-1}) \ (7) + p(\ln I_{it-1}) + q1(D_{it}) + q2(T_{it}) + \ l \ (\ln N_{it})$$

(7)

In addition, to measure the growth in technology, (ln Ait - ln Ait-1), the following equation is conducted:

$$(\ln A_{it} - \ln A_{it-1}) = g(\ln h_{it}) + m(A_{it}) + u \ (\ln U)$$

(8)

Where g, m, and u are linear functions. The first term expresses the direct and independent effect of human capital to the technology level. The second term represents technological levels of each district. The last term indicates the effect of the share of people living in urban areas on economic growth.

The full econometrics equation for the impact of state-restructuring on regional economic growth is as follows:

$$\ln y_{it} - \ln y_{it-1} = g(\ln h_{it}) + m(A_{it}) + u \ (\ln U) + d(\ln C_{it-1}) + z(\ln y_{it-1}) + p(\ln I_{it-1}) + q1(D_{it}) + q2(T_{it}) + l \ (\ln N_{it}) + s \ (\ln C_{it}*S) + (\beta + \alpha - 1)(\ln L_{it} - \ln L_{it-1}) + (\ln \varepsilon_{it} - \ln \varepsilon_{it})$$

(9)

The model in equation (9) is estimated with simple OLS and panel data fixed-effects to address unobservable factors related to economic growth in each district. To investigate the spatial relationship between districts, the analysis also includes a spatial lag variable, $\rho(Wy)$, with ρ is the spatial lag coefficient, W is the spatial weight matrix based on population of neighbouring districts, and y is a vector of district's per capita GDP.

6.2.2 The β Convergence Model

Absolute β Convergence Regression. The ß Convergence is tested with regression analysis and it is calculated to encompass the absolute convergence (poorer regions grow faster than rich regions) that exists. The equation includes the variable of natural logarithm of an end year (yt) and initial year of GDP per capita (y0). It is important to

note that ß convergence can occur without σ convergence, but it is not sufficient enough (Barro, 1991). The regression equation for Absolute ß Convergence is as follows:

$$\frac{\ln(y_t/y_0)}{t} = \gamma + \beta \ln(y_0)$$

(10)

Where the dependent variable is the logarithm of per capita income or product, γ and ß are constants, with 0< ß <1, and εi as the random disturbance term. At ß >0 implies negative convergence since the annual rate of growth is negatively related with ln(yi,t), with the higher value of ß showing convergence.

Conditional and Spatial β Convergence Regression. Conditional convergence occurs (poorer regions grow faster than rich regions if other variables are taken into accounts besides initial income level). For conditional β convergence, the empirical model is suggested by Resosudarmo and Vidyatamma (2006) as:

$$\frac{(y_{it} - y_{it-1})}{y_{it-1}} = \gamma_1 + \beta \ln y_{it-1} + X'_{it}\gamma_x + Z'_{it}\gamma_z + C'_{it}\gamma_d + \eta_i + u_{it}$$

(11)

$$\frac{(y_{it} - y_{it-1})}{y_{it-1}} = \gamma_1 + X'_{it}\gamma_x + Z'_{it}\gamma_z + C'_{it}\gamma_d + \rho Wy + \eta_i + u_{it}$$

(12)

$$\frac{(y_{it} - y_{it-1})}{y_{it-1}} = \gamma_1 + X'_{it}\gamma_x + Z'_{it}\gamma_z + C'_{it}\gamma_d + \lambda W\xi + \varepsilon_i + u_{it}$$

(13)

This regression equation (11) is for convergence analysis as included in the conditional variables and regression specification for the trade impact spatial lag model equation (12) and spatial error model (13).

The i represent the district administration, t is the index of time, yit is GDP per capita, the X'it are the vector of variables that are used to understand growth regression. Z'it are the main variables that this research are interested, which are the free trade and devolution variables, and Cit is a group of control variables. The model needs the individual effect, ηi, to capture all the determinants of growth for various regions in panel data analysis. The uit is the random disturbance not to be correlated when the time or region is not the same. It assumes uit is constant.

The ρ refers to spatial lag coefficient, while λ is the spatial error model coefficient.

To show whether spatial convergence is present, this research follows Rey and Montouri (1999) that employ robust Moran's I and robust Lagrange multiplier (LM). The significant of ρ-value of robust Moran's I provides strong evidence of spatial dependence; the strategy from Anselin and Rey (1991) elabourates to determine whether it's a partial error and spatial lag type of spatial dependence.

Besides OLS methods with fixed effect, this research employs maximum likelihood (ML) for the spatial lag and spatial error models. Technical methods in spatial econometric convergence include spatial autocorrelation and spatial growth convergence. Spatial convergence is calculated in the form of speed of convergence β and half-life (Equation 14 and 15). Speed of convergence confirms the presence of convergence across time annually and half-life explains the amount of years to reduce disparities among regions (Arbia and Piras, 2005). The β refers to the coefficient of convergence and the T is the number of years under observation.

$$b = -\frac{\ln(1 + \beta)}{T}$$

(14)

$$thalf - life = \frac{\ln(2)}{b}$$

(15)

Spatial autocorrelation analysis is divided to global and local autocorrelation. While spatial convergence methods using autocorrelation, known as I-Moran's, relates with autocorrelation of spatial areas for regional income over a period of time, also found in the non-spatial autocorrelation as σ convergence of per capita income dispersion among regions. The methods used are CV of log real income per capita and local I-Moran's that plots standardised income of regions against its spatial lag (also standardised).

Meanwhile spatial convergence studies the spatial convergence growth with OLS and LM techniques in term of spatial lag and spatial error modelling. Spatial lag is concerned with the expected value of growth rate of each region's per capita income, depending not only on its initial value, but also compared with other regions. This method answers how the growth in a region could relate to its neighbours and to what extent it influences (Rey and Montouri, 1999). Another method is the spatial error dependence convergence analysis that occurs when the dependence works through an error process, in that, the errors from different regions might result in spatial covariance. Hence, this approach focuses on estimating parameters for the independent variables of

interest, and disregards the possibility that the observed correlation may reflect some information about the data generation process. In other words, instead yj directly affecting yi, the spatial error model assumes that the errors of the model are correlated (Ward and Gleditsch, 2008).

Estimation of spatial lag and spatial error using OLS will cause unbiased estimates when non-spherical errors are present, but biased estimates of the parameters variance lead to a misleading estimation by OLS. This leads to a conclusion that spatial error models should be based on ML or GMM. The spatial structure change could also be seen in the SUR models with ML in the spatial method. The model can describe structural changes occurrences between sub period times of study.

To consider which regression model is the best fit, it is common to use the Akaike information criterion (AIC) and Bayesian information criterion (BIC). The AIC is used to compare the values of estimation between OLS and the spatial dependence model with the lowest AIC value is chosen as the preferable estimation. In addition, the criterion may also use the BIC to solve over-fitting in maximum likelihood estimations, due to adding additional parameters, by introducing a penalty term for the number of parameters in the model. This penalty for additional parameters is stronger than that of the AIC. The BIC was developed by Gideon E. Schwarz who gave a Bayesian argument for adopting it (Schwarz, 1978).

6.2.3   The Panel Convergence Model

The next econometrics model is the panel data analysis that contains repeated observations over the same units (districts) for over a number of years. The availability of repeated observations allows the specification and estimation of complicated and more realistic models than a single cross-section of time series data (Verbeek, 2008). The panel data offers an opportunity to address unobserved heterogeneity related to economic growth in individual districts. Panel data eliminates omit variable bias when the omitted variables are constant over time within a given state. However, when the observations are repeated for each individual, there are independent issues, and often the data suffers missing value observations.

The general formulation of a panel data model is express by the following equation:

$$y_{it} = \alpha_i + X'_{it}\beta + \upsilon_{it} + \varepsilon_{it}$$

(16)

With i (i=1,…,n) representing individual districts and t (t=1,…,t) representing time periods. The X'it is the observation of explanatory variables in district i and at time t. The αi is time invariant and denotes district-specific effects that are included in the equation. The error term is a composite error, $\varepsilon_{it} = \alpha_i + \upsilon_{it}$, combining individual heterogeneity (α_i) and an idiosyncratic error term (υ_{it}) that is independent across all observations.

The αi interpretation can be distinguished by two different types of panel data estimations: the fixed-effect, and the random-effect estimation. If the αi is assumed to be a fixed parameter estimate, the equation's estimate is termed fixed-effect panel data model. The fixed-effects is used to capture all unobserved time-invariant district factors such as geographic areas, institutions, interregional heterogeneity and cultures (Suwanan and Sulistiani, 2009). This model eliminates endogeneity problems and control for unobserved districts characteristics.

If the αi is assumed to be random in its error, εit, the estimation is termed random-effect panel data model. The use of fixed-effect model is in the regression analysis that is limited to precise individuals or districts, regions, or firms. On the other hand, the random-effect model is used particularly if we are interested in drawing certain individuals randomly from a large population of reference (Arbia and Piras, 2005).

In this chapter, I use the fixed-effect model following a Hausman test to prove statistically which model is appropriate for the data. If the Hausman test statistic is large, the appropriate model will be a fixed-effect model, and if the statistic is small, a random-effect model is suggested.

The use of panel data and a fixed-effect model in the convergence study has been common since Islam (2003). The literature suggests that convergence rate using panel data that uses fixed effects, tend to have larger coefficient estimation than cross-sectional model, with estimates of 2% per year (Barro and Sala-i-Martin, 1991). The model that I estimated is expressed in the following equation:

$$\ln\left(\frac{y_{it} - y_{it-1}}{y_{it-1}}\right) = \alpha_i + \beta \ln y_{it} + \varepsilon_{it}$$

(17)

Where the dependent variable is the annual growth rate of per capita GDP, the regressor is the (log) GDP per capita for region I, at time t, and αi represents a parameter to be estimated in the panel model.

6.3 The Empirical Model and Data

Raw statistics data was collected from various government and international institutions such as the BPS, Ministry of Finance (MoF), Ministry of Trade, and the ASEAN Secretariat. The BPS data includes gross domestic and national products (GRDP and GNP), population, plant level data, and revenue from oil and gas The BPS statistics data also provides the plant-level data on Indonesian large and medium manufacturing industries with a rich array of data such as input and output costs, productivity, and labour. The MoF website provides data on regional budgets, data on local revenue, central allocation fund/*dana alokasi umum* (DAU), and routine and development expenditures. The tariff trade data was obtained from the Ministry of Trade for the MFN tariff, and from the ASEAN Secretary for the AFTA-CEPT tariff. Finally, geographical map data were purchased from a private mapping firm.

To construct the regional variables, this research is based on the BPS publication of regional list in 1997[1] that includes regions before decentralisation in 1998. The paper uses the time-series data to provide the analysis of impact trade to regions between 1993 and 2005. After decentralisation, there was significant regional splitting (Booth, 20011; Fitriani et al. 2005). The 1997 regional list consisted of 26 provinces (after the separation of East Timor in 1999) and 292 districts[2], made up of 232 regencies and 60 municipalities, with 4088 overall observations for the period 1993 to 2005. All data is available for these districts in the observation period, except for the regional budget data, which is available from 1994.

The study of the AFTA CEPT tariff impact is conducted using econometrics models other than the computed general equilibrium (CGE), although CGE models are widely used to calculate the tariff impact of trade agreements including bilateral and trade blocs (Feridhanusetyawan and Pangestu, 2003). Despite the common use of equations, techniques, and explanatory variables, this study argues two reasons not to utilise the CGE models. First, this study aims to understand the impact of tariff changes on Indonesian districts throughout the period. The input-output statistics data between Indonesian districts is considered limited and has not been widely used, thus as CGE models is derived from input-output models, CGE models is not preferable. Second, as CGE studies link regions under a particular regime, the impact of trade changes which should also calculate trade value between districts in ASEAN members, is considerable

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[1] Available at www.bps.go.id

[2] The Special Region of Capital Jakarta is province with five non-autonomous districts.

unavailable. With these reasons and limitations, this research studies the impact of the CEPT tariff using data approximated from plant-level data available for large and medium manufactures, and from a series of tariff reduction with micro econometrics analysis. As the AFTA CEPT tariff regime aims to reduce tariff barriers in the manufacturing sector, the analysis is expected to explain the impacts on individual district's development based on its manufacturing share and its advancement level for periods under observation.

This research follows Gil Canaleta et al. (2004, p. 79) who suggest decentralisation should analyse both political and financial issues. The analysis divides the research into three periods under observation following McCulloch and Syahrir (2008). The first is the pre- and during crises of 1993-2000, the second period reflects the state-restructuring era in 2001-2005, and the third is the whole period from 1993 to 2005. This chapter extends the McCulloch and Syahrir paper in the following ways:

1. It displays data analysis with more approaches to inequality. In addition, to spatial convergence, it also studies industrial sectors.
2. The study provides additional variables for regional manufacturing, economy, and politics such as the labour productivity, AFTA impact on industries in the bordering regions, and local government's ability to lobby politically.

6.3.1 Dependent Variable

The GDP and population data is ordered exclusively from the national statistics Bureau (BPS) and is unpublished for district level annually for period under observation. These data are also used to obtain the GDP per capita. The data is available for constant and current price. The constant data base year is 1993 for the 1993 to 2001 analysis, and base year 2000 for the 2001 to 2005, and 1993 to 2005 analysis. This data is available in this way because the statistical bureau does not publish the GDP and population data at the district level annually.

However, as found in any developing countries, statistical data in Indonesia suffers from several weaknesses. In their research, McCulloch and Syahrir (2008), argue that the GRDP calculations are conducted separately at the national, provincial, and district level, although using a common method could impact in the quality of data compiled. The regional offices also do not ensure that the aggregate data adds up to the sum of its results. Furthermore, since the decentralisation, there has been regional splitting at

provincial and district levels that determine the number of research observation and data availability. Following their paper, these weaknesses are tackle by using the number of districts before decentralisation in 1997 and constant GDP per capita in 1993, published by the BPS, as the base year. This enable to analyse regional economic growth between 1993 and 2005 with 292 districts.

6.3.2 Explanatory and Dummy Variables

Fiscal Decentralisation Impact Measurement. The research uses data of government budgets from the Ministry of Finance website. The data consists of local budget and expenditure (APBD), local revenue, and intergovernmental grants. The data needed to be cleaned due to several technical problems such as duplication of codes and aggregates of districts before decentralisation. The data also suffered from different levels of detail, as the data between 1994 and 2000 does not detail the routine expenditures (Code 40) while the data afterwards, 2000 to 2006, has eight types of codes (402-409).

There are two fiscal decentralisation measurements, which are the district fiscal dependency and financial capacity (Darise, 2009). The district fiscal dependency is calculated as the annual percentage change of DAU transfer amount from the central government. As DAU transfer amount is based on development indicators formulation, a decline in the annual percentage of DAU transfer amount indicates a decline in the transfer fund and improvement in economic performance. The local financial capacity refers to the region's own source revenue (OSR). The OSR represents two local capacities, the level of local economy and local revenue institutions.

Export Import Measurement. To provide robust analysis, the ASEAN FTA is also approximated by the value of export and import of the manufacturing sector in districts. The variable allows us to view a district's integration and openness into ASEAN FTA, as it reflects changes in trade restrictions such as tariff quotes, licensing, non-tariff barriers, and labour dynamics. Furthermore, Rivas (2007) argues that this variable also represents non-trade policy influences including transport cost, production, and global trade levels. Thus, due to its wide influencing factors, this variable should be used carefully as an alternative variable to approximate ASEAN FTA. This alternative openness variable is constructed as the sum of exports and imports divided by GDP within a year (Rivas, 2007). The export and import data is based on plant data for

municipalities with plants, for municipalities without plants, the data is input as national trade openness.

This variable has a negative correlation value with the tariff impact variable because both variables show different behaviour to economic growth. Regional economic growth increases following lower tariff and higher trade activities.

Tariff Impact Measurements. The tariff variable measures direct impact of a trade liberalisation quantitative barrier reduction. The analysis assumes that the increase in imports due to lower trade barrier in AFTA CEPT tariff increases trade activities and manufacturing productivity, which eventually will affect the regions in which the manufactures are located. However, tariffs neglect the other trade restrictions and non-trade policies that determine the level of openness that are addressed by the export-import measurement above.

The AFTA CEPT tariff data used is available from the ASEAN Secretariat. By combining the tariff data and the proportion of industries within a region, we obtain the approximate profits of the region from the AFTA tariff within a particular industry. The measurement is obtained using three statistics data on districts's manufacture plant share, which are share of industry output, share of industry productivity, and share of export value of the district.

Following Amiti and Cameron (2004), and Amiti and Konings (2007), this research requested the BPS to make data available on each industry - intermediate inputs and the amount on each in Rupiah from its SI questionnaire. This information is not routinely prepared and this research uses the data from 1998 and 2002. For all other years, the SI data provides total expenditure on domestic and imported inputs, but not by individual type of input. The 1998 and 2002 data is available in five-digit industry, and is used to create a 228 manufacturing input/output table. The mix of inputs by industries are assumed to be fixed over time[3].

To analyse the impact of tariff on local economic development, this research uses the AFTA CEPT tariffs obtained from the ASEAN Secretariat. In trade liberalisation, there are output and input tariff, which the output tariff measures the import value of a product and the input tariff measures the import value of raw material of sectoral industry within a districts. The input tariff calculation also follows Amiti and Konings (2007), which uses the MFN tariff. First, we construct a five-digit output tariff by taking

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[3] Assuming a Cobb-Douglas technology (Amiti & Konings, 2007)

a simple average of the HS nine-digit codes within each five-digit industry code, by using unpublished concordance between HS nine-digit and five digits ISIC available by Amiti and Konings (2007). Second, for each five-digit industry, we compute an input tariff as a weighted average of the output tariffs (equation 18 and 19).

$$input\ tariff_t^k = \sum w_{jk}^{1998} \quad \text{x } output\ tariff_t^j$$

(18)

$$w_{jk}^{1998} = \frac{\sum_i input_{ijk}^{1998}}{\sum_{ij} input_{ijk}^{1998}}$$

(19)

The weights, w_{jk}^{1998}, are the cost shares of industry j in the production of goods in industry k, based on data in 1998. If industry k uses 60% of sacks of paper and 40% of cement, I calculated a 60% weight to the sacks of paper tariff and 40% weight to the cement tariff.

Third, a similar calculation is performed to obtain the tariff impact on individual districts (equation 20 and 21). I computed an input and output tariff impact as a weighted average the industry's share within the district.

$$district\ tariff_t^l = \sum w_l^{1998} \quad \text{x } output(input)\ tariff_t^k$$

(20)

$$w_l^{1998} = \frac{\sum_i input(output)_{kl}^{1998}}{\sum_{ij} input(output)_{kl}^{1998}}$$

(21)

The weights, w_l^{1998}, are the cost shares of industry k in district l, based on data in 1998. If district l output consisted of 70% of textile industry and 30% of food industry, I calculated a 70% weight to the textile tariff and 30% weight to the food tariff. In addition, to address concerns about trade structure post-decentralisation, I also constructed the input/output table for the 2002. The data needed to be cleaned due to missing variables for some observations and for large output and input growth

distribution numbers. The available dataset is an unbalanced panel of around 21.000 firms per year with a total of 274.061 observations.

The impact of AFTA on regions based on the number of industries in 1993 and 2005 is not significantly different (See Appendix A). In each row, the number of industries that benefit from AFTA decrease at the level 0-5%, and increase significantly at the level more than 5%. To be more specific, the sub-sector that benefits the most are DISIC 31 and 39, which are the food industries and other industries (including light equipment), respectively. The table indicates that the CEPT tariffs are much lower than the MFN tariffs, even the metals products (ISIC 36) had no tariff barrier to enter Indonesia in 2005. The table below also notes the changes in average tariff rates and growth for each sector in the manufacturing industry. From the table it can be seen that Indonesian industry has been liberalised since the early 1990s and peaked during the second half of the decade. The tariff on paper products (ISIC 34) had the most tariff reduction with an average 35% in each period.

Regional Control Variables. The variables in the regional control followed the study by McCulloch and Syahrir (2008). The share of people in urban areas is used to observe the effect of agglomeration. While measuring impact human capital, this study used the share of people who are or who have been in junior high school as the stock for human capital in economic activities. Infrastructure data is approximated using infrastructure data availability such as water debit, road length, and road ratio (Rivas, 2007). This research use the road access variable because it serves as a proxy for a district's spatial connectivity and an access for economic activities. The road access variable may also be perceived as a factor for industry location (Balisacan and Fuwa, 2004).

This thesis offers an original variable to observed the impact of decentralisation with the lobbying capacity variable (Rodríguez-Pose and Gill, 2005; Rodríguez-Pose et al, 2009). The variable is constructed as an interaction between the sum of earmarked fund that districts received with a dummy that represent the district's level of financial. A district is considered rich if it has a GRDP above the GRDP average and the dummy value for a rich district is 1. The dummy value is 0 if it is a poor district. For example, the state ministry of forestry provide earmarked budget for districts for local forests management and development. Thus, this variable captures the influence of district's fiscal resources and political power on lobbying the central government to earn additional development budget.

Industrial Control Variables. As ASEAN FTA tariffs targeted manufacturing industries, contrary to other Indonesian regional studies, this research does not include the presences of natural resources (oil, gas, and minerals), but rather uses the share of manufacturing activities in the GRDP. While the labour productivity variable is measured the ratio of labour per output, thus this variable is expected to have a negative association with the economic growth. The higher ratio of the number of labour to produce one unit output implies inefficiency of factor of production and thus, lower economic growth.

The level of technological availability is approximated by the total factory productivity (TFP). This approach has been widely used to estimate the role industry technological level on economic growth such as in India and Indonesia (Amiti and Konings, 2007; Topalova and Khandelwal, 2011). This thesis follows the assumptions and methods used by the above papers to construct the industry TFP for each region. To construct the firm-level TFP, the approach by Levinsohn and Petrin (2003) are used with data on firm's raw material inputs as proxy for unobservable productivity shocks to control for the simultaneity in the firm's production function. The construction of this follows a Cobb-Douglas production function and this requires the data on physical quantities of output, capital and intermediate inputs. Because we do not have the firm-specific price deflators, we must use the industry-specific deflators. Thus, the TFP measure captures both technical efficiency and price-cost mark-ups (Topalova and Khandelwal, 2011) and as long as price cost mark-ups are correlated with true efficiency, the TFP measure captures technical efficiency. The TFP is constructed by subtracting firm's I predicted output form its actual output at time t[4]. Following the endogenous growth model, a positive sign of the industry TFP implies that a regions industries' technology level is associated with higher economic growth (Romer, 1986, 1990, 1994).

To capture the spatial effect of location proximity, this research constructed a dummy variable of bordering regions. Literature suggests that these regions have location advantage to seize trade liberalisation with its proximity to markets (Logan, 2008; Sanchez-Reaza and Rodríguez-Pose, 2002). To capture the effects of spatial locations, I use the dummy variables for international borders. The bordering districts

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[4] All of these technical procedures are performed using the STATA software command "levpet" with all variables are in the logarithms form.

are listed as prioritised regions based on *Undang-undang* no. 43/2008 and Government Regulation (*Peraturan Pemerintah)* No. 26/2008. Since the research aggregates the regions to the number before decentralisation with total of 25 bordering districts. The dummy variable has a value of zero if it is a bordering region, and has a value of one if otherwise. The trade spatial effect variable is constructed as an interaction between bordering districts and import tariff.

Spatial Analysis. The area data is available from the Agency of Coordination of National Survey and Spatial Planning (Bakosurtanal) digital map[5]. To model spatial interactions, I have constructed spatial connectivity between regions using the spatial weight matrix. Spatial weight matrix is a matrix in which each region is connected to its neighbours by means of a purely spatial pattern introduced exogenously in this spatial weight matrix as **W**. This matrix is a square matrix with an even number of columns and rows, in which the diagonal elements are set to be zero. To normalise the external influence of each region, the weight matrix is standardised so that the sum of the row is one. The spatial weight matrix is based on k-neighbours computed as the distance between district centroids (Ertur & Koch, 2006). The spatial weight matrix is constructed using Geoda[6] software with the inverse distance because of Indonesia's physical characteristics that consist of discontinuous islands and oceans. The output is a sparse matrix, which is then converted into full matrix using the MATLAB software and eventually constructed as a matrix file in STATA.

6.3.3   Indices Variable Construction and Pattern

In this section, I will construct the index variables for the decentralisation and AFTA variables. The aim of these indices is to show the comprehensive impact of an event or variable on regional economic growth, and as an alternative variable if multicollinearity is found between the proxies. Index variable construction formula is as follows:

$$DI_{kt} = D_1 * D_2$$

(22)

Where DI_{kt} is the decentralisation variable index, D_1 is the normalisation of local revenue, D_2 is the normalisation of central allocation fund

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[5] The digital map is freely available at www.bakosurtanal.go.id

[6] A freely download statistic-geography software, available at www.geoda.com

The normalisation of each variable is constructed with the following formula. Normalisation formula:

$$D_{kt} = \frac{x - \overline{X}}{SD}$$

(23)

Where D is normalisation of an individual variable, x is the district's share of an individual variable, $\overline{X}$ is the mean of share of an individual variable, SD is the standard deviation of an individual variable, k is the district, t is the time variant (year)

Decentralisation and AFTA Variables Indices

To observe the impact of decentralisation, the index variable is constructed as the combination of district fiscal dependency and financial capacity. Both fiscal decentralisation measurements has been discussed in the fiscal decentralisation impact variables in page 114. A positive sign of this variable shows that decentralisation is associated with regional development and confirms neo-classical theories on convergence. However, a negative sign indicates that decentralisation hinders regional economic development. Meanwhile, the ASEAN FTA index is a combination of ASEAN CEPT output and input tariff with trade integration. The output tariff measures the import value of a product and the input tariff measures the import value of raw material of sectoral industry within a districts.

Hence, the index variable reflects the impact of the CEPT tariff on input and finished imported and trade activities of regions. These indexes are visualised on maps in individual regions for 1993 and 2005 (Fig. 6-1 to 6-4). In addition, the AFTA CEPT tariff impact growth on Indonesian districts is widely divergent (Appendix Fig. B-1). During the period between 1993 and 2005, the AFTA tariff rate is applied the most in the bordering districts of Sumatra, Kalimantan, and Sulawesi. In Java, the districts that experience high tariff impact growth are located in industrial provinces such as Jakarta, West Java and East Java.

Figure 6-1 Decentralisation Index 1993

Indonesia Districts
Decentralisation Index 1993
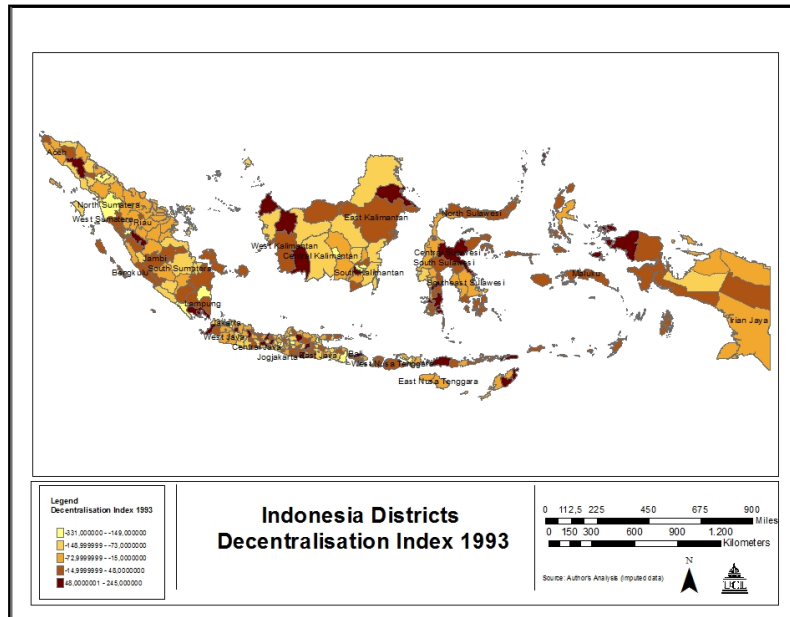
Source: Author's own calculation

Figure 6-2 Decentralisation Index 2005

Indonesia Districts
Decentralisation Index 2005
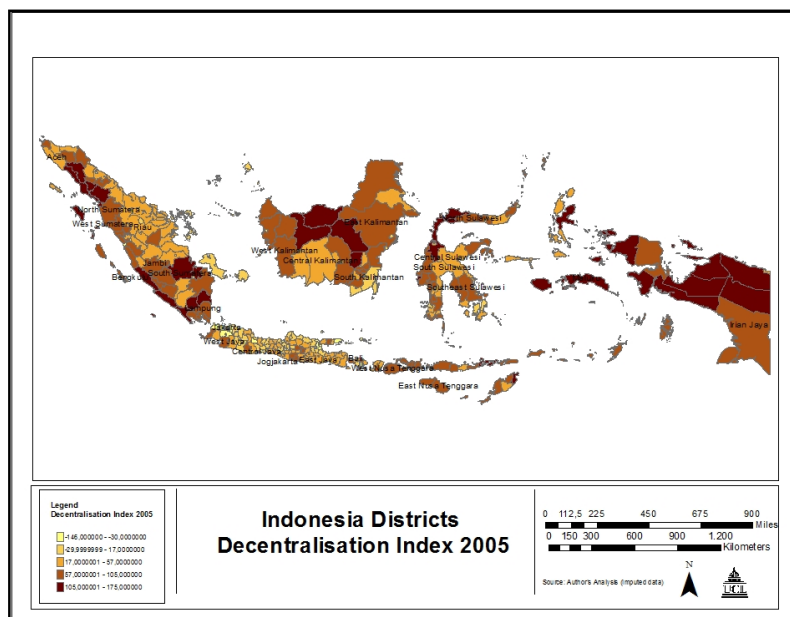
Source: Author's own calculation

Figure 6-3 AFTA Index 1993

Indonesia Districts
AFTA Index 1993

Legend
AFTA Index 1993
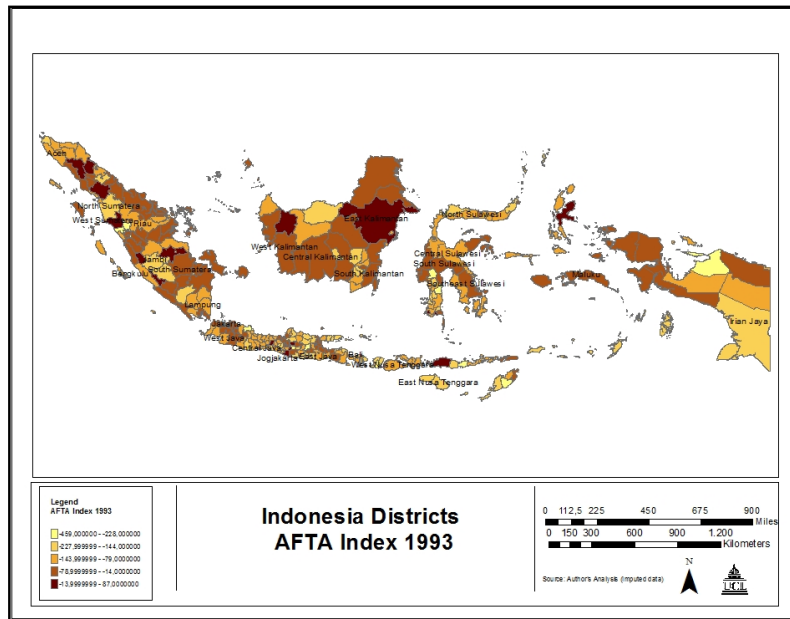
Source: Author's own calculation

Figure 6-4 AFTA Index 2005

Indonesia Districts
AFTA Index 2005

Legend
AFTA Index 2005
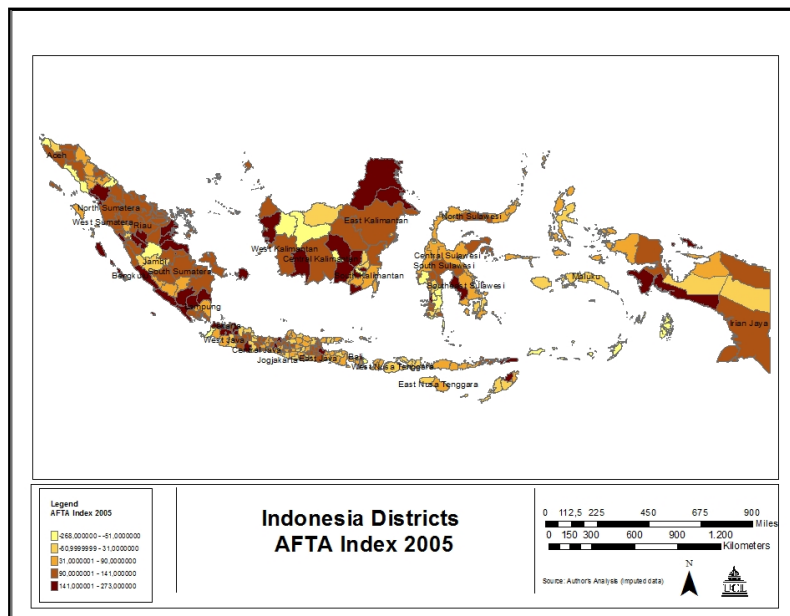
Source: Author's own calculation

6.3.4 Descriptive Statistics

Descriptive statistics of variables used in economic growth regression are displayed in Table 6-1. The explanatory variables are grouped into four types of variables. First, the local endowment variables that includes share of people in the school, share of people in urban areas, and share of roads that are accessible by four wheels vehicles. Second, the economic structure group that includes share of non-natural resources industries, size of manufacturing activities, and municipality authorities type. The decentralisation is approximated by variables that shift significantly during the period such as ratio of local revenue and GRDP, and the amount of central government transfer funds. The ASEAN FTA variable includes CEPT tariff reduction and bordering regions, with regions in the border tend to benefit more from the free trade agreements.

6.4 Analysis

The regression analysis includes three regressions that are the OLS regression, cross-section spatial analysis, and fixed-effects of panel regression analysis. For this analysis, the period under observation ais divided into three sub-periods, before decentralisation (1993-2000), after decentralisation (2001-2005), and the whole period (1993-2005). To provide integrated and comparable analysis, I present the exact same variables and models for these three regressions. To achieve this, a technical econometrics manipulation is performed following spatial analysis that requires a balance panel data. The missing data is replaced with the mean value of the variable in its respective period.

6.4.1 The β Convergence Analysis on State-restructuring Impact

This sub-section conducts β convergence analysis that explains that the faster the poor regions grow relative to the rich regions, the sooner they catch up, thus, convergence will be faster. The neoclassical economist believes that economic growth convergence with low initial economic regional levels will have higher economic growth rate, and will eventually catch up with the rich regions. This leads to a same and stable rate of economic growth. However, the recent analysis by Barro (1991) reveals that conditional convergence, which shows that the growth rate of an economy does not depend on initial levels, but depends on the dynamics relative to an ideal economic growth.

Table 6-1 Statistics of Variables in Economic Growth

	Mean	SD	MIN	MAX
ln per capita annual real GDP growth, 1993-2005 (%)	0.1108922	0.2970897	-1.371927	1.974901
ln annual initial real GDP per capita, 1993	14.72125	0.8596739	12.17857	18.22126
Decentralisation Index	-7.08E-10	1	-5.265774	3.089771
AFTA Index	7.87E-10	1	-4.588324	2.627548
Share of people in urban areas	0.366581	0.4171881	0.0027391	1
Share of people in, or who have been in junior high school	0.0559157	0.0722787	0.0001528	0.8630365
Road Accessibility	-0.1082484	0.213032	-3.135494	0
Lobby Capacities	2.64797	6.790617	0	27.12186
Share of Manufacturing GRDP	-0.0723108	0.2232145	-2.75199	0
Industry activities in the borders (Tariff*borders)	-0.230142	0.8048133	-4.385548	0
Labour Productivity	-10.80044	1.335976	-14.9665	-5.010635
Total Factor Productivity (TFP)	7.97439	1.137472	1.6286	15.34754

Source: Author's own calculation

equilibrium. Thus, multiple equilibriums may exist in a regional economic system.

Absolute β Convergence Analysis. The absolute ß Convergence is measured with regression analysis, and it is calculated to determine whether absolute convergence (poorer regions grow faster than rich regions) exists and whether conditional convergence occurs (poorer regions grow faster than rich regions if other variables are taken into account beside initial income level).

The table below (Table 6-3 Column 1) shows that the evolution of absolute convergence between periods with regressions has a very low R^2 variant between 0.018% and 0.281%. As can be seen, the convergence rate increased from -0.272 in decentralisation period compared to the centralised period at -0.028. Furthermore, the transition period sign is that which has the highest convergence rate because of the

national economic growth decline that resulted from decreases in disparity between districts.

The following graphs show more analysis, and the plot below illustrates the log annual change of real GDP per capita (1995-2005) with the log of initial GDP per capita (1995) (Fig. 6-5). From the data of 26 provinces in Indonesia during the period, the downward pattern of points represents the correlation value -0.44, which shows that there is a negative relationship between the two variables and a significant absolute convergence. The speed of convergence is about 2.5% per annum, which is slower compared to Barro and Sala-I-Martin (1991). On the other hand, the graph below (Fig. 6-6) shows a wide range of growth district rates for two periods; before financial crisis, and after decentralisation. The central line on each axis indicates mean growth rate, whilst the lines on the other part of the axis shows one standard deviation above and below the mean.

I performed an unconditional convergence model with the year pooling dummies, the result show that the convergence rates are lower compared with the initial year in 1994 (Table 6-2).

Figure 6-5 The ß Convergence between log annual change of real GDP per capita and initial GDP per capita (1995-2005)
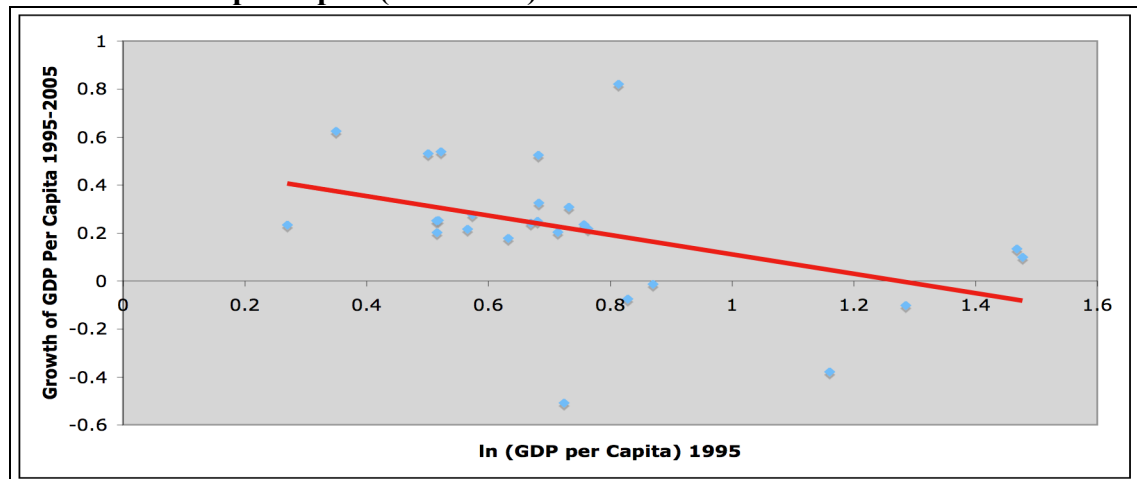
 Source: Author's own calculation

Figure 6-6 Districts growth rate between 1993-1997 and 2001-2005
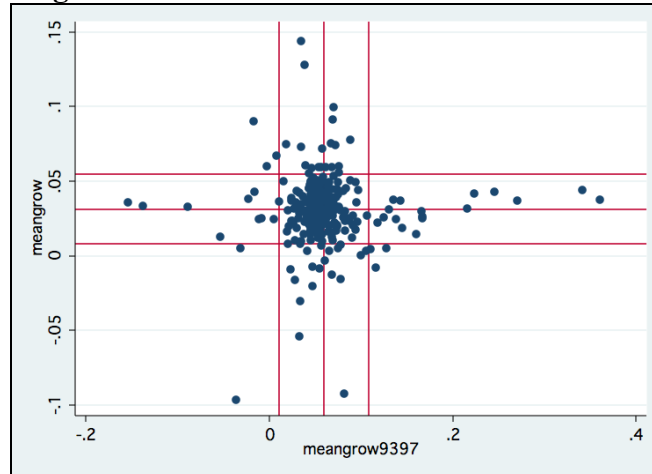
Source: Author's own calculation

Table 6-2 Districts Growth Year Pooling Analysis

GRDP initial year	OLS
1995	0.018 (1.94)
1996	0.008 (0.83)
1997	-0.019 (-20.6)
1998	-0.109 (-11.64)
1999	-0.046 (-4.97)
2000	0.994 (106.72)
2001	-0.031 (-3.32)
2002	-0.027 (-2.95)
2003	-0.032 (-3.41)
2004	-0.023 (-.245)
2005	-0.013 (-1.41)
Cons	-0.019 (8.22)
N	3688
R2	0.8655
Adj. R2	0.8650

Significance at * $p<0.05$; ** $p<0.01$; *** $p<0.001$, N= 338, T = 13,; t-values in parenthesis
Source: Author's own calculation

Conditional β Convergence Analysis. Using three econometric models, this research provides an extensive analysis of Indonesian regional growth (Table 6-3). With the original variables, this research test found no evidence of heteroskedasticity and multicollinearity.

The variables that are consistent significant between the models and over time are the initial GRDP, index variable of decentralisation, lobby capacities and level of technology the electricity availability. The initial GRDP and decentralisation index

variables are significant in explaining diversity in regional economic growth. The result confirms that the convergence speed (equation 14) in the state-restructuring period is 0.2% annually which is faster than the pre-state restructuring and whole period, 0.16% and 0.11% respectively. The consistent negative signs of the decentralisation index indicates that decentralisation contract economic growth. This finding confirms the negative impact of decentralisation on regional disparities (Rodríguez-Pose and Gill, 2006; McCulloch and Syahrir, 2008). The coefficient is higher in the decentralisation period than the whole period suggesting that regional autonomy significantly hinders regional economic performance. While the AFTA index has a negative significant effect in all periods with higher effect in the state-restructuring period, as a reduction of 1% AFTA index will increase economic growth by 0.08%. This finding is opposite with other researches that argue trade liberalization benefit regional economic growth (Feridhanusetyawan and Pangestu, 2003; Logan, 2008; Rivas, 2007).

The following detailed analyses of significant variables provide more insights. The variable population share in urban areas are insignificant all three sub periods; this finding rejects literature that argue that state restructuring shifts investments and economic activities that leads to a more distributive of economic growth between regions. The education variable has an insignificant effect on economic growth, which is contrary to expectation. However, as Rivas (2007) explains, this result has been widely found in the growth literature and that a negative effect on the initial level of human capital refers to an exogenous change in its return (Krueger and Lindhal, 2001). While the road accessibility variable is negatively significant in all periods. This finding is contrary with expectation as road accessibility should associate with higher economic growth. This can be explained with the presence of a backwash effect of regional development as argued by Myrdal (1957). These regions absorb the economy of neighbouring regions that have average road accessibility and poor market access.

The lobby capability variable shows that additional development funding has positive effect on regional economic growth for richer regions. This additional development funding reflects the rich local government's capacity to lobby the centre government, which determine economic performance significantly. However, this sign is opposite with pre-decentralisation that lobbying contracts economic growth. A negative sign in the pre-decentralisation period is explained earmarked and additional fund, additional funds to approximated the lobbying variable, in the pre-decentralisation

period only given to the poor and lagging regions through the Inpres Fund. Furthermore, trade liberalisation has insignificant effect on bordering regions. This finding rejects findings from other research that bordering regions have more impact from trade liberalisation.

In addition, the analysis shows that a higher share of manufacture industries is associated with higher economic growth. As the manufacturing industry is capital intensive than agricultural and natural resources industries, this might imply the manufacturing industry's technological level influence regional growth. However, the manufacturing share variable has lower positive effect on economic growth in the decentralisation period than in the centralised regime. On the other hand, the level of technology variable, represented by the TFP, has insignificant effect on development for all periods. This might indicates that the TFP of Indonesia industries do not determine regional growth.

The labour productivity variable, approximated as a ratio of labour and output, shows that the variable has a negative and significant supporting effect on economic growth. This implies that the lower the ratio of labour required to produced a certain output leads to a higher economic growth. The significance of these variables provides evidence for the endogenous growth model that emphasises on human capital, technology and the role of manufacturing for economic growth. (Lucas, 1988; Romer 1986, 1990).

The R-squared measurement shows the OLS models explained more variation in regional economic growth in the pre-decentralisation period (1993-2000) than the post decentralisation period (2001-2005). The whole period analysis has the lowest R-squared calculation, indicating there are other significant variables that are omitted from the model, such as political and administration shift issues that occur significantly and crucially determine regional economic growth within the 12 years of observation.

Furthermore, this chapter conducts spatial regressions to explain the variation in economic growth by considering geographical location. Following the spatial econometrics literatures claim that a better model has lower AIC, the pre decentralisation, and overall period are better explained by the spatial error model (SEM), and the after decentralisation by the spatial lag model (SLM). As Rey (2001) suggested, this shows that the unconditional model suffered from misspecification due to the absence of spatial dependence.

In each periods, the columns 3 and 4 reports the spatial lag and spatial error dependence regression. As the spatial econometrics requires complete observation to perform matrix calculation with the spatial weight, the data missing are replaced with the imputation approach. The appropriate univariate imputations methods are perform for each variable using imputation function in the STATA software. The AIC corrects the log likelihood function for over-fitting and the best fitting model is the one with the lowest value of AIC (Anselin, 2003; Rey, 2001). As found in other studies, the spatial error model fits best for each of the periods.

The spatial analysis confirms OLS main finding that there is regional economic convergence over the period under observation. In contrary with the OLS, the spatial regression found that the convergence rate is lower in the decentralisation period than with other periods. The two main variables in this thesis, in the decentralisation period, the decentralisation and trade liberalisation variables have insignificant effect on regional economic growth, holding other variables constant and considering spatial autocorrelation.

In the pre-decentralisation period, the findings confirm results from the OLS analysis that labour productivity are associated with higher economic growth. As found in the OLS analysis, the negative sign share of manufacturing shows that high dependence on manufacturing contract economic growth. Furthermore, the analysis also found that lobbying capacities in the pre-decentralisation period has negative effect. However, the analysis found that the role of industrial technology level is significant geographically and positively influence regional economic growth. This finding confirms that endogenous growth theory argument that distance positively influences regional technology spillovers. The opposite is found in the state restructuring period, as there is lack of significant explanatory and control variables.

The spatial lag variable (*rho*) is insignificant implies that geographical factors are not significant on regional economic growth. A positive and significant effect of share of urban population and share of manufacturing suggests more manufacturing industries is associated with population concentration in the urban areas that leads to higher regional economic growth. In the long run, these regions absorb the economy of neighbouring regions that have poor road accessibility that implies the presence of a backwash effect of development as argued by Myrdal (1957). Overall, the spatial analysis argues that regional convergence are evidence and there is lack of variables that determine regional economic growth in all periods.

6.4.2 Panel Analysis on State-restructuring Impact

To capture how economic growth and explanatory variables change over time, this chapter also conducts panel estimations to exploit the richness and better understand the nature of the data. Similar to the OLS analysis above, panel data analysis is also divided into three periods of observation, the pre-decentralisation, decentralisation, and whole period analysis. The Hausmann test result suggests a fixed-effect panel analysis rather than the random-effect. The analysis does not suffer from heteroskedasticity and autocorrelation, as in the methods developed by Wooldridge (2002, p. 282-283). There are missing data in almost all control variables that leads to reduction number of observation in the OLS and panel data analysis. For example, whilst there are 4088 observations in the full dataset, there are only 656 observation for 292 districts over the period 1993-2005. The panel analysis use variables in Model 1 in the OLS regression, and are presented in Table 6-4.

The panel regression analysis confirms that regional economic growth are converging statistically significant in all periods, providing evidence that poorer districts grow faster than rich ones. This result confirms the distribution analysis in the previous chapter and the OLS results. Similar to the OLS analysis above, panel data analysis is also divided into three periods of observation, the pre-decentralisation, decentralisation, and whole period analysis. In the post-restructuring period, there are more determining factors, which are:

(i) The decentralisation index has a negative effect implying that decentralisation contracts economic growth significantly. The finding also confirms OLS result that there is insignificant effect of fiscal autonomy in the pre-decentralisation period. While there is insignificant effect from the AFTA variable, this result confirms the findings from OLS analysis.

(ii) Regional economic growth is also significantly determined by local economic structures such as manufacturing output and labour productivity.

(iii) The analysis result shows that bordering regions is significant for the pre-decentralisation period, which is agrees with the literature that argues that these regions benefit most from trade liberalisation. The interaction variable on bordering regions and AFTA tariff reveals that regions located in the borders had higher economic growth from trade liberalisation compared with the inland regions. As both OLS and panel analysis found this significance only during decentralisation period, this could imply

that the authority to mobilise resources and effective governance has accelerate AFTA tariff effect on bordering regions development. This finding confirms the economic gains promoted by political and fiscal devolution as argued elsewhere (Rodríguez-Pose and Bwire, 2004; Rodríguez-Pose and Gill, 2005). However, this result is unexpected for Indonesia, as the bordering regions, except for Batam, are economically lagging and remote. The bordering regions are also challenged by persistent socio-political conflicts.

(iv) The lobby capability variable has a significant impact on regional disparity in this period. This confirms that additional development funding is crucial to regional development.

(v) The panel analysis also confirms the OLS finding that the TFP that represent the level of technology is insignificant for economic growth. This explains the poor technological level and progress in Indonesia manufacturing industries.

Overall, the panel analysis explains more variation in Indonesia's economic growth during the post-decentralisation compared with the pre-decentralisation periods, 98.4% compared with 77.9%, respectively. This high R2 in the post-decentralisation period might indicate that the model and the variables are appropriate to estimate the determinant factors of regional growth in the post-decentralisation than for other periods.

Table 6-3 Absolute, Conditional and Spatial Regression

	1993-2000				2000-2005				1993-2005			
	OLS	OLS	SAL	SEM	OLS	OLS	SAL	SEM	OLS	OLS	SAL	SEM
GRDP initial year	-0.028**	-0.168**	-0.324**	-0.330**	-0.272**	-0.203**	-0.049**	-0.046**	-0.063**	-0.115**	-0.343**	-0.349**
	-0.004	-0.03	-0.03	-0.03	-0.01	-0.02	-0.01	-0.01	-0.01	-0.01	-0.03	-0.03
Decentralisation Index		-0.325**	-0.123**	-0.120**		-0.238**	-0.01	-0.007		-0.274**	-0.119**	-0.120**
		-0.02	-0.03	-0.03		-0.01	-0.01	-0.01		-0.01	-0.04	-0.04
AFTA Index		-0.079**	-0.03	-0.022		-0.081**	0.001	0		-0.052**	-0.03	-0.018
		-0.02	-0.03	-0.03		-0.01	-0.01	-0.01		-0.01	-0.03	-0.03
Regional Control Variables												
Share of people in urban areas		-0.013	0.195**	0.206**		-0.002	0.025	0.024		-0.029	0.142**	0.147**
		-0.04	-0.04	-0.04		-0.02	-0.02	-0.02		-0.02	-0.05	-0.04
Share of people in, or ever in junior high school		-0.985**	0.147	0.447		0.079	-0.417	-0.405		-1.373**	-0.815	-0.908
		-0.19	-0.61	-0.64		-0.29	-0.25	-0.25		-0.11	-0.66	-0.66
Road Accessibility		-0.290**	-0.074	-0.058		-0.262**	0.052	0.039		-0.192**	-0.172	-0.219*
		-0.08	-0.08	-0.08		-0.05	-0.04	-0.04		-0.05	-0.1	-0.1
Lobby Capacities		-0.003	0.011*	0.013**		0.009**	-0.002	-0.002		-0.004**	0.018**	0.019**
		0.001	0.001	0.001		0.001	0.001	0.001		0.001	0.001	0.002
Industrial Control Variables												

Share of Manufacturing GRDP		-0.426**	-0.701**	-0.734**		-0.198**	0.039	0.041		-0.216**	-0.583**	-0.621**
		-0.1	-0.07	-0.07		-0.05	-0.03	-0.03		-0.05	-0.08	-0.08
Industry activities in the borders		-0.036	-0.067*	-0.079**		0.007	0.015	0.015		0.001	-0.032	-0.047
		-0.03	-0.03	-0.03		-0.02	-0.01	-0.01		-0.02	-0.03	-0.03
Labour Productivity		-0.104**	-0.095**	-0.084**		-0.041**	-0.005	-0.005		-0.081**	-0.061*	-0.062*
		-0.02	-0.03	-0.03		-0.01	-0.01	-0.01		-0.01	-0.03	-0.03
Total Factor Productivity (TFP)		-0.02	-0.026	-0.027		0.004	0.009	0.01		-0.025	0.011	-0.002
		-0.03	-0.03	-0.03		-0.02	-0.01	-0.01		-0.02	-0.03	-0.03
Constant	0.458**	1.560**	4.657**	4.684**	4.321**	2.758**	0.810**	0.734**	1.047**	1.225**	5.200**	5.487**
	0.07	-0.37	-0.46	-0.46	-0.16	-0.22	-0.21	-0.2	-0.09	-0.2	-0.49	-0.49
Spatial lag (rho)			-0.137				-0.222				0.092	
			-0.13				-0.15				-0.14	
Spatial error (lambda)				0.255				-0.193				0.345*
				-0.15				-0.18				-0.14
Obs	1936	341	292	292	1751	476	292	292	3396	656	292	292
R2	0.018	0.796	0.408	0.404	0.281	0.89	0.134	0.125	0.031	0.81	0.356	0.352
AIC			95.661	94.08			-454.133	-453.249			107.196	102.227
BIC			147.136	145.555			-402.658	-401.774			158.671	153.702

Significance at * p<0.05; ** p<0.01; *** p<0.001, N= 338, T = 13,; t-values in parenthesis

Note: Growth rates for 1993-2000 and 1993-2005 are based on constant 1993 prices; growth rate for 2001-05 is based on constant 2000 prices.

Source: Author's own calculation

Table 6-4 Fixed effects regression of per capita GRDP Growth

	1993-2000	2001-2005	1993-2005
GRDP pc, initial year	-0.378*	-0.862**	-0.157**
	-0.16	-0.02	-0.03
Decentralisation Index	-0.404**	-0.019*	-0.305**
	-0.03	-0.01	-0.01
AFTA Index	-0.170**	0.013	0.002
	-0.06	-0.01	-0.02
Share of people in urban areas	0.091	-0.003	0.067*
	-0.06	-0.01	-0.03
Share of people in, or have been in junior high school	-0.307	0.055	-1.336**
	-0.26	-0.32	-0.15
Road Accessibility	-0.834	-0.146*	-0.078
	-0.51	-0.07	-0.17
Lobby Capacities	-0.006	0.005*	-0.006*
	0.001	0.001	0.001
Share of Manufacturing GRDP	-0.558	-1.314**	-0.922**
	-0.41	-0.15	-0.19
Industry activities in the borders (Output*borders)	0.21	0.111**	0.03
	-0.37	-0.03	-0.1
Labour Productivity	-0.187**	-0.023*	-0.119**
	-0.05	-0.01	-0.02
Total Factor Productivity (TFP)	-0.055	0.001	-0.046+
	-0.07	-0.01	-0.02
Constant	3.671	12.928**	1.505**
	-2.33	-0.31	-0.48
Number of observation	341	476	656
Number of groups	212	214	242
Adj. R2	0.779	0.984	0.832

Source: Author's own calculation

6.4.3   State-restructuring Impact on Regional Convergence: A Discussion

Decentralisation is believed to promote regional distribution as Rondinelli (1990) wrote: "Decentralisation is the transfer of planning, decision making, or administrative autonomy from the central government to its organization, local administrative, semi-autonomous, and parastatal organizations, local government, or non-governmental organization". The efficiency has been a long-time supporter of decentralisation as the arguments are mainly based on augmented economic efficiency (Calamai, 2009). For instance, there has been evidence that devolution has brought citizen participation into planning, progress, and decision-making. In the individual level discussion, Tiebout (1956) argues that that the ability of people to move between regions could be treated as

a market-like solution to local public good problems, as individuals can choose the public service and taxes that suits them.

The OLS and panel econometrics analysis provide evidence that regional convergence are operating in Indonesia between 1993 and 2005. The regional convergence rate are higher in decentralisation period compared with pre-decentralisation and all periods. This implies two important findings. First, this confirms the Neo-classical arguments that the process of catching up by lagging regions to advance regions is evidence in Indonesia. The GDP per capita in lagging regions have higher growth rate compared with the advance regions. Second, lower convergence rate in the all period compared with other periods provide evidence the presence of economy and political shift within the periods (McCulloch and Syahrir, 2008).

The OLS analysis confirms endogenous literature that labour, technology and share of manufacture have positive association with regional economic growth. However, if we isolate individual regions with the fixed-effects panel analysis, the labour productivity is the only variable that have positive significant on economic growth. This confirms that endogenous model literature that emphasis the role of labour and technological progress as an action of economic agents that positively determine economic growth (Lucas, 1988; Romer 1986, 1990).

On the other hand, Islam (2003) argues that the administration level of decentralisation at the district level tends to increase disparity. He claims that the decentralisation law may also encourage inefficient development, with two or more neighbouring regions developing the same infrastructure. Not just overlapping and oversupply services, this decentralisation may also limit people from one region to loose public service from another region. Other critiques argue that decentralisation will provoke local governments to compete with other regions leading to unnecessary and inefficient development.

This can be seen in Indonesian decentralisation where newly established provinces are willing to develop seaports in an attempt to secure higher local revenue (Seymour and Turner, 2002). The literature also suffers a significant weakness as it only observes the demand side and neglects supply side of devolution (Prud'homme, 1995). Limited skill and managerial ability, reflected with lower education level and national policy knowledge, has lead to inadequate public service. The autonomy that regions gain allows them to customise tax and welfare policies based on their development

objectives, such as tax holiday, tax target, and other financial policies. It assumes local governments have in-depth knowledge about its region and convergence. In Indonesia, there are arguments that districts should have higher revenue through taxes and other local incomes, as argued for Indonesia by Suwanan and Sulistiani (2009) and McCulloch and Syahrir (2008) However, this remain limited as several strategic taxes (value added tax and income tax) are administered by the central governments.

At the administrative level, devolution has enabled rich regions to enhance their resources and financial intensity compared to the period before devolution. With higher economic activities and financial support, rich regions will achieve economies of scale in all development sectors. Hirschman (1958) and Myrdal (1957) argue that growth centres will establish regions with better infrastructure and policy developments.

Despite the decentralisation index have a negative sign, which indicates decentralisation contracts regional economic growth, the OLS and panel analysis shows evidence of regional convergence (Tables 6.3 and 6.4). This paradox finding can be explained with presence of other development factors such as institutional capacities (Rodríguez-Pose and Ezcurra, 2010), the society arrangements (Rodríguez-Pose and Storper, 2006) and knowledge of local values (Rodríguez-Pose and McCann, 2011) as other factors that influence economic growth beside local autonomy *per se*. While a positive sign between of lobby variable suggest that the lobbying capacities promotes further economic growth for richer regions. However, further analysis are need in the future as starting in 2008 the decentralisation Undang-undang No. 33/2004 has eliminated the 'no hold harmless' policy, to ensure that the allocation funds to poorer regions (Brodjonegoro, 2003).

On the other hand, the analysis also confirms that trade liberalisation do not always benefit the regions. First, manufacturing industries have a strong positive effect on disparity (Rodríguez-Pose and Bwire, 2004). The findings suggest that trade liberalisation may have affected convergence through the high concentration of activities it creates. Second, the institutional approach claims that the effects of trade openness are determined by the preferential trade agreement, the agreement's capacity to produce trade creation, and trade diversion, and economic power of nation-states. Third, in the economic impact analysis, regions with abundant natural endowments and infrastructure accessibility are more able to attract investments and economic activities. This leads to divergence among regions until the economy finds its equilibrium and creates a balance economy where poor regions can experience economic development.

The regional initial economic level and standard deviation (SD) growth for the three periods are presented in following maps (Fig. 6-7 to 6-12). First, the district initial GRDP 1993 map (Fig. 6-7) shows that Java have higher economic level compared with districts in other islands. This illustrates that regional economic growth disparities has occurred prior to decentralisation. A similar picture also found in the SD growth map between 1993 and 2000 (Fig. 6-8) shows that districts in the Java's economic growth rate closely to national average, while districts in Sumatra, Kalimantan and Sulawesi have a more dynamic growth rate. Specifically, districts in the Riau, East Kalimantan and West Sulawesi provinces have higher economic growth during the pre-decentralisation period.

Figure 6-7 Districts Initial GRDP per capita 1993
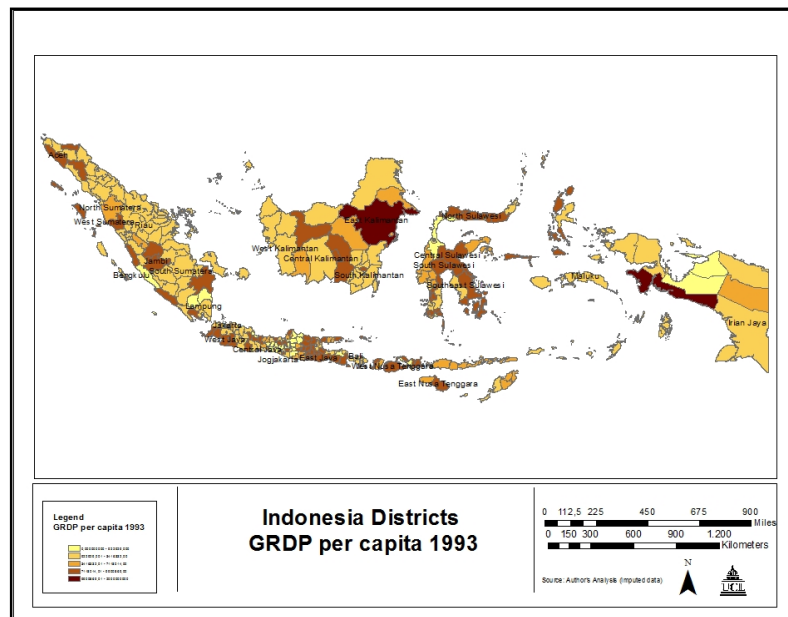
Source: Author's own calculation

Figure 6-8 Districts growth 1993-2001 (Standard Deviation)

Indonesia Districts
SD GRDP per capita Growth
1993-2001
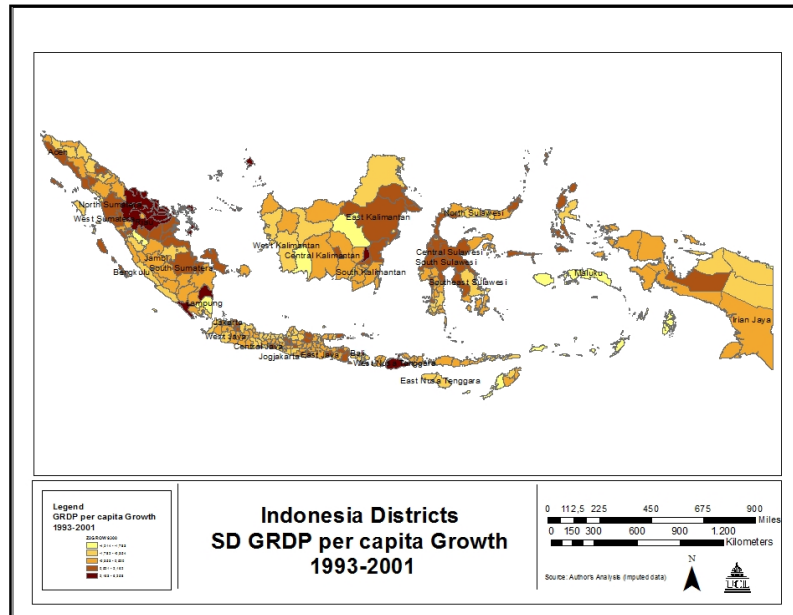
Source: Author's own calculation

Figure 6-9 Districts Initial GRDP per capita 2001

Indonesia Districts
GRDP per capita 2001

Source: Author's own calculation

Figure 6-10 Districts growth 2001-2005 (Standard Deviation)

Source: Author's own calculation

Figure 6-11 Districts GRDP per capita 2005
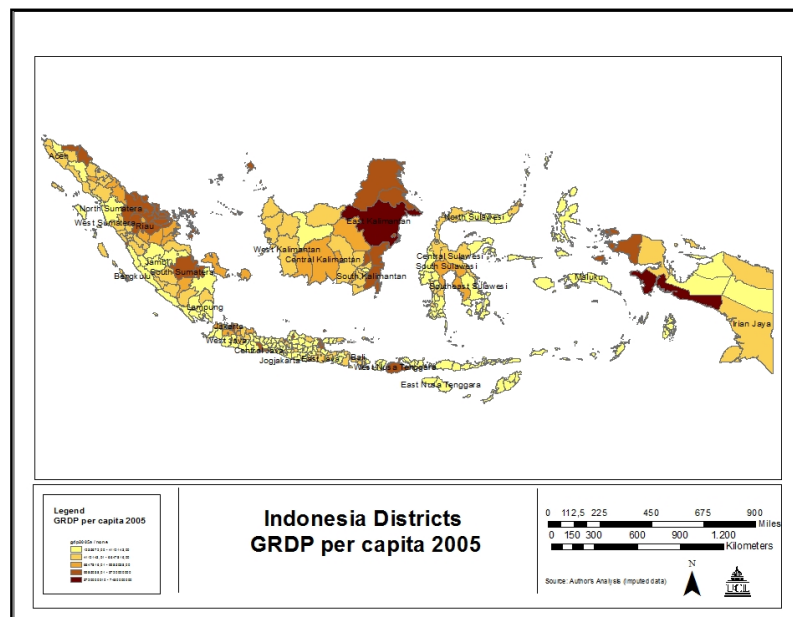
Source: Author's own calculation

Figure 6-12 Districts growth 1993-2005 (Standard Deviation)
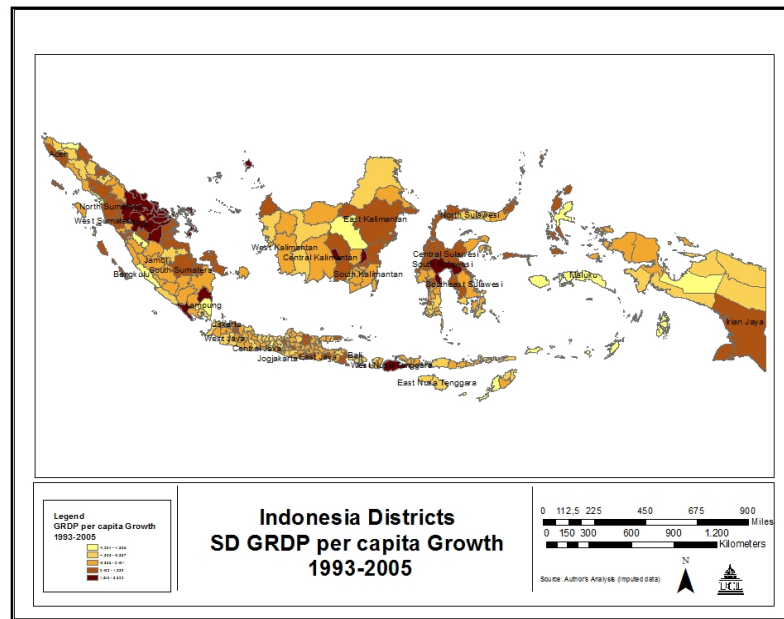
Source: Author's own calculation

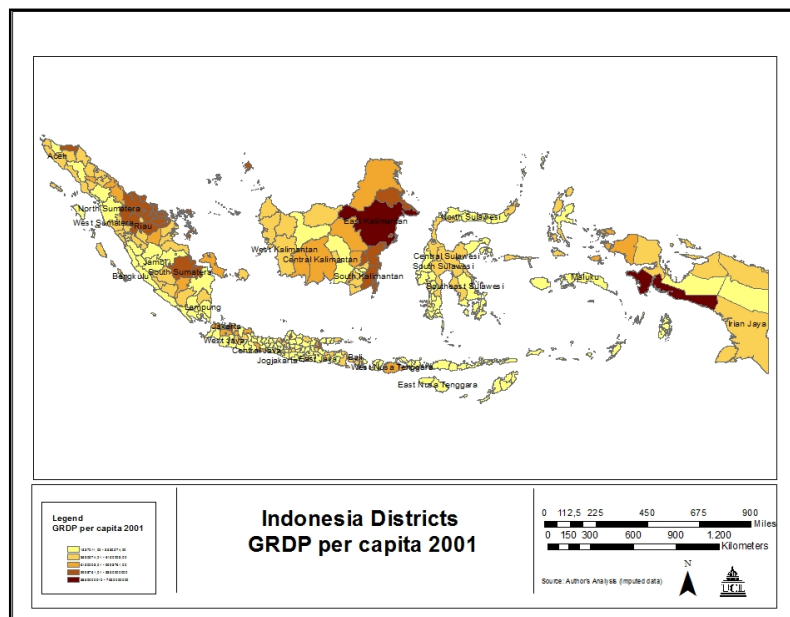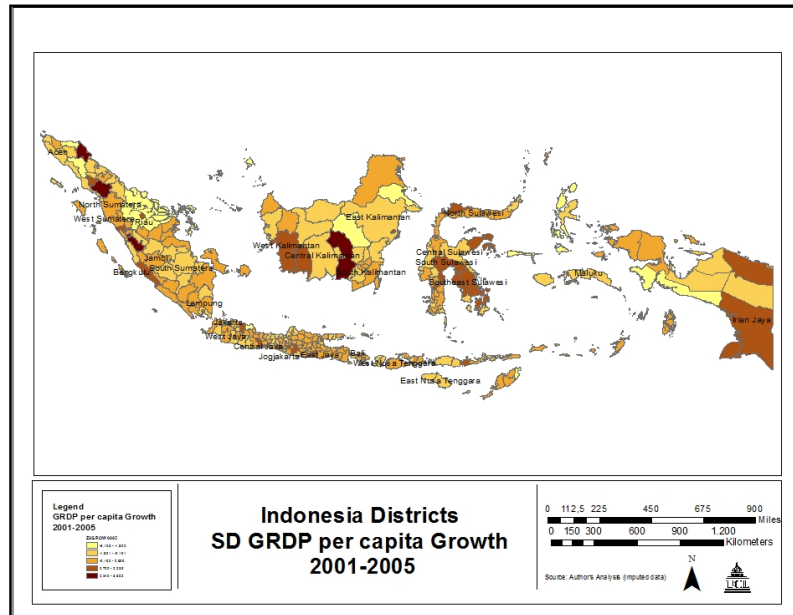A similar picture is shown in the districts in Java during the decentralisation period (2001-2005). In the beginning of decentralisation in 2001 (Fig. 6-9), Java districts have lower economic level compared with other regions that results from the economic growth in the previous period. This low performance continues with lower economic growth in the state restructuring period (Fig. 6-10). These districts economic growth are at the national average with exception of Jakarta and several districts in Central Java. The districts economic growth in Sumatra, Kalimantan and Sulawesi are similar with the pre-decentralisation period, however, there are high economic growth in the Papua Island districts. Thus, this map illustrates the findings in the econometrics analysis that there are higher rate of catching-up of economic growth by lagging regions. The map also reveals that a positive effect of state restructuring on regions located that at the borders. These regions have higher economic growth compared with other regions, however, these growth rate are lower than in the pre-decentralisation period.

The economic level map in 2005 (Fig. 6-11) shows that there are variation in the economic level between districts in Sumatra and Kalimantan, even some districts have higher economic level than the districts in Java. This confirms the convergence of economic development between districts. This is also shown in the SD district economic

growth over the period between 1993 and 2005 (Fig. 6-12) that districts in Java have low economic growth rate compared with districts in other islands. For instance, districts in natural resource rich and manufacturing provinces such as Riau, East Kalimantan and West Sulawesi had higher economic growth compared to its counterparts. The map also shows that districts at the borders in Sumatra have higher SD economic growth rates than bordering districts in Kalimantan and Sulawesi islands. The map also shows that districts in Papua and Java have economic growth at the national average.

6.5 Research Conclusion and Contribution

6.5.1 Research Conclusion

The study of disparity has been conducted in various Indonesia regions. Using unconditional convergence models, this research observes the process of convergence, consistent with Resosudarmo and Vidyattama (2006), and Akita and Alisyahbana, (2002). This research confirms that disparity remains high between regions, and it increased during the 1993-1998 period as suggested by Akita and Lukman (1995) and Akita and Alisyahbana (2002). Within provinces there has been significant contribution to total disparity, while between provinces and between regions the effect is lower.

This chapter's main aim to explore Indonesian regional disparities is achieved through various methods of disparity indices and convergence analysis. However, the author acknowledges the limitations of the disparities regression analysis that uses GRDP per capita data and spatial autocorrelation solely. Without further information on determinant factors, the analysis only confirms the severe disparities and unequal development across regions within different periods. The analysis of local explanatory variables and policy determinants are necessary to gain more insights and explanation of the economic observation trend. In addition, the econometrics analysis omitted the administration type of local governments and their location, as this is insignificant for analysis throughout the period. This result differs from McCulloch and Syahrir (2008) who found districts located in the Java Island had lower economic growth.

From the conditional empirical studies, we can draw several conclusions. First, all regression conducted in this chapter shows a significant convergence rate indicating poorer districts grow faster than advanced districts. The analysis concluded that the catching up process was more apparent in the decentralisation period than in other periods.

Second, the impact of decentralisation is different to Calamai (2009) findings in the Italian case. In Indonesia decentralisation has a negative impact on economic growth suggesting that autonomy and self-government has caused an increased growth gap between districts, even before the decentralisation period. The negative association between decentralisation and economic growth decline in the decentralisation period. Hence, the absence of central government intervention has further hindered a balanced development between regions. In addition, the statistical measurement shows the econometrics analysis explains more regional economic growth variation in the decentralisation period compared with other periods. This implies that variables deployed in this thesis capture more economic and political conditions in decentralisation era.

Third, the share of manufacturing and infrastructure availability have positive effect on regional development, however the level of technology is insignificant over both in pre and post state restructuring. In a long period, beside infrastructure and technology in the manufacturing industry, share of population also have a positive sign suggesting that these variables determine regional development, as growth are more apparent in regions that has advancement in these variables. This result shows the significance of accumulation increase theory that argues regions with more local endowments attract more investment and economic activities (Myrdal, 1957). In addition, this thesis also attempted to capture the effect of non-tangible political capacities on economic growth with the lobbying capacities by the local government. However, the availability of such political and institutional variable is limited and requires specific assumptions that are unique between countries and regions.

Fourth, ASEAN FTA tariff elimination has a positive impact on economic growth. However, the variable's insignificant value demonstrates AFTA's small contribution to regional economic performance, as found by Feridhanusetyawan and Pangestu (2003) using the CGE model. This research finding agrees with Rodríguez-Pose and Gil (2006) that there is a weak positive effect of trade on regional disparity and low intra trade performances in AFTA. This is contrary to other studies such as Rivas (2007) that found with Mexico and NAFTA, trade openness impact *per se* promotes convergence, and if it is combined with other variables such as infrastructure and per worker income, it will enhance disparity. In NAFTA, there was less of a convergence effect, and much less gain for Mexico compared with the GATT era (Sanchez-Reaza & Rodríguez-Pose, 2002). The study of Mercosur FTA shows that economic growth and convergence

occurred during the stabile macroeconomic era between 1994-2002 (Madariaga et al., 2004).

The chapter also shows the significance of path dependence theory (Krugman, 1991) that trade liberalisation promotes the advance regions exploitation of the peripheral economies. High economic growth is found in regions with high percentages of exports, labour productivity, and value added, and those that are included within the global trade integration such as Batam, West Java and East Java. The positive effect of labour productivity also confirms this argument.

Based on our econometrics analysis, Indonesian economic growth has not witness the hollowing out of state; on contrary, the sub-national remains heavily dependent on the transfer funds from the central government. The importance of intergovernmental, and between actors governance, and how that impacts local economic performance and disparity will be discussed in-depth in the qualitative chapter.

6.5.2 Contribution to the Literature

This chapter has contributed to the existing literature on decentralisation, trade liberalisation, and Indonesia studies. Within the decentralisation impact studies, the chapter shows that decentralisation has a negative impact by itself, but if it is coupled with external events such as trade liberalisation, governance capacities, and good social policies, decentralisation could promote local economic growth. Thus, central governments should accurately decide on additional policies that support decentralisation implementation in order to improve local development.

The research has contributed to the trade liberalisation literature in a sense that trade liberalisation impact depends on the size of free trade area, market, and policy commitments. The AFTA is limited to 10 developing countries that are limited in economic scale, and ASEAN FTA has not confirmed a form of governance and regulation that imposes authority and decision-making between state members. For example, without regulation of custom union agreements, each member state in ASEAN has no limitation with its preferred trade partners, as found in EU and NAFTA, which the *de jure* sovereignty of nation-state at a certain level has been transferred to supra-national level. The study shows that infrastructure is the only variable that remains statistically significant and consistent to local economic performance throughout the period. The infrastructure approximated by the proportion of roads that are accessible and paved within districts is associated with higher economic performance. An increase

in the share of districts by one percent on average shows a higher economic performance by 0.5 percent. Thus, this sector should be included in each local government development plan.

This research confirms Scott (1999) finding that the geography of global capitalism is diverging across time, as argued by the cumulative causation, and contrary to neo-classical theories. The positive sign of trade liberalisation provides evidence that the higher impact on agglomeration, approximated by the increase in value added and export values, accumulates population and economic concentration leading to a cyclical process of extensive development of infrastructure, facilities migration, brain drain, and centripetal forces for further economic development (Armstrong and Taylor, 2000; Florida, 2008).

The analysis findings also provide insights for the state rescaling literature that the nation-state remains as the decision-maker for decentralisation and trade liberalisation. The administrative and fiscal decentralisation remains under the central government's control such as monitoring of local regulations and limitation on local tax collection. However, local government role increase with autonomy on local governance and unrestricted DAU spending which confirms the existence of local development rescaling as found by Swyngedouw (1997). The absence of supra-national authority is reflected with the nation-state through the MoT determines the degree of sectoral industry participation in the AFTA trade liberalisation. Thus, central government's role remains important in determining regional development.

The convergence of growth development remains very limited with growth still focus on core regions. Macroeconomic stability has not been fully achieved due to constant conflicts between levels of governments and the persistent disparities between the West region with Central and East regions in Indonesia. In addition, this research found that rich and bordering regions gain the most from FTA, as determined by Juan-Ramón and Rivera-Batiz (1996). Abundant local endowment and infrastructure attract investments and economic activities, which lead to divergence among regions, with selected regions experiencing higher growth rate.

Overall, a strong central government is needed in the devolution era to avoid territorial competition and to minimise negative effects from fiscal and resources capacity rivalry. The legislation of new laws that relates with decentralisation to adjust current political and economic demands implies that central government regulations are flexible and not rigid. For example, the legislation of *Peraturan Pemerintah* No.

19/2010 shows the central government responded to the demand to enhance provincial government authority, in order to ensure integrated local policies, development integration, and to prevent inter-district disputes. Using state-restructuring on devolution and trade liberalisation, this study attempts to understand the interplay of state in order to balance regional development and global trade. While the issue of governance rescaling peaks, nation-state continues to have a crucial role in directing regional development through national policies. This argument also applies to the international trade agreements, which is apparent in the case of AFTA.

Chapter 7 Effect of State Restructuring on Regional Development: A Historical Institutionalist Perspective

7.1 Regional Divergence: Historical Institutionalist Approach

The chapters devoted to the quantitative study in this thesis, along with a few other studies on related issues (McCulloch and Syahrir, 2008; Madariaga et al., 2004; Rivas, 2007), show that regional divergence is persistent. In Chapter 1, I used quantitative methods to test a model that was based on stylised facts. Although evidence was found supporting the persistence of regional divergence, such evidence does not explain the reason for the persistence. For this chapter therefore, I conducted qualitative research to look into areas that the quantitative model could not examine. Amongst various strategies within qualitative research, this study followed previous research on historical institutionalism, in which the role of antecedent knowledge was considered to elucidate institutional changes and how these affected the persistence of institutional and economic differences (Hall and Taylor, 1996; Skocpol, 1979; Thelen, 1999, Angeles, 2011). The historical institutionalist framework was incorporated into North's (1994a, 2005) emphasis on property rights as the main determinant of economic growth.

This chapter attempts to explain the findings obtained from the quantitative study through a regional institutional analytical tool that combines economic performance and the historical institutionalist approach. Using such an analytical tool, this research attempted to recognise institutional antecedents, path dependence, and political shocks. In this chapter, I argue that regional disparity is inherent in Indonesian institutions and that state restructuring further affects the variations amongst regions. The persistent regional disparities are a product of previous institutions, thereby inherently shaping current institutions through path dependence.

The chapter is organised as follows. The section 7.2 discusses the antecedent institutions that influenced institutional change. The following section examines the effect of institutions that are descended from the previous regime and state restructuring on the persistent regional divergences. The final section summarises the research findings and theoretical contributions to regional convergence and state restructuring literature.

7.2 Methodology and Analytical Framework

This section discusses the regional institutional analytical framework derived from the economic change initiated by North (1994a, 2005) and historical institutionalism of comparative political science (Hall and Taylor, 1996; Skocpol, 1979; Thelen, 1999, 2003; Angeles, 2011). This institutional analytical framework analyses the effect of variations in institutions and growth trajectories on regional economic divergence.

The framework is an analytical tool for explaining the effect of state restructuring-induced institutional change on Indonesian regional development. Institutional economic performance literature provides insight into the role of critical institutions and property rights in economic performance, whilst historical institutionalism provides more contextualised research with emphasis on 'timing, sequencing, and interaction of specific political-economic process' (Thelen, 1999). The construction of this regional development institutional framework requires economic performance perspectives that are translated into historical institutionalist components. The historical institutionalist approach studies these components through the regional growth trajectory. The distinctive trajectories lie in political theories, in which institutions of polity and economic structural conflicts cause non-uniformity.

Economic Performance Literature

The attempt to explore the relationship between institutions and economic performance was initiated by North (1994a, 2005). The studies show that institutions are required to create polities that support economic development. Thus, the present study borrowed this idea to establish the framework analysis by identifying such polities and their environments. The identification of these polities at the district level and understanding the nature of the state structuring-induced institutional change enabled this research to examine the effect of state restructuring on regional economic growth.

The core argument of the economic performance perspective is that the incentives of development are the underlying determinants of economic performance (North, 1991). These incentives are influenced by the role of formal and informal institutions and enforcement rules in producing polities that reduce transaction costs, as well as adaptive institutions that are bound by a belief system (North, 1994, 2005). First, the transaction costs in the market should be minimised, which is essential to producing a dynamic economy (North, 1994). Individuals usually find it worthwhile to

cooperate with others when the action is reciprocated, information is complete, and there are a small number of players whose strategy and goal is to maximise development through property rights. Such cooperation necessitates a viable polity because to define and enforces economic rules that shapes economic performance (North, 1994). Hence, these polities promote and enforce efficient property rights, and their creation is not a result of an autocratic regime; these polities will be stable only if supported by organisations that have a stake in their existence.

Second, understanding the source of institutional frameworks is important to identifying the rules and constraints of the belief system within institutions; this belief system limits local polities (North, 2005). Finally, a successful economic system should be able to survive shocks and changes caused by external development and internal adoption (North, 1994a, 2005; Rodríguez-Pose and Storper, 2006). Adaptive institutions are more important as the key to long-run growth, compared with allocative efficiency (North, 1994). The regional institutional capacity to adjust and innovate policies determines economic growth; such adjustment and innovation are achieved by understanding local cultures and characteristics (Chang, 2005). For example, interrelated firms and economic sectors can provide insight into the adaptive capacity of a region that imitates the institutions from other regions.

Historical Institutionalism

The economic performance perspective neglects that agents are rule-following 'satisficers', refers to human behaviour that individuals interest to seek satisfaction are bounded by their previous knowledge and culture. This is a result of constant and repetitive behaviour that are structured by society-defined rules (Thelen and Steinmo, 1992). Given that economic performance acknowledges that agents are rational in maximising their profits as a response to an environment or event, the theory does not recognise historical and previous knowledge that bind individual decisions. Thus, the approach assumes that present behaviour is independent of agent experience. In this sense, the approach views agent decisions at a discreet time and on the basis of isolated behaviours or characteristics.

This perspective reflects the historical institutionalist argument on the importance of bound behaviour and knowledge. North's concern over a state's inefficient property rights regime, which hinders the possibility to choose better policies, is explained by historical institutionalism as a result of 'shared cultural understanding'. The emergent

institutional forms will be isomorphic with existing institutions. In redesigning institutions, policymakers are bound by local previous knowledge and behaviour in forming new institutions as a re-creation of past images. The current research argues that rules shaped by polities over time limit the decision-making strategy of the polities within the range of the 'satisfice' context, and eventually affect adaptive capacity.

The application of historical institutionalism in comparative politics covers issues such as social revolution (Skocpol, 1979), labour formation institutions (Thelen, 2004), industrial policy (Hall, 1986), and different popularity rates between states (Rothstein, 1998). In comparative political studies, historical institutionalism focuses on three crucial analyses. First, the timing, sequencing, and interaction of political processes determine the attention towards the relationship between democratisation and decentralisation. Thus, knowledge on cultural heritage and path dependence is important to observe possible influence on doable changes and belief structures that shape local policies (Martin and Sunley, 2006). Institutionalism influences embeddedness and societal values, which themselves are contested and in flux (Lowndes, 2001)

Second, critical juncture literature suggests that focus on crucial events such as economic crises and regime changes to construct a strong arguments for institutional change. These institutional shocks do not always result in institutional change and this change does not always arise from exogenous shocks (Pierson, 2004; van der Heijden, 2011). Over time, the process of institutional change is incremental and mechanisms governing this change exist (Thelen, 1999; Streeck and Thelen, 2005; Mahoney and Thelen, 2010). These institutional changes introduce modifications that vary in path dependence, which differentiates growth trajectories. Two outcomes are possible, first, the static regions refers to path development dominated by institutional hysteria, refers to the embedded formal and informal institutions and economic, social and political relations built on previous growth paths that influence adaptive behaviours (Di Fabbio, 2011). This causes development lock-in and sunk costs. Second, dynamic regions reflect incremental transformation of local institutions (Martin, 2010).

Third, historical institutionalism places emphasis on the unintended consequences and reinforcement of institutional change. This leads to the institutional capacity to imitate other institutions and adaptation for further development (Chang, 2005).

Analytical Framework of this Research

The analytical framework differs from the above original theories in defining actors and property rights, but works similarly as it is adjusted in accordance with this study's objective. This analytical tool was adapted to the specific conditions of Indonesian institutional arrangements. The study defines the governments as the agents and property rights as the right to determine the use of resources within a territory, with transaction cost as a cost of the economic exchange of these property rights. The assumption behind this adjustment is that similar to individuals, local governments respond to economic incentives and become more efficient when property rights are clearly defined. As a result, the development of various forms of property rights institutions is limited by transaction costs. However, as property rights enforcement and transaction costs diverge amongst regions, economic incentives for development vary, thereby causing regional economic divergence.

How historical institutionalism explains regional economic divergence within the economic performance perspective is shown in Figure 7-1 to explain the framework. The property rights and transaction costs within each box differ slightly, indicating variations in institutional arrangements over time. The degree to which property rights are exploited by agents is bound by transaction cost. The belief system consists of the institutional development path that binds the path chosen at a critical juncture; the rate of institutional reinforcement and reproduction determines learning capabilities. This belief system also determines local growth trajectory and institutional adaptability. Finally, the illustration (Fig. 7-1) also recognises the presence of intervention that influences the progress of regional institutions. There are two sources of intervention: the legacies of previous institutions and the result of institutional learning and adaptation. The historical institutionalism perspective argues that regional development is a result of cumulative causation through path dependence. Regional development and change are bound by past knowledge and behaviour that allows only certain changes on existing institutions. The historical institutionalist approach features four types of institutional change, namely, displacement, layering, drift, and conversion (Mahoney and Thelen, 2010). Considering the Indonesian context, this research is particularly interested in the institutional transformation of learning and adaptation, which are channelled through institutional conversion with the presence of new actors who find opportunity in the system because of institutional changes; it is also interested in

institutional layering where the modification of systems are incorporated into existing structures (Thelen, 2004).

Figure 7-1 Research Methodology
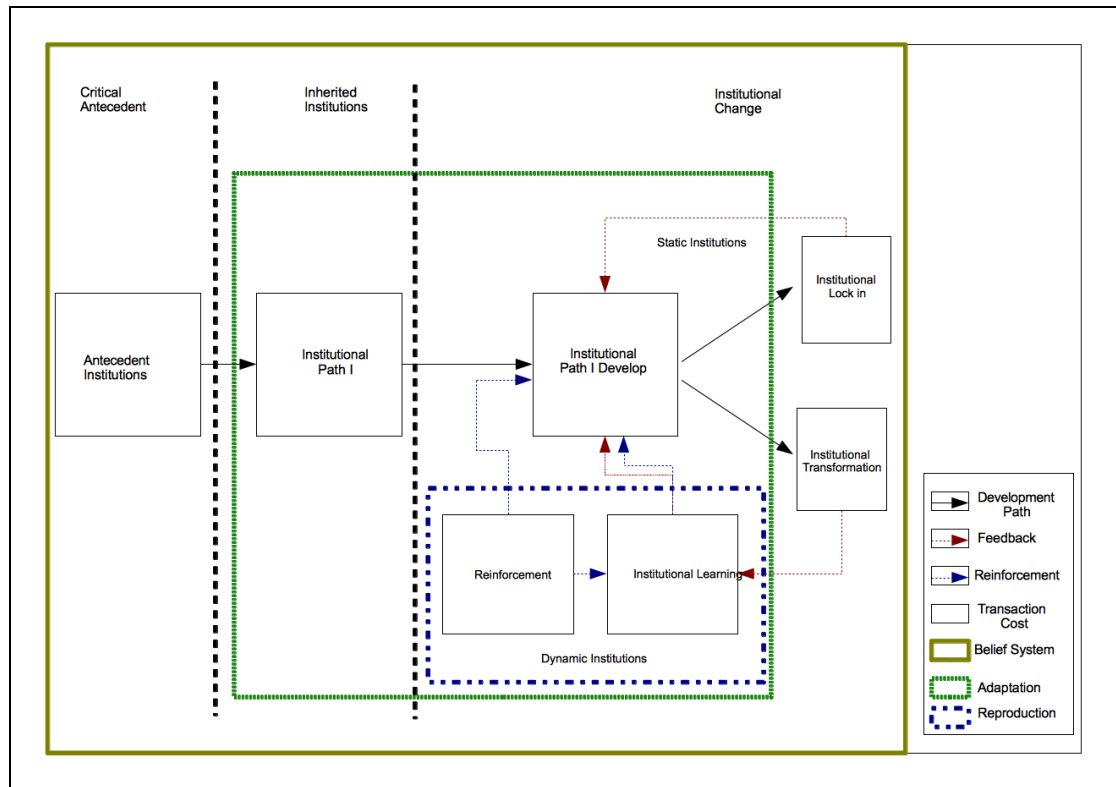
Source: Author's interpretation

This chapter regards this political economic change as the critical juncture, following historical institutionalist literature (Hall and Taylor, 1996; Thelen, 1999; Eaton, 2004; Slater and Simmons, 2010). To understand how institutional change determines local economic divergence, it is important to observe the institutional adjustments in developmental processes that follow political and economic shocks (North, 1994a, 2005; Rodríguez-Pose and Storper, 2006). This chapter examines the effect of this institutional change on governments and political institutions, and how it influenced regional economic divergence. This research also observes the capacity of an institution to adapt at the local level whilst bound by the decentralised regime.

7.3 Lineage of Regional Institutions and Disparities

The core ideas of the New Order are unity and regional administration considered as extensions of Jakarta bureaucracy (Canonica-Walangitang, 2004, p. 92). This section analyses the effect of the state's hierarchical bureaucracy and centralised regime on regional disparities.

7.3.1 Regional Critical Antecedent Institutions

The institutional arrangements between the central government and regions influenced the divergence in regional economic development and variations in growth rate. First, the Jakarta-based bureaucratic system shaped the hierarchical regime, in which the central government departments and agencies control subordinate and regional agencies (*dinas*). The central government outlines and directs local economic policies and development budgets through the regime's appointed political leaders; the government also heavily depends on budget sources. This financial dependence guaranteed the continued dominance of the central government over major policymaking decisions. In addition, resource exploitation and administration caused persistent regional dependence on state development programmes. As a result, Jakarta exhibited exponential economic and political growth throughout the New Order regime.

Second, centralised fiscal institutions meant that local development budgets and directions are controlled by the central government. The development programme spends 80 percent of total public expenditure in provinces, disbursed from the national budget by departments and agencies at Jakarta, whilst the remaining 20 percent is administered through the Presidential Instruction (*Inpres*), which is designed for infrastructure and other development proposals. From the 1970s through 1998, grant-supported development spending by local governments was channelled through the Inpres and Autonomous Region Subsidy/*Subsidi Daerah Otonom* (SDO) grants. The Inpres and SDO grants supported most components of local administration, infrastructure, and services, including local government officials, roads, schools, land preparation, soil conservation, markets, clean water, sanitation and drainage systems, health, re-greening (planting trees along roadways), training, technical assistance, and planning. The local development expenditure was funded by the central government through the SDO for civil servant salaries and Inpres. The relatively limited

responsibilities and tasks indicate that local development was a function of the volume and structure of intergovernmental transfer grants (Silver et al., 2001).

Third, the long-term central government authoritarian governance style enabled specific policymaking in a particular region. These specific policies were concentrated in regions designed as knowledge and economic growth hubs. As support for these projects, development funds ranging from operational costs, project grants, and human resource improvement with enormous scholarship opportunities were allocated (Bruell, 2003). As a result, these specific policies determined the variations in regional development and growth divergence. An illustration of this case is the knowledge and technology-based economic development initiated in various regions in Indonesia by the Minister of Research and Technology, B. J. Habibie, in the 1970s–1990s. These projects included the establishment of research agencies (*Badan Pelayanan Perizinan Terpadu/*BPPT, LAPAN, and BATAN in Jakarta and its suburb of Serpong), state-owned enterprises such as Pindad and IPTN in Bandung (Fromhold-Eisebith and Eisebith, 2002), a ceramic centre in Bali, and an agricultural centre in Lampung), and an industry-bounded zone in Batam City. Through the state-granted free trade zone (FTZ) status, Batam benefited from the central government's special development funding and policies.

Fourth, the trade liberalisation and decentralisation discourse was prevalent during the last years of the New Order in the early 1990s. After the industry policy deregulation and trade liberalisation implementation, private sectors had a more significant economic role. This deregulation of industry supported the emergence of the private sector and political openness in the country. As a result of the post-oil crisis, these indigenous entrepreneurs and middle class (which were accustomed to economic development) were forced into political action. In the 1990s, a growing number of businessmen and activists demanded access to economic and political opportunities, decision-making, and human rights (Canonica-Walangitang, 2004, p. 225).

The period also witnessed the end of the strategy of combining repression with formal political institutions. Government processes came under pressure. These events introduced political latitude and pushed liberals to guarantee the openness phase (*masa keterbukaan*) (Canonica-Walangitang, 2004, p. 195). For instance, economic prosperity introduced a new era of journalism following removals of previous bans, and induced the emergence of new media for special readership. The openness phase was then controlled through the ownership of members or people associated with the

government. Although in the surface the openness seems to give rise to private sector, this remains controlled by the government. This is illustrated by the establishment of new television channels such as RCTI and TPI, which are owned by relatives of the regime leaders, that ended the monopoly of the national television station TVRI.

In addition, toward the end of the New Order, the government executed the district programme (*kabupaten program*) to strengthen local authority and balance regional development. The programme emphasises local employment through economic infrastructure development (Wit, 1973). It primarily aims for agricultural infrastructure such as irrigation, transportation, and rehabilitation. The programme also introduced district governments to the governance process through project proposals initiated together with local communities and intergovernmental coordination with the provincial government.

7.3.2   Critical Juncture and Inherited Institutions

Following historical institutionalism, the institutional change is initiated by critical juncture where abundant policies and institutional arrangements are considered and decided, determining the trajectories of existing institutions. This section analyses the institutional shifts that occurred from the interaction between new policies and inherited institutions.

The discussion in chapter 4.4 shows that global economy and financial crisis act as exogenous factor that combined with domestic latent social situation leads to the fall of New Order regime. In the historical institutionalist perspective, this study regards the resignation of President Soeharto and the fall of New Regime order as a critical juncture. Financial crisis role as the economic trigger together with severe regional disparities and income gaps lead to social unrest that brought down the regime. The fall of New Order regime provide the moment for Indonesia to determine the institutional arrangements Bertrand (2004). He argues that despite exogenous factor were the main trigger in the fall of Soeharto regime, the ethnic tensions created pressures for institutional change. This socio-political situation allows the intensification of decentralisation discourses that emphasis on regional demand for economic and political authority. At the same time, with the inherited of growing power of mobile capitalist, supported by the IMF, to privatise Indonesia economy made policies during President Habibie's regime reflects commitment on accelerating economic liberalisation and trade deregulation.

Hence, the fall of New Order regime is seen as the critical juncture, in which growing discourses of decentralisation and trade liberalisation occurs. The deregulation and trade liberalisation process, and the national and regional socio-political conflicts leads to the establishment of decentralization. The transition period between regimes regarded as the critical juncture moment, which various ideas of new institutional arrangements and governance emerged. The decentralisation discourse was so powerful that within one year, two important laws on political and administrative decentralisation and fiscal decentralisation were released. Despite controversial and in contrast with decentralisation in other countries, the decentralization was conducted at the districts level following political and government reason. Political reason was to prevent provinces that might seek for independent considering their physical size and natural resources. While the governmental and efficiency supporters claim that local are more proximate to understand and have the knowledge of local needs.

The path development of decentralisation at districts levels was chosen with the legislation of decentralisation law No. 22 and 25/1999. The choice of decentralization type and legislation shapes the process of institutional change at the regional level (Rodríguez-Pose and Ezcurra, 2010). In the following years, both trade liberalisation and local socio-political issues influence the implementation of regional decentralisation and economic performances. The introduction of local public office and council elections caused problems in local government organisations. The ambiguity and unclear regulations on the qualifications and political experiences of the candidates jeopardised the quality of public administration and service. The law only states basic individual mental health, secondary education and ambiguity statement that "the candidate should understand the region and known by the community"[7]. As the candidates are recruited and nominated by political parties, they are considered to have limited bureaucratic knowledge and orientated to political parties elites that supports them during the campaign (Sarundajang, 2011 p.7).

As a result, leadership quality varied across regions with some areas having clear and target-driven development visions, whilst others with incompetent and ill-targeted local leaders. This variation caused diversity in local policies and development programmes, as emphasised by other researchers (Heinelt and Zimmermann, 2010; von Luebke, 2009). Furthermore, competent leadership obtained political support from the local

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[7]   Undang-undang 32/2004 pasal 58

parliament, civic societies, and communities. The ability and capacity to build political coalition and societal support afforded them better odds to increase the possibility that their programmes will be implemented.

The political system also altered parliamentary election and political roles. In the decentralisation, provincial and district parliament members are elected every five years with the same regulations as those of the national parliament. Currently, the local parliaments have more responsibilities and control over laws. The parliament, together with the government, is responsible for law making with rights to propose and reject laws. An illustration of the effect of the new political order is the design of the city of Batam decentralisation. The notion of granting the FTZ status shows the reluctance of the central government (Phelps, 2004) with debate that arose when in 2004, the parliament (Dewan Perwakilan Rakyat/DPR) legalised the entire island of Batam as having FTZ status without agreement from the government. The parliament argued that designating the entire island with FTZ status avoids additional bureaucratic hindrance compared with designating only the enclaves with FTZ classification, as the government proposed[8].

Decentralisation influences political institutions by acknowledging community and societal participation. These communities and societies include NGOs, community leaders, and business societies that have channels of participation in the governance process. The local strategic plan (*Renstrada*) facilitated the implementation of the new development model, which was designed as a bottom-up scheme to evaluate local government performance (*Peraturan Pemerintah* No. 108/2000).

> 'Civic societies believe that citizen empowerment is crucial in local development. Our main project is to improve local actor's network capacities to support local growth. A solid local collabouration is expected to generate effective regulations and policies'. (Interview 12, Appendix D)

Another example is the local budgetary planning scheme, in which citizen and NGO/CBO participation are implemented through multi-stakeholder governance in the Annual Activities Planning Forum (*Musyawarah Perencanaan Kegiatan Tahunan*/MPKT) (Fig. 7-2). The role of civic societies in local planning remains limited and has not penetrated the decision-making process, as illustrated in the dotted line in

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[8] http://us.finance.detik.com/read/2004/09/15/010152/207835/4/dpr-nekat-sahkan-ruu-ftz-batam

Figure 4 (Interview 12, Appendix D). Given that NGOs/CBOs rarely operate at the executive budgetary process, these organisations are currently advocating citizen participation in several development forum tiers at the district, sub-district, and villages levels (*Musyawarah Kabupaten/kota, kecamatan,* and *desa*).

However, the bureaucracy is concerned over the effectiveness rates of the roles of these civic societies and views these organisations as pressure groups. In current conditions, civic societies are merely headline news seekers, rather than supportive of public service improvement, as explained by a senior officer at the MoHA.

'The question is to what extent the role of other actors such as NGO and civic society…they have not been successful to act as a pressure groups as found in advance democratic countries…they are only interested with "media attraction" issues such as black campaign and splitting of regions, rather than pushing the government to provide better public services.' (Interview 6, Appendix D)

Figure 7-2 Budgetary Process in Indonesian Post-Decentralisation
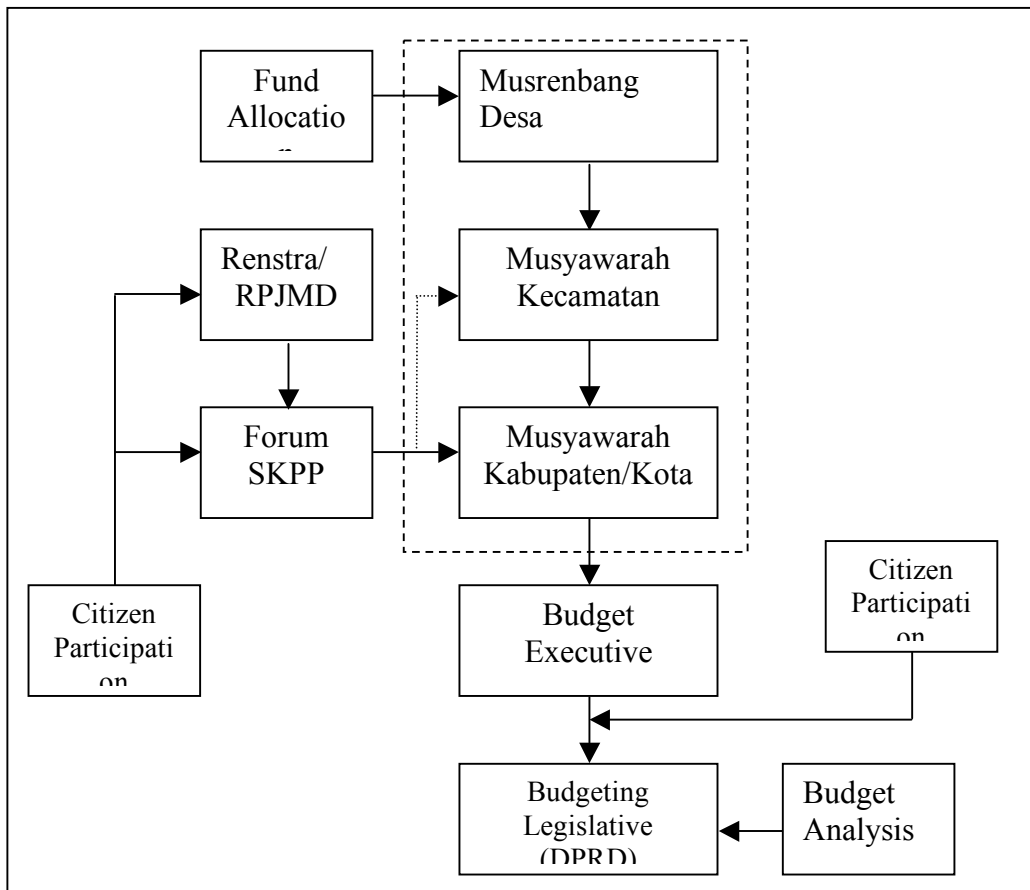
Source: Adaptation from Interview 27, Appendix D

The decentralisation also altered intergovernmental fiscal transfer and distribution administration, both directly and indirectly. Direct distribution is a fiscal decentralisation process, which the central government specifically calculates. The budget is then allocated to individual regions. Examples include the natural resource revenue sharing fund (*dana bagi hasil*/DBH), general allocation fund (*dana alokasi umum*/DAU), and special allocation fund (*dana alokasi khusus*/DAK). In addition, the central government funds the state's de-concentration programmes and activities for the provinces. These direct allocation funds contributed to more than 40 percent of regional income, whilst indirect budget distribution for special programmes, such as the national community development programme (PNPM), amounted to 24.3 percent of the central government budget in 2008.

Fiscal decentralisation introduced three source of local revenues: (i) local revenue, generated from local tax and retribution, locally owned enterprise profits, and other income resources; (ii) the Equalizing Fund, which comprises the share of land and building tax, DAU that amounts to 25 percent of domestic revenue (with 10 percent allocated to the provincial government and 90 percent to the districts), and the DAK for special projects in selected regions; and (iii) foreign loans, which have to be approved by the local assembly and the central government. Presently, the district governments rely primarily on intergovernmental transfers as the amount own source revenue only accounts for 5 percent of the total revenue. In addition, Fane (2003) shows that for 95 percent of central government transfers, the sources are as follows: 79 percent from the DAU, 5 percent from tax sharing, and 12 percent from natural resources share revenues.

The loose governance system under which the ASEAN operates emphasises the commitment of member countries; this approach is known as the ASEAN Way of governance (Nesadurai, 2003). The system is characterised by a lack of restriction on the trade relationships of member countries and external tariffs for non-members. With regard to dispute management, for example, ASEAN and AFTA disputes are rarely publicised and settled through informal discussions between senior bureaucrats and politicians, unlike the EU and NAFTA, which leverage legal mechanisms in courts and technical experts (Stubbs, 2000). When the dispute cannot be resolved, the problem is discussed at the AFTA council or the ASEAN Economic Ministers Meeting. These struggles between regionalism and domestic concerns become the character and key of a region's economic dynamic outcomes (Nesadurai, 2003). Thus, this loose governance offsets sub-national gains from the AFTA.

Another issue is the state's sole decision-making on the AFTA sectoral industry and trade inclusion. For example, the selection of products included in the AFTA sensitive product lists (SL) accommodates each producer's concern over national products and labour. This research argues that the existence of the SL has caused limitations and has slowed down of the effect of the AFTA. These lists allow member countries to decide the extent of their involvement in the trade integration and thus, decelerate the sector's liberalisation rate.

In this sense, for instance, Octaviani et al. (2007) explains that Indonesia's greatest advantage is in the automotive and electrical sectors. However, Malaysia's government decision to include the sector in the SL has prevented Indonesia to benefit from trade in these sectors. During the research period, the AFTA progress was incremental and proceeded at a slow rate. Thus, the effect of the AFTA is determined by individual country's readiness to involve in trade integration.

In addition, with absolute authority on the trade liberalisation policy, the central government neglects local authorities and hence, there is lack of trans-national development cooperation amongst local governments. Local government officers explain the lack of consultation and discussion on the AFTA trade agreements. This phenomenon is the opposite of regionalism found within the EU as inter-local government networks established through EU spatial cohesion policies (Jessop, 1997, p. 574).

> 'The agreements fails to acknowledge local diversities on business license range
> and regulations, environment standards, urban zoning, and employee
> trainings…only regions with products included in the agreements gain
> advantage from AFTA'. (Interview 27, Appendix D)

Furthermore, the ASEAN Way supports the inherited authoritarian institution of elements in the state's control of the AFTA implementation in Indonesia. The relationship and networks amongst the state ministries determines Indonesia's trade line track schedules, tariff lines, and AFTA agreement adjustments on national policies. The governance of the AFTA implementation by the central government influences regional gains.

The ASEAN Way promotes the dominance of the Ministry of Trade (MoT) as the coordinator of the AFTA implementation in Indonesia, and compels other actors to

implement and comply with the AFTA agreements (Interviews 3, 4, 5, 13, 15 Appendix D). The MoT's insistence on including products that are not ready for liberalisation does not afford Indonesia much benefit. For example, the AFTA commodity lines compel other ministries to satisfy the modalities decided by the MoT, regardless of sectoral readiness. AFTA modalities of 90 to 10 percent indicate that 90 percent of the products should be free and have zero tariffs, whilst the remaining 10 percent are taxed. Another example is the exertion of pressure by the MoT on the Ministry of Marine Affairs and Fisheries (MoMAF) to extend the items in its area, but the Ministry argues that this is not possible because of the low quality of its products. Hence, the MoMAF is apprehensive that Indonesia's fishery products cannot compete with foreign fishery products imported into Indonesia (Interview 8, Appendix D).

'However, MoI and other departments are responsible with the products and communication with the associations and business...but it is the MoT that has the authority to decide the modalities and FTA schedules…this causes problems and demands to the technical departments, not to the MoT'. (Interview 3, Appendix D)

This conflict was explained by a senior officer at the Ministry of Transportation (MoTrans) below:

'Because MoT is the frontrunner for the AFTA, other central government departments and agencies are bounded to support the free trade agreements that were singed by the Department of Trade…however, in its implementation different department views and technical schedules may be differ with what MoT has agree on. For example, in the case of open sky policy, Ministry of Transportation still reluctant to agree, whilst Ministry of Tourism fully support the policy…hence, conflicts amongst state departments are inevitably occurred'. (Interview 4, Appendix D)

The institutional changes induced by state restructuring also introduced conflicts of interest between actors with conflicts between the state regions and sectoral business societies. For example, the AFTA policy enforcement is found merely in the role of civic societies and the chamber of commerce. After the Department of Trade reached sectoral agreement at the ASEAN level, the sectoral departments or agencies coordinated internal discussions that typically involved related stakeholders. The

Indonesian transportation sector, for instance, held regular meetings with transportation actors, associations, and independent transportation research centres, such as the Indonesian Transportation Forum (*Masyarakat Transportasi Indonesia*/MTI), which is participated in by academics, NGOs, and researchers. A senior officer at the Ministry of Transportation explained that:

> 'In the case of open-sky in AFTA aviation policy that concerns national security, the Ministry of Transportation invites sectoral stakeholders including the Association of transportation operators, transportation experts and academics, NGO (transport society), and the Chamber of Commerce…whilst at local level, such as the consortium of monorail in Jakarta, includes additional actors such as the media and local government'. (Interview 4, Appendix D)

Another example is the government's authoritarian power to continue trade agreement implementation with modified objectives, despite demands from the Indonesian Chamber of Commerce and Industry (KADIN) to postpone the plan (Stubbs, 2000). The Indonesian government never requested to delay its commitments to the agreement, which neglects the demands of producers and business actors regarding Indonesia's involvement in the AFTA and ASEAN-China FTA (Interview 8, Appendix D). By contrast, the central government, through the Ministry of Economy Coordinator, responded with additional campaigns for trade liberalisation with the launch of the 'white campaign', which promotes the assurance of import quality from the AFTA and consumer protection[9].

7.4 Regional Institutional Divergence

7.4.1 Reproduction of Regional Institutions

Following Thelen (1999) and Eaton (2004), historical institutionalism should identify the reproduction processes that reinforce government and political institutions over time in a state restructuring period. In the present study, three mechanisms served as instruments of institutional change and reinforced the path of state restructuring: local political empowerment, the fiscal decentralisation scheme, and the governance of the AFTA implementation.

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[9] Kompas Print edition online, http://www.kompas.com/read/xml/2009/12/28/12362833/white.campaign.untuk.hadapi.fta (Accessed Desember 29, 2009)

The political institutional changes affected economic institutions with the introduction of business and investment regulation. The ambiguity of decentralisation laws leads to local regulations that are nonconducive to a good business climate (Goodspaster, 2003, p. 83). The *undang-undang* 34/2000 on Regional Government Taxes and Charges led to many distortions (Kuncoro, 2009, p. 239). The local governments do not have a clear understanding of their responsibilities and tasks, and instead project high revenues by imposing high taxes and new levies to meet the revenue targets for each local agency (*dinas*). For instance, the number of local regulations on business and investment procedures to be reviewed overwhelms the DoHA. In 2001, reports show that 4000 local regulations were reviewed and about 1000 regulations were problematic and rejected. In Bandung, for example, from nine local regulations that were rejected, only one proposed local services, whilst the rest were related to local levies and taxes (KPPOD, 2007). Local development problems occurred because Undang-undang 34/2000 allows the local governments to pass local regulations without the central government's approval if there is no response within 15 days of submission.

> 'We need to review all local regulations and ensuring cooperation between central and local government in formulating good local regulations…the way forward is to change the bureaucrats mind-set and culture to improve government capabilities as facilitator for private sectors whilst minimise and erase the government administration malpractices and grease monies'. (Interview 16, Appendix D)

To explain this problem, acknowledging that tax administration is controlled by the state is important. The regional government tax authorities are regulated, with the provincial government responsible for vehicle tax whilst the district governments impose land and business taxes (districts). The deficiency in tax collection also determines regional differences. Regions with more economic activities and business activities have higher local revenues than do regions with fewer economic activities. In Bandung, the tax system apparently harmed the local government's tax collection scheme.

'The provincial government do not receive local revenue from the industries as the industries are listed in Jakarta…this has disadvantaged our province because of losing potential revenue from the industry taxes'. (Interview 18, Appendix D)

Political and economic institutional changes caused the emergence of local competition that reflects the deficient adjustment of local regulations in accordance with the business climate, as well as the loss of potential revenue from local taxes and retribution from existing businesses following inter-jurisdiction tax competition. An interview with staff at the Bandung district explained this limitation:

'The governance on regional planning are conducted with other agencies and government departments…. but the complicated relationship between different level of governments as found in the decentralisation law has make it difficult for any conciliation with others. Thus, the national (provincial) regulations and acts are treated as guidance for provincial (districts) governments'. (Interview 32, Appendix D)

A similar case occurred in Batam, with its inherited centralised policy that neglects linkages with surrounding regions and inter-regional competitiveness. This disregard is ongoing and felt by the regions, as explained by a senior officer in Batam:

'The competitiveness are felt very strongly…for example, currently Batam Island are competing with other Riau province districts in terms of city tidiness, investment attraction, and social facilities services'. (Interview 29, Appendix D)

As a result, there is a lack of regional cooperation and economic integration in the post-decentralisation period. A senior officer at Batam confirms this with the following explanation:

'There are communication regarding FTZ's but lack of cooperation by Batam Island with its neighbouring areas to improve regional competitiveness'. (Interview 31, Appendix D)

The apparent effect of the decentralisation law is that the lack of spatial integration policies was caused by the deficiency of the provincial government as a spatial coordinator and development monitor. This caused local policies to become inward

looking and lacking in integrated development plans. A senior officer at Batam argues that the setback of decentralisation is that the regions do not consider the planning documents of other regions as they prepare their own:

'There has been no cooperation between Batam Island with neighbouring areas…of course this might improve regional competitiveness'. (Interview 31, Appendix D)

The strong Batam-Jakarta relationship is also reflected in the cooperation with the national investment board that promotes the development of Batam. A former senior officer at the Batam Industrial Development Authority (BIDA), who currently works as a senior officer at the national investment board, provided the following example:

'Batam progress is promoted as a part of ASEAN FTA and also exclusive FTA with Singapore, which both has benefited from each other on the investment and business'. (Interview 9, Appendix D)

Another case is the Batam Skills Development Centre (BSDC) that faced inter-organisational problems after the decentralisation (Phelps, 2004). Initially, the Centre was established as a school for skills and practice transfer during the Indonesia-Malaysia-Singapore growth triangle (IMS-GT) cooperation in 1992. The administration over the Centre's inter-organisational relations was transferred from a central government body (Directorate of Technical Education) to the empowered municipal government. However, the municipal government was reluctant to maintain funding as they viewed the BSDC as a potential failure when it comes to financial self-sufficiency (Phelps, 2004).

Another reproduction of governmental and political institution is the DAK. This fund requires the participation of heads of regions who are not actively lobbying, and less sectorally developed regions may be allocated less additional development budgets. An argument by an officer at the DoHA provided evidence on the issue as follows:

'If you want to develop a particular sectoral product, you can purpose sectoral development with the DAK…the more sectoral products you have, the more DAK funding you receive'. (Interview 7, Appendix D)

Meanwhile, an NGO official explained the importance of the DAK in further detail:

'There considerably head of regions that spend more time in Jakarta rather than in its region…I think it is a common sense because the lobbying activities and authorise are found in Jakarta including the Parliament, MoHA, and MoF'. (Interviews 13, 14, Appendix D)

As a result of ambiguity and loose regulation, the DAK is exploited by both central and local government officers.

'This fund management is a less transparent process and depends on lobby seeking and political connection with central government offices in Jakarta...we found that there are head of regions who spend more time in Jakarta to lobby for DAK and other additional funding, compared with their time in their respective regions'. (Interviews 14, 16, Appendix D)

The DAK likely increases disparities rather than the opposite (Lewis, 2001). The study shows that the DAU and DAK are skewed for regions with low populations and low-density areas. For example, Papua received per capita allocations tenfold higher than those of West Java, the most populated province. The DBH could not close the fiscal gap amongst regions because Papua received a large amount of allocation funds from the DBH. The own source revenue is also uneven as shown by a comparison of the highest and lowest achievers. For example, the differences were 510 amongst districts and 47 amongst provinces in 2002.

The last reproduction factor is the management of form D by the state; this management neglects the local government role on form distribution. The form is one of the main measurements of the AFTA's progress, reflected by its success in promoting only the products that use at least 80 percent of raw materials from ASEAN countries. The AFTA commission is determined to extend the utilisation of form D to improve the AFTA's economic advantage. Thus, it compels exporters to use the form to earn AFTA tariff reductions. The ASEAN Secretariat confirms the limited indication of supranational role present in multi-level governance. An example is the members' authority to conduct form D distribution and promotion. The ASEAN Secretariat has acknowledged that this may be a reason for low export figures in form D:

'There are possibly reasons of the low export from Form D…first is due to the rareness of form D, hence it is worth to be used by the exporters…and second,

perhaps the local exporters do not know about the form due to lack of promotion'. (Interview 8, Appendix D)

In addition, a source at the Ministry of Industry (MoI) explained that:

'The volume of trade with form D also has not increased significantly…it seems that the form has not been distributed and promoted well, this should be DoT's responsibilities, also with the training and guidance regarding the form utilisation'. (Interview 3, Appendix D)

Despite this importance, form D has not been distributed equally to the regions in Indonesia. Field studies show that the regions are unfamiliar with the form and exhibit limited promotion of its utilisation, thereby undermining the use of the form. The following statement from the Head Agency for Industry and Trade in West Java Province shows that regions are merely participants with no decision-making role in the AFTA:

'I have never seen the form and it is very rare to obtain…but there has been promotion by the DoT to our district'. (Interview 21, Appendix D)

In addition, with regard to the monitoring of form D utilisation, there have been doubts from the DoI, detailed as follows:

'Has the form been utilised correctly? Does the Directorate of customs and excise have the capacity and competencies to supervise the process?...the DoI and other ministries could not controlled although we are responsible to the products and communicate with the industries'. (Interview 21, Appendix D)

Hence, with Indonesia's considerable lack of promotion by the local and central governments, the form has not been widely used. Thus, it is difficult for the ASEAN Secretariat and researchers to obtain an overview of the actual effect of the AFTA on Indonesia and its regions. From this, stem the differences in the implementation of the AFTA (Form D) amongst regions.

7.4.2 Regional Institutional Learning and Change

This section discusses institutional change and adaptation that occurs in the form of institutional layering related to politics, economics, and ethnics. The institutional layering process occurred in a dispersed manner during the post-decentralisation period. The following cases from Indonesian regions, especially Batam and Bandung, illustrate these institutional changes.

The first case is Batam City, where the relationship between agents and institutional changes also reflects the accumulation of knowledge and behaviour inherited from the previous regime. The institutional change forced agents to adapt but this capacity was bound by previous knowledge and behaviour. To support this adaptation, Batam authorities have improved the city's competitive strength. The local government attempted to establish straightforward task division amongst authorities and a single-window investment procedure through the local investment coordinating board (Interview 28, Appendix D). To maintain its competitive position in the decentralisation process, the FTZ status and AFTA accelerate Batam further to compete with similar special economic regions. The FTZ status provides special regulations for investors in Batam and this has become the region's competitive value.

On the other hand, the AFTA has pushed Batam to optimise institutional authority in implementing innovative regulations and the ICT to compete with other FTZs such as Bayan Lepas and Subic. For example, a high number of FDI projects require qualified workers, a requirement that can only be fulfilled through education from Batam Polytechnic, which specialises in information technology, manufacturing, and machinery courses. Currently, assembly license industries dominate the Batam market with competition from export processing zones and FTZs in Batam, Johor (in Malaysia), and Subic (in the Philippines). The extensive policies on business-based administration and policy innovation include one-stop services (OSS), e-gov infrastructures, and cargo tracking systems. The establishment of the ICT and e-gov infrastructures enhanced government public service by increasing service reliability and the tools for the prevention of corruption. With these technologies, business actors can complete business permits online, whilst ship officers can inform port administrators regarding their arrival times and other detailed information. Furthermore, the authorities also argue that Batam requires these technologies to improve its competitive values in

attracting foreign investments and manufacturing, especially those that spill over from Singapore (Interviews 28, Appendix D).

In the labour sector, after three decades of special policies, the region has acquired competitive edge in labour pooling, technical management, and industry-related trainings. For example, Batam has a capacity to absorb industry labours with an annual labour growth rate of 14 percent (Sanyoto, 2003), and continues to enhance labour skills with various competency training and educational programmes to meet the high demand for professional engineers within the semi-high technology export-oriented industries. The polytechnic curriculum is designed to match the real industry environment to produce ready-to-work graduates, with 50 percent devoted to theory and 50 percent to practical courses and industry working hours. Furthermore, labouratories and up-to-date technological tools are also available to keep pace with industries. The polytechnic curriculum also features intense communication with industries through technical workshops and job placements. Although the majority of rapid growth stems from the manufacturing and shipyard industries, prospective student interest in electronics and machinery has been very low, causing a shortage in skilled operators in both industries.

> 'The polytechnic's existence is certainly relevant and significant for the region…foreign and domestic firms prefer skilled local people rather than migrating people…but this means that the polytechnic should be supported by the government and firms financially to overcome limitation as it could only accepts 300 student annually'. (Interview 27, Appendix D)

Furthermore, as an inherited state-controlled region, the Batam centralisation is evident in the persistent importance of the former head of the BIDA. Until recently, the governor of the Riau Islands was the former BIDA chairman, enabling him to build political coalitions and societal support through his former officers and bureaucrats, who replaced him as the BIDA chairman. Another colleague became the mayor of Batam. His former officers became leaders of agencies in the city. This provided him better ground to implement his policies and development plans in Batam. Specifically, this reflects the conditions for the region's development. First, agent knowledge and extensive understanding play an important role in determining the continuity of previous policies. Given that the governor is an institutional agent whose behaviour is bound by antecedent institutions, the knowledge and policy decisions that he transferred

to provincial bureaucrats and political actors are bound to Batam's institutions. Thus, these policies sustain development in the city.

Second, because the former colleagues of the governor became leaders of local agencies in Batam, provincial policies are more likely accepted and supported by district leaders. As a former head of the BIDA, the governor has a strong relationship with the BIDA as reflected in Batam being the province's growth centre and its being home to the provincial representative office. The office is also the location of OSS facilities for investment and business services, and government-business routine meetings for the provincial government. Third, an established leadership in development became an alternative to the lack of political and ideological philosophy within the political parties, as argued by von Luebke (2009). The FTZ status has motivated Batam authorities to develop competitive edge policies for regional development; economic agglomeration drives Batam's economic policies. However, these events evidently occurred with the support of previous institutional agents. Path dependence is clearly reflected in this example because current policies were determined by the industrial path that has been established in Batam since the 1980s.

Another illustration is the consequence of Batam's early establishment years, in which multinational companies (MNCs) exerted a dominant influence over the social order in the city. The US and Singaporean MNCs dominated social order in Batam, facilitating the establishment of a development-oriented and efficient bureaucratic system, as opposed to the proliferation of Indonesian institutional shortcomings including corruption (Phelps, 2004). Policy innovations, such as the cooperation between the BIDA and BKPM on investment promotion and coordination of investment approval, were also implemented. Furthermore, the appointment of Batam as the central government's pilot project on *e-government, e-business, and e-public infrastructure services* (G2G, G2B, G2C) established the Batam intelligent island/BII (Putra, 2003). The institutional change induced by the decentralisation introduced institutional layering in the dynamic relationship between the BIDA and the municipal government, as well as the delineation of the Batam FTZ as enclaves[10] requiring institutional adaptation and learning, following Mahoney and Thelen (2010).

The second illustration in Bandung provides two cases of institutional change and adaptation. The adjustment and adaptability capacities of agents in institutional layering

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[10] Peraturan Pemerintah No. 46 Tahun 2007 (Government Regulation)

are illustrated by the industrial development infrastructure and the emergence of the creative industry. Both cases show the attachment of a new element to existing institutions to support institutional transformation.

First, the importance of Bandung grows with plans for the development of large-scale infrastructure on dry ports and feeder roads to support the province's agricultural and manufacturing production. The Bandung City institutions have exerted decades of support for local economic development with core industries being the textile, garment, and machinery sectors. The City of Bandung established its manufacturing industries with the deregulation on investment permits; that is, the October package (*Paket oktober/Pakto*) in 1993 that established the region as a manufacturing industry centre. The sunk cost in infrastructure development and local-based industrial specialisation has been profound in the region, hindering novel economic activities. Despite econometrics results in the previous chapter highlights the importance of road accessibility on economic performance (p.80), in Bandung city the infrastructure are under utilized following manufacturing industry's stagnant growth in the last decade. This causes sunk cost of past infrastructure development which forms the institutional hysteria of manufacturing industry boom in the 1990s. However, recent provincial development policy on dry port with Bandung as the core city provides opportunities to utilize the road. This caused the deficiency in innovative policies and economic activity creation in West Java (Interview 18, Appendix D). However, after the decentralisation, institutional change occurred with the increasing importance of Bandung in the province's economic activities and trade hubs. The city has committed to the top-down and bottom-up decision-making process as indicated by its 2009 local regulations. The process has included active participation from NGOs, universities, professional associations, and creative communities, along with the municipal government (Interview 32, Appendix D). To attract investments into the city, the municipal government established the One-Stop Service Agency/*Badan Pelayanan Perizinan* Terpadu *(*BPPT), with learning avenues from other regions such as the Sragen and Jembrana regencies.

Another illustration is the case of the creative industry discourse that emphasizes on the emergence of young creative professionals and the promotion of the textile and crafts sectors. Combining historical institutions with proximity to Jakarta, leading art colleges, and aspiring young artists, the province postulated the City of Bandung, the province's capital, as a creative city. Furthermore, the Bandung Institute of Technology

(ITB) has been known as the initiator of the Creative Industries and Innovation movement in Bandung with the four yearly art market events (*pasar seni*). The city and art society have been blessed by the long-term presence of the faculty of Arts and Design, which routinely initiated market events long before the Bandung Creative City Forum (BCCF) and the creative city concept was introduced in the city. Another contribution of the ITB is the creation of Artepolis, a committee specifically formed to hold international conferences and design competitions under the Architecture department. The Artepolis and faculty of Fine Arts show that the ITB also plays important role in the Bandung creative industry development. The Helar Festival, a creative industry festival, initiated by the BCCF, which attempted to integrate 15 creative industry actors and businesses within the West Java Province. The forum consisted of representatives of various creative industry communities including traditional arts, clothing and fashion, music and visual arts, urban enthusiasts, and urban heritage society[11]. The forum activities are consistent with the provincial government's strategy of developing creative industry policy between 2008 and 2013, and are expected to accelerate the creative industries growth (Interviews 21, Appendix D).

Institutional layering can also occur in the form of the unintended consequences of a particular policy. After the implementation of Batam's special economic zone policy, other regional authorities demanded the establishment of similar special zones in their respective regions. This state policy on the Integrated Economic Development Zone (Kawasan Pengembangan Ekonomi Terpadu/KAPET) was legalised with Presidential Decree No.150/2000. The institutions in the selected regions are gradually transformed to incorporate a sense of development and competition. The zones are designed as engines of growth for the surrounding regions through the state's special customs and investments regimes.

However, almost a decade after its implementation, the zones failed to achieve their objectives with minimum economic growth and investment performance[12]. The failure was argued to stem from the low potential of the location, low infrastructure quality, and insufficient budgets. The institutional issue lies in the deficiency of the State to designate these zones as growth centres through funding and policies. A crucial problem

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[11]Website and information regarding the actors of Bandung Creative City is available at http://commonroom.info.

[12]http://www.medanbisnisdaily.com/news/read/2011/02/24/20959/11_kapet_gagal_tarik_investasi/#.Tk0 wOHZPRD8

with the KAPET governance is that the governor is also the chairman of the KAPET Authority, which causes administrative and fiscal reallocation bias between the KAPET with the provincial and district governments. Furthermore, there are also several KAPET that consist of more than one districts within one province, such as the KAPET SASAMBA that include parts of three districts of Sanga-sanga, Samarinda, and Balikpapan. This inter-district cooperation requires institutional change in administration coordination and policies by the governor, whose role reduced after the decentralisation.

To solve this intergovernmental issue, another institutional layering occurred with the introduction of *Peraturan Pemerintah* No. 19/2010, which empowers provincial governments to coordinate and distribute spatial wealth. The regulation also regards the provincial governments as the representatives of the central government and only receive de-concentration responsibilities (Interview 7, Appendix D). The new regulation builds on existing decentralisation laws and improves the provincial role to ensure the distributive power of the decentralisation. The enactment of *Peraturan Pemerintah* No. 19/2010 was a response to the uncontrollable and chaotic relationship between the provincial and district governments. The central government bureaucrats explained that this regulation is required to restore administration coordination and spatial development integration (Interviews 1, 5, 6, 7, Appendix D).

The new regulation imposed several effects on public service. First, it guarantees improvement in public services by the districts through monitoring and evaluation, enhances public service competence, and introduces rewards and sanctions by the provincial and district governments. The national budget funded this responsibility with an exclusive secretariat, which represents the provincial government as the central government's representative. Second, this regulation also guarantees transparency on bureaucracy through the provincial authority of electing the district secretary and capacity to inspect corrupt district parliament members. These responsibilities were previously supervised only by the governor. Third, improvements in multi-level governance enable more coordinated spatial and economic policies, as demanded by decentralisation *undang-undang* 34/2004 that is based on each level of government's specific responsibilities[13]. Before the enactment of this regulation, memoranda of

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[13] This is broadly specified in Government Regulation No. 38/2007.

understanding amongst regions illustrated intergovernmental cooperation, which only applies to specific sectors and districts.

The case studies show that institutional change is a lengthy process and in some cases, institutions endure because the shocks do not always introduce institutional change. However, when these shocks induce institutional change, the mechanisms are incremental and occur within highly-tense political changes. In Indonesia, for example, the institutional conversion and layering were the most viable and accepted routes.

7.5 Conclusions and Contributions

The discussions above explain the effect of the decentralisation and AFTA from an institutional perspective. In the decentralisation, formal rules have substantially altered intergovernmental relationships and empowered local authorities. Several conclusions can be drawn.

First, different effects of the AFTA devolution and decentralisation were observed. The AFTA is characterised by a lack of trade integration power because of the dominance of the nation-state on country agreements, following the limited influence of the supranational authority of the ASEAN. The ASEAN Way provides the member countries flexible trade liberalisation tariff and trade agreements. On the other hand, decentralisation significantly affected regional economic growth in the sense that it increased previously existing regional divergence. This pre-decentralisation regional disparity was inherited from the authoritarian regime policies that were laxly distributed. The previous local institutions inherited divergence, which determined the degree of state restructuring on the individual districts.

Second, regional institutions that were established in the previous period determined regional response to state restructuring policies. Two case studies, Bandung and Batam, were used in the analysis; these cities influenced the discourse raised during the critical juncture and at different institutional reproductions and learning trajectories. For Bandung, community and society-led development was observed, whereas government-led development was observed in Batam.

Third, the study shows the inefficiency of devolution and the central government's weakening power, as shown by three cases. (i) The empowerment of the regional government tended to be an additional layer of bureaucracy that constrained national economic growth. The Trade and Industry local agencies may have increased costs and the ineffectiveness of bureaucratic processes as high administration costs and

overlapping responsibilities increased the inefficiency of devolution (Rodríguez-Pose and Bwire, 2004). For example, the AFTA's Form D was not distributed efficiently to the regions. (ii) Inter-regional competition led to inefficient development, as shown by the case of the local district regulations that emphasise attracting investments as an attempt to increase higher local revenue (Seymour and Turner, 2002). (iii) Local resources in physical endowment and networks affected the non-financial gains of the fiscal decentralisation (Rodríguez-Pose and Gill, 2005). This study shows that historical institutions and personal networks determined political and policy support from the central government.

Fourth, previous institutions remain influential to future development. An example is the political linkage that the state provides (the IMS-GT and FTZ status of Batam; the regional hub and manufacturing park of Bandung). Fifth, at the supranational level, the AFTA implementation is based on the ASEAN Way, which lacks supranational authority and emphasises the individual member country's policies in implementing the agreements. In Indonesia, the AFTA implementation of governance is dominated by the state and only a limited number of actors are involved in the AFTA trade modules. Hence, the AFTA implementation has imposed no significant effects on the sectors or local development in terms of trade agreement benefits. Thus, this discussion discloses that member countries are exempt from trade agreements if there are sectors that are viewed as threats to the domestic economy.

Overall, decentralisation has not improved public services at the district level despite the shifts in business and investment procedures. The report by KPPOD (2007) points out that although the municipality of Batam is supported by the national act of FTZ status designation, the municipality of Dumai is the second worst local government in terms of problematic local laws (235 laws). On the other hand, business costs in West Java are higher than those in Riau and East Java, with the municipality of Cimahi ranking first, followed by Indramayu Regency and Bandung City at the fifth and seventh positions.

Contributions

At the beginning of this chapter, this thesis argued that there are gaps in convergence literature in terms of explaining the differences in the degree of the effect of state restructuring and regional economic development. Using the institutionalist approach

derived from economics and comparative politics literature, this study contributes to the theoretical debate as follows.

First, following other research this study confirms that institutions matter and are unique to each region even within a single national economy (North, 1990; Skocpol, 1979; Thelen, 1999). Each region has distinctive institutions that support local development embeddedness and 'stickiness' to a given area. Over time, institutions are inherited through path dependence, in which future regional development is a trajectory of this path. Conversely, the study also illustrates that new institutions are constructed and embedded through policies. The case of Batam shows that policies and networks at the state level give rise to institutions and embeddedness. This is a unique case compared with the institutional arrangement found in other regions, including Bandung.

Second, the economic policy and development are also influenced by previous institutions that limits the extent of institutional change. The study demonstrates that because agents are rule-following satisficers (Thelen and Steinmo, 1992), institutional layering is the most visible institutional change process. This process enables agents to adapt to social shocks and carry on with development whilst recognising the familiar habits and rules of previous institutions. Consequently, the acceptance of local institutional change is poor when it is considerably distinctive and foreign to previous knowledge (Chang, 2005).

Third, the study provides evidence of the state maintaining an enduring role in the form of state rescaling in the decentralisation and globalisation era. Following Brenner (1999) and Jessop (2002), the current research reveals that new state spaces evidently enhance the state's role and capacity to mobilise production forces at the supranational and local levels. In performing this function, the present study concurs with Sonn (2008) that the state is a part of social networks and influenced by society's power structure. The state's decision to mobilise production forces and economic resources is influenced by powerful actors through political and institutional arrangements.

Thus, regional economic difference is a product of three institutional constellations of local institutions, previous knowledge, and the persistent role of the state. State restructuring does not guarantee support for balanced regional development and its effect depends on the extent of these institutions' influence in each region.

Chapter 8 State-restructuring in Indonesia: Towards a balance Regional Economic Development

This thesis investigates the effect of the decentralisation and AFTA on regional convergence from 1993 to 2005. The research applies quantitative statistical analysis and historical institutionalism to explore the effects. This chapter summarises the research findings and analysis results, then discusses policy implications and limitations.

8.1 State-restructuring in Decentralisation and AFTA: Research Findings

This research on the effect of state restructuring on Indonesian regional development focuses on two events: the decentralisation and AFTA implementation. From the study, we can draw several research conclusions. First, the study shows that despite there is evidence of convergence process, persistent and severe regional disparities continue in the state restructuring period. The statistical analysis shows that regional disparities fluctuated and peaked during the financial crisis in 1997–1999. If we analyse this phenomenon geographically, regional disparities are significant between Java and non-Java districts. In the non-natural resources industry, the West part of Indonesia has a higher economic levels and growth compared with the Central and East regions. Accordingly, the sectoral analysis reveals that the manufacturing industries are concentrated and agglomerated in the West part of Indonesia. The case study on high-technology manufacturing industries shows a high spatial concentration in Java and Sumatra districts. Consequently, these areas have higher economic levels and growth compared with other regions.

Second, the econometric analysis provides a similar result with significant evidence of regional economic convergence over the observation period. The state restructuring of decentralisation and AFTA have different effects on regional economic development. The economic analysis shows that the decentralisation is associated with lower regional economic growth, whilst the AFTA impact was insignificant. This finding was found both in the OLS and panel data analysis. The study also reveals that the control variables, the road accessibility and labour productivity, are associated with higher economic growth. However, a higher share of manufacturing industries on GRDP has negative effect, this unexpected result might imply a persistence high dependence on

natural resource and agricultural industries in Indonesia regions. In addition, the lobbying variable implies that political and economic lobbying leads to higher economic growth for richer regions than for poorer regions. These econometric results indicate regional endowments and capacities that determine the variations in development.

If we revisit Musgrave's theory of public sectors (1959), the Indonesian decentralisation has not met the ideal core objectives on efficiency in allocation of resources, income distribution, and macroeconomic stability. After almost a decade, the Indonesian decentralisation has only achieved the first objective, whilst the second and third remain in question. The first objective was realised with citizen participation in fiscal budgeting, implementation, and evaluation. Accordingly, this participation also promoted economic efficiency (Calamai, 2009) and improvement in regional administration (Rondinelli and Nellis, 1986). On the other hand, regional income distribution remains divergent as Chapter 5 concludes. The highest regional income was persistently concentrated in Java districts, especially in districts with advanced manufacturing activities for the period under observation. More equal regional incomes are expected with the enactment of the new decentralisation law (34/2004), but this only benefits districts that produce or its neighbour districts within the same province.

In addition, the institutional analysis in the following chapter provides illustration on local politics and government institutions. For instance, this chapter also shows that personal capacity for political lobbying determine additional development funding that has caused head of regions to spent much time in Jakarta rather than in its respective region. In addition, decentralisation caused lack of multi-level administration between the provincial and district governments and regional competition amongst the districts. The first has hindered integrated economic policy and spatial equality with the diminished role of the governor in regional development. Mayors/Regents often disregard the regional meetings with the governor, leading to poorly integrated provincial development. Effective and coherent regional development is hindered as districts neglect the development plans of neighbours. The lack of coordination by the provincial governments is also another obstacle to development. The large number of district regulations that the MoHA rejected also indicates the high competition amongst districts during the decentralisation.

On the other hand, the effect of the AFTA was insignificant agrees with the Neo-Marxist theory perspective, which argues that the AFTA will promote within-region core peripheral conditions, where core economies exploit peripheral economies through

competition in a 'race to the bottom'. One way to understand the insignificant of AFTA is to acknowledge the purpose of the trade integration, which is as a building block towards ASEAN Economic Community (AEC) (Tongzon, 2005, p. 145). Consequently, intra-trade performance is becomes additional target as the main goal is Southeast Asia political and social integration, not only an economically. Thus, AFTA should not be measured in terms of trade, but in the amounts of FDI it generates, as a confirmation of the ASEAN's political and economical power (Soesastro, 1991). To sum up, the limited effect of the AFTA can be explain by the study of Bowles and MacLean (1996), which explores the reason for trade bloc formations and shows that the AFTA should not be treated as trade liberalisation *per se.*

Finally, historical institutionalism attempted to explore and explain the above-mentioned econometrics results. The institutional analysis using comparative historical institutionalism provides an in-depth explanation of the variations in regional development. The study reveals that institutional history and path development strongly influence current development progress. Previous institutions determine how local institutions respond to institutional changes and adapt to new regional paths. The study also shows that state restructuring provides opportunities and path creation for local economic development. Decentralisation and trade liberalisation provides access for local governments and actors to networks and opportunities to develop local endowments. In the case studies, for instance, the path development of Bandung as a creative city was pre-determined by previous institutional experiences and capacity as the centre of textile manufacturing (Soedarsono, 2009). However, the recent rise of young and highly skilled creative professionals has elevated the city as a creative city. This idea is a natural development that reflects the integration of historical institutional capacities in textile and clothing industries with creative industry development.

The idea of institutional layering of conversion (Mahoney and Thelen, 2010) only appears in regions with exceptional political and social issues. An example is the appointment of Sabang city as an FTZ prior to the designation of Batam with the same status despite its lack of infrastructure and regulations.

8.2 Research Policy Implications and Limitations
Policy Implications

The research findings suggest policy implications for Indonesian development policies in the decentralisation and trade liberalisation era. First, this thesis argues that institutional change at the national level influence regional disparities. National political and economic policies determine the level and dynamic of spatial economic convergence, as argued by Rodríguez-Pose and Bwire (2004). This thesis shows that institutional change in AFTA and decentralisation has influence regional disparities in Indonesia over the period under observation between 1993 and 2005. The institutional shift of decentralisation and AFTA has different impact on the dynamic of regional convergence. In all period, decentralisation has negative effect on regional convergence implying that autonomy increase district economic growth. However, the negative effect has been reduced in the state restructuring period compared with the centralised regime.

While trade liberalisation in AFTA variable appear to be significant in the pre state restructuring period indicating that trade liberalization has higher effect to increase regional disparities when there are more policy intervention from the central government. While in the state restructuring period, AFTA has insignificant effect on regional economic growth implies that shift in Indonesia political system and local institutional change has minimise the negative effect. Furthermore, the institutional characteristics and trade policies of ASEAN Way has limits the trade integration in the post financial crisis period. Hence, although the econometrics analysis shows that decentralization variable promotes regional growth and AFTA is insignificant, regional convergence is maintained during the period under observation. Econometrics analysis justify there are other significant variables that contribute to economic performance.

Second, spatial development should be a priority of policymaking. Given that path dependence and untraded industries are embedded within a specific location, policies should embrace these local values and knowledge. The adaptation of policies, such as cluster industries and innovation systems, is crucial to developed specialisation and competitive advantage. Furthermore, because trade liberalisation effect depends on market size, gains also depend on economic structure and flexibility for such supranational economic integration. Thus, only regions with high capacity for innovative policies and dynamic governance to mobilise local actors have opportunities to gain advantage from state restructuring (Uyarra, 2011). Policies such as pro-cyclical

dimensions of economic growth (Petrakos et al, 2005, p.1853) and place-based policies (Barca et al, 2011) emphasis the differences between local endowments, infrastructure, cultural, and institutional. By isolating individual regions, the thesis contributes the importance of the role of manufacturing industries and labour productivity as argued by endogenous growth theory (Lucas, 1986; Romer 1988, 1994).

Thus, integrating pro-cycle dimension and place-based policies are expected to control regional disparities level based on local endowments and institutions in both expansions and poor economic periods. This is possible in a country where the nation-state polices determine national economic growth and regional spatial disparities level policies such as Indonesia (Pike et al, 2012). For example, throughout the period of observation, the Indonesian manufacturing industry was highly concentrated in Java districts and Batam. Hence, balanced development with emphasis on locational and geographical policies should take advantage of the implementation of the decentralisation and trade liberalisation.

Furthermore, the thesis also found poor technological level in Indonesia manufacturing industries. This shows that research and development (R&D) activities in Indonesia are neglected and the level of technology has limited contribution on economic growth. Thus, technological innovation policies such as the regional innovation system (RIS) and the national research council/*Dewan Riset Nasional* (DRN) are crucial to formulate science and technology (S & T) development strategic policies. The S & T law requires the regions established Regional Research Council/*Dewan Riset Daerah* (DRD) to advice and assist regional government in S & T and innovation system. Presently, there are nineteen provincial DRD and five DRD-like organizations have been established. It is expected that regions with DRD have better research and policy agenda to support regional technology progress and growth. This policy is coordinated by the DRN to enhance the role of the DRD as an "advisory council" for science, technology and innovation policies to support local development (Law No. 18/2002).

Third, the qualitative chapter argued that institutional arrangements determine local economic growth. The place-specific policy recognise past institutions and knowledges that determines regional regulations as responds to institutional changes at the national level. This is explained that at critical juncture, field of choice are widely open and each regions have their own institutional change that certain groups or actors gain/lose in the negotiation over power access (Bertrand, 2004, p. 24-25). Institutional change in

regional development begin with the shift of politico-economic from the centralised to decentralisation. The financial crisis as an exogenous factor that triggers the fall of New Order regime that considered as the critical juncture. During this juncture, there is intensification of decentralisation discourses that shape and influence the type of Indonesia decentralisation.

In addition, the trade liberalisation and decentralisation introduced state (re) scaling and multi-level governance as a result of institutional transformation to accommodate state reconfiguration, both at high (supranational cooperation) and low geographic scales (sub-national authorities) (Coe et al., 2007, p. 137). This research findings are contrast with arguments that nation-state has lost its power and become the victim of globalisation (Gill, 1993; Ohmae, 1995), and supports literatures on state rescaling (Jessop, 1996; Brenner, 2004). Specifically, the centre government-driven policies in decentralisation and AFTA reflects the continuity of nation-state in formulating, implementing, coordinating and supervising urban polices, despite the national scale of politico-economy has been decentralized as argued by Brenner (2004, p.3). In this sense, nation-state is reorganized-functionally, institutionally, and geographically-to achieve its new role to promote and mediate socio-spatial transformations as states are being rescaled upwards, downwards, and outwards. This suggest a making of state space that is a qualitatively new, polymorphic, plurilateral institutional geographies that no longer overlap evenly converge into a single, dominant, geographical scale or nested organisational hierarchy (Ibid, p.67). The central policies of the nation-state remain crucial for ensuring balanced development through the creation of development opportunities in decentralisation and welfare distribution from trade openness. For instance, the introduction of *Peraturan Pemerintah* No. 19/2010 empowers provincial governments to overcome institutional and spatial divergence in decentralised Indonesia.

The research also shows conflicts amongst government agencies, confirming the reluctance to accept decentralisation and trade liberalisation, as argued by Sonn (2008). Conflicts and power asymmetries between state departments and agencies imply evidence of reluctance within the government. The empirical studies provide evidence of limited experience and capacity in providing public service. This confirms Prudhomme's (1995) finding that the assumption 'supply is always perfect' does not apply to public service, especially at governments in developing countries. Overall, the study provides a preliminary look into the state (re)scaling and multi-level governance

in developing countries to fill the gaps in this field; research focuses mainly on developed countries, especially those belonging to the European Union (Brenner, 1999, 2004; Hooghe and Marks, 2001; Jessop, 2002; MacLeod, 2001). These perspectives may be used as bases for studies on political economy and nation-state roles, and how these influence development.

Research Limitations

This thesis acknowledges several technical and conceptual limitations that may have influenced the findings and discussion. The lack of available statistical data has limited the observation period, and more comprehensive possibilities for economic analysis, such as examination of trade data at the local level, are constrained. The statistical data also suffers from severe noise that has been recognised by numerous researches. Furthermore, the effect of the AFTA should be analysed further with additional measurements, such as more data on Form D and non-tariff barriers.

In addition, the case studies using institutionalist analysis focuses on only two regions with similar economic structures; that is, Batam and Bandung, which have manufacturing-based economies. To provide broader analysis, future studies requires a few selected that represents regions with agricultural- and service-based economies. The author also acknowledges that state restructuring has only been implemented for a decade; a longer observation period can reveal more findings that are comprehensive and provide more opportunities for analysis to understand the influence of state restructuring on local path dependence and policies. Another limitation is that the research analyses the effect at the district level, which neglects the role of individuals and groups in regional development. For instance, studies on the role of universities and civic societies may provide additional insights into the variations in regional development. Social capital and actors at individual regions offer more opportunities for in-depth analysis.

Appendix

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Appendix A Tariff Impact

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Table A-1 AFTA CEPT Tariff Impact based on total firms in 1993 and 2005

	Impact	Total firm	
		1993	**2005**
1	0%	3893	3918
2	<5%	10204	7225
3	5%+	4066	9586

Table A-2 AFTA CEPT Tariff Impact based on Industry disic 1993

Impact	disic									
	31	32	33	34	35	36	37	38	39	
0%			2,256				139			3,893
<5%		4,258		779					344	10,204
5%+	4,823				2,154	1,498		1,912		4,066
	4,823	4,258	2,256	779	2,154	1,498	139	1,912	344	

Table A-3AFTA CEPT Tariff Impact based on Industry disic 2005

Impact	disic									
	31	32	33	34	35	36	37	38	39	
0%			1,325			1,523	1,070			3,918
<5%		4,347		958					1,920	7,225
5%+	5,580				2,540			1,466		9,586
	5,580	4,347	1,325	958	2,540	1,523	1,070	1,466	1,920	

Table A-4Effects of Trade Tariff

ISIC	Industry	Tariff Rate CEPT-AFTA	Tariff Rate (MFN)				Change in Tariff		
			1991	1995	2001	2005	1991-1995	1995-2001	2001-2005
31	Food	5	21	20.99	16.21	6.9	-0.1	-22.8	-57.4
32	Textile Clothing	5	27.8	20.1	9.39	7.5	-27.7	-53.3	-20.1
33	Wood	5	24.2	17.95	6.91	5	-25.8	-61.5	-27.6
34	Paper	5	21.21	10.09	4.03	2.5	-52.4	-60.1	-38.0
35	Chemicals	2.5	15.6	12.05	6.92	5	-22.8	-42.6	-27.7
36	Metals	0	23.04	10.62	5.65	5	-53.9	-46.8	-11.5
37	Machinery	5	11.5	8.08	5.77	5	-29.7	-28.6	-13.3
38	Equipment and Electrical	5	18.9	14.75	6.72	5	-22.0	-54.4	-25.6
39	Other	5	32.48	22.11	10.97	10	-31.9	-50.4	-8.8
	All	5	20.88	15.6	8.44	5.8	-25.3	-45.9	-31.3

Figure B-1 AFTA Tariff Rate 1993-2005 (Standard Deviation)
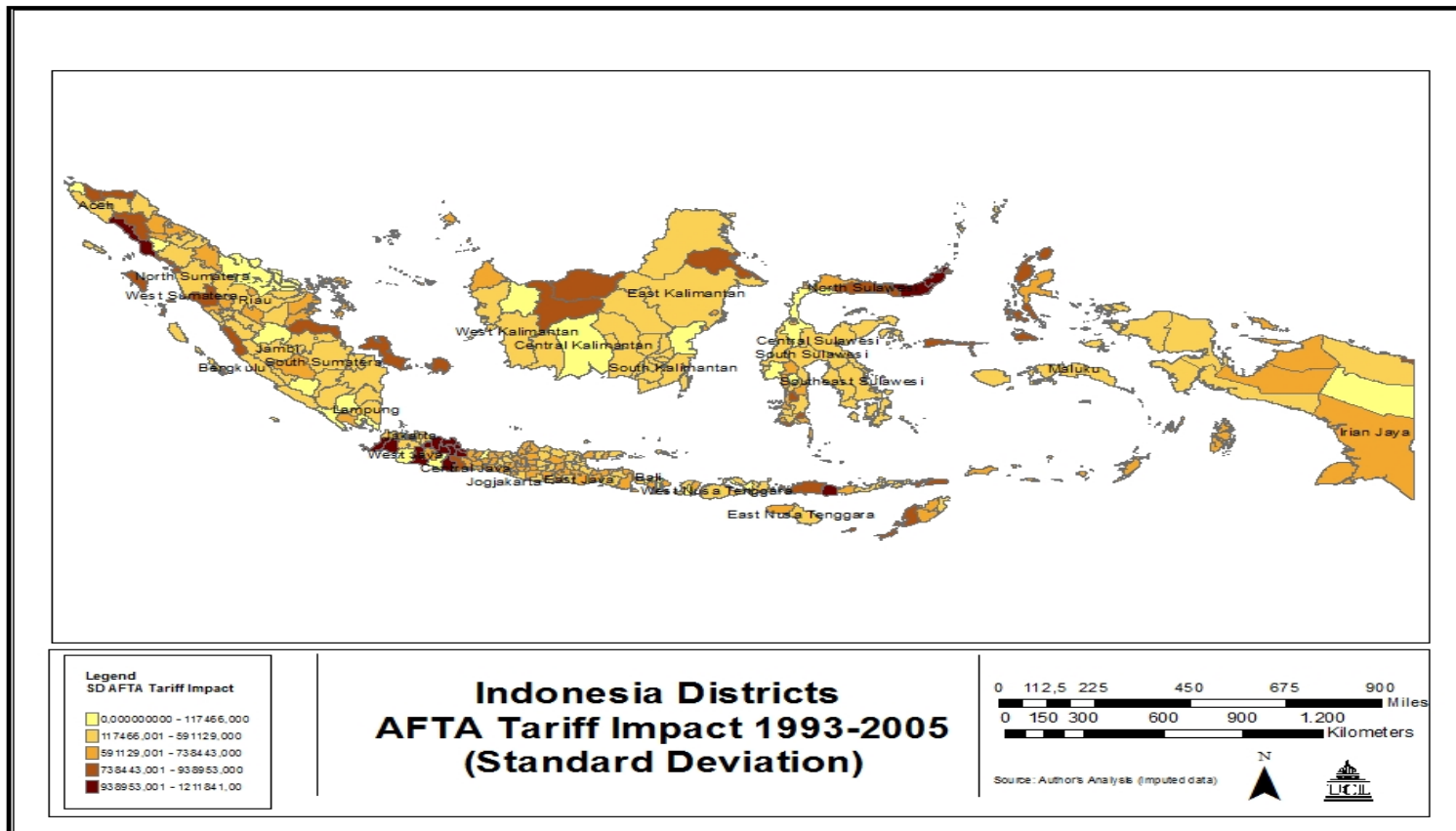
Source: Author's own calculation

Appendix C

Table C-1 Table of Variables

No	Variable Name	Purpose	Data Source
1	GRDP pc, initial year (β)	To capture initial development level	BPS
2	Share of people ever/being in junior high school and vocational	Capture the effect of literate citizen in economic growth	BPS
3	Share of people in urban areas	Capture the effect share of people in urban areas in economic growth	BPS
4	Share of road that are paved	Capture road effect on availability in economic growth	BPS
5	Borders dummy	Capture distance effect to foreign country	Bappenas
6	Distance between regions	Capture distance effect and spatial autocorrelation	Bakosurtanal
7	Manufacturing GRDP	Capture the effect of manufacturing sector on economic growth	BPS
8	Local revenue to GRDP	Capture effect of local generate revenue to economic growth	BPS
9	Transfer fund from the Central Government to GRDP	Capture effect of transfer allocation fund to economic growth	WB data. MoF
10	Total development expenditure	Capture effect of local generate expenditure to economic growth	WB data, MoF
11	AFTA CEPT tariff cut	Capture the effect of sectoral AFTA CEPT tariff	ASEAN Secretariat
12	Trade Liberalisation	Capture the effect of level of trade openness	BPS
13	Labour productivity (Value Added/Labour)	Capture the effect of labour productivity to regional economic growth	BPS
14	Industry output-gov't expenditure ratio	Capture governments' effectiveness expenditure to stimulate industries	BPS
15	Industry activities in the borders (Industry output and borders)	Capture the impact of industry activities in bordering districts	BPS, manual
16	Institutional Governance	Capture institutional governance effects	KPPOD
17	Socio-politic Governance	Capture local socio-politic effects	KPPOD
18	Infrastructure Governance	Capture infrastructure effects	KPPOD
19	Labour and demographic Governance	Capture local labour and demographic policies effects	KPPOD
20	AFTA Impact	Capture the impact of AFTA to initial GRDP (AFTA tariff * Initial GRDP)	ASEAN Secretariat
21	Decentralisation Impact	Capture the impact of Decentralisation to initial GRDP (Transfer fund * Initial GRDP)	BPS
22	Java	Isolate districts located in Java Island	BPS

23	Municipality	Isolate districts that are municipality (urban activities)	BPS
24	Manufacturing Wage	Capture the level of technology advancement and labour skill level	BPS
25	Change of share of people ever/being in junior high school	Capture the effect of growth in a variable	BPS

Appendix D

Table D-1 List of Interviewees

No	Institutions	Position and responsibility	Interview Date
1.		Director of Macro Planning	30 November 2009
2.	National Planning Agency	Director of Industry, State Owned Enterprise, and Information Technology	1 December 2009
3.	Department of Industry	Head of Centre of Regional Trade Cooperation	2 December 2009
4.	Department of Transportation	General Secretary	234November 2009
5.	Department of Trade	Deputy of Foreign Trade	4 December 2009
6.	Department of Home Affairs	Senior Advisor for the Minister on Governance	17 November 2009
7.		Director of Regional Autonomy	4 December 2009
8.	ASEAN Secretary	Head of data, ASEAN FTA secretariat	2 December 2009
9.	Investment Coordinating Board/BKPM	Director of Promotion	23 November 2009
10.		Staff	23 November 2009
11.	Chamber of Commerce	Advisor	18 November 2009
12.	IDS, Sussex University	Economist	9 December 2009
13.	The Asian Foundation	Head of Economics Division	23 November 2009
14.	Regional Autonomy Watch/KPPOD	Executive Director	24 November 2009
15.	APCO worldwide	Managing Director	23 November 2009
16.	Multi-donor NGO	Advisor	18 November 2009
17.	SOAS	Professor of Economics with reference to Asia	10 December 2009
18.	Regional Planning Agency, Province of West Java	Vice Head	13 November 2009
19.	Department of City Planning, City of Bandung	Planning Staff	13 November 2009
20.	Bandung Institute of	Former Dean and Urban	13 November

		Technology	Planning Professor	2009
21.	Agency for Industrial and Trade, Province of West Java		Chairman	29 November 2009
22.	Agency for Promotion and Investment, Province of Riau		Head	26 November 2009
23.	Agency for Promotion and Investment, Province of Riau		Secretary	26 November 2009
24.	Agency for Promotion and Investment, Province of Riau		Sub-Head of Investment Data and Evaluation	26 November 2009
25.	Province of Riau		Vice Governor	26 November 2009
26.	Agency for Planning and Environment, Riau Island Province		Former Head	19 November 2009
27.	Batam Polytechnic		Director	19 November 2009
28.	Batam Industrial Development Authority		Chairman	20 November 2009
29.	Batam City Government		Vice Mayor	20 November 2009
30.	Riau Island Province		Governor	20 November 2009
31.	Batam Industrial Development Authority		Head of Data and Information	21 November 2009
32	Bandung Planning Agency		Secretary	15 June 2011

Appendix E Research Questionnaire (English)

Respondents Data
Name   :………………..………..
Position   :………………..………..
Institution   : ………………..………..
Interview Details   : ………………..………..

a.   Date   : ………………..………..
b.   Time   : ………………..………..
c.   Place   : ………………..………..

Abstract

   This study aims to analyze the impacts of decentralisation and ASEAN Free Trade Area (AFTA) on economic disparities across various Indonesian regions. First, using econometrics analysis, the research examines the impact of decentralisation and trade liberalisation has on Indonesian regional disparities. Second, employing qualitative methods, this study analyzes how trade openness and decentralisation impact an individual region's growth and welfare. Different local endowments and multi-level governance will determine various local policies and diverse economic growth among regions.

Survey Purposes
This quantitative chapter follows the quantitative chapters earlier in this doctorate thesis. This chapter is conducted by interviews with experts and decision-makers in Jakarta and visits to several regions in Indonesia.
This qualitative chapter studies how institutional arrangements at the central and regional levels local determine development. The survey is conducted with semi structured and in depth interviews, which this questioner is used as interview guidelines and the interview is adjusted to the respondent's expertise and experiences.

POLITIC AND ECONOMY

1. What were the main arguments being made for and against decentralisation in Indonesia?

2. Who, which government ministries, what political parties, industry groups or other interests were arguing for and against? Why was this do you think?

3. What have been the main arguments being made for and against ASEAN and free trade in Indonesia?

4. Who, which government ministries, what political parties, industry groups or other interests were arguing for and against? Why was this do you think?

5. Who, what government ministries, political parties, industry groups or other interests have been most concerned about economic disparities in Indonesia? Why is this do you think?

6. What are their opinions regarding the causes of disparities and how does this impacts the progress of devolution and trade liberalisation nationally / in the region?

7. What has been your/your organisation's position with regard to decentralisation and ASEAN free trade and their potential benefits and drawbacks for Indonesia?

IMPACT OF DECENTRALISATION

8. What do you think have been the main impacts of decentralisation on Indonesia?

9. How would you describe the relationship between central government and provinces and districts before and after decentralisation?

IMPACT OF ASEAN FREE TRADE AREA

10. What do you think have been the main impacts of ASEAN and free trade on Indonesia?

11. How would you describe the Indonesia's national bargaining position in trade negotiations/agreements prior to and after the ASEAN free trade agreement?

12. What if any role does national/central government play in shaping the impacts of free trade on regions? What role could, or ought it to play?

IMPACT OF LOCAL ENDOWMENTS AND MANUFACTURES

13. How important each of the following economic indicators is in accounting for the impact of devolution and AFTA on manufacturing at a local level in Indonesia?
   o   Proportion of employments
   o   Population growth
   o   Human Capital (adult literacy rate)
   o   Infrastructure (road accessibility)
   o   Technology availability (electricity and communication)
   o   Local revenue (PAD) and transfer allocation fund (DAU)
   o   Local Government psychical capital
   o   Physical distance between regions that influence economic linkages
   o   Export-import rate within ASEAN
   o   AFTA tariff (CEPT)

14. Would you say there is a strong linkage between manufacturing performances and a region's economic development?

15. Since Decentralisation and AFTA implementation, does manufacturing sector change significantly? In terms of new industries, rationalisation or shift of business, new jobs generated, etc

Appendix F Research Questionnaire (Indonesian)

Data Responden

Nama   :………………..………..
Posisi   :………………..………..
Lembaga   : ………………..………..
Keterangan   : ………………..………..

a. Tanggal   : ………………..………..
b. Waktu   : ………………..………..
c. Lokasi   : ………………..………..

Abstrak

Studi ini bertujuan untuk menganalisa dampak otonomi daerah dan perjanjian perdagangan bebas ASEAN (ASEAN FTA) terhadap berbagai disparitas pembangunan wilayah di Indonesia. Kajian ini terdiri atas dua bagian utama yakni analisa ekonometrik dan analisa kualitatif. Pertama, menggunakan analisa ekonometrik, riset ini menggunakan data statistik dan model ekonomi untuk mengamati dampak otonomi daerah dan perdagangan bebas terhadap ketimpangan wilayah. Kedua, menggunakan analisa kualitatif, riset ini mengkaji dampak perbedaan sumber daya dan multi-tingkat tata kelola (*multi-level governance*) dalam perumusan kebijakan pembangunan dan pertumbuhan ekonomi antar wilayah di Indonesia.

Maksud survey

Setelah bagian kuantitatif dilaksanakan, riset doctoral ini melaksanakan riset kualitatif. Riset kualitatif dilakukan dengan metode interview para ahli dan pembuat kebijakan serta observasi langsung ke beberapa daerah.

Adapun tema riset dalam penelitian kualitatif ini adalah bagaimana keunikan dan perbedaan tata-kelola (*governance)* pada tiap daerah mempengaruhi kebijakan pembangunan dan pertumbuhan ekonomi masing-masing daerah. Survey akan dilaksanakan dengan bentuk *semi structured* dan *in-depth interview* sehingga pertanyaan-pertanyaan berikut hanya sebagai panduan wawancara dan diskusi akan disesuaikan dengan pengalaman dan bidang keahlian narasumber.

POLITIK DAN EKONOMI

1. Menurut pengetahuan saudara, apa sajakah alasan dibutuhkannya dan ditentangnya otonomi daerah di Indonesia?

2. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan pihak-pihak mana sajakah yang mendukung atau menentang otonomi daearah? Mengapa?

3. Menurut pengetahuan saudara, apa sajakah alasan dibutuhkannya dan ditentangnya perdagangan bebas (khususnya AFTA) di Indonesia?

4. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan pihak-pihak mana sajakah yang mendukung atau menentang perdagangan bebas (khususnya AFTA)? Mengapa?

5. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan pihak-pihak mana sajakah yang mendukung pertumbuhan berimbang antar daerah?

6. Bagaimana pendapat mereka mengenai ketimpangan wilayah dan apa dampaknya terhadap kinerja otonomi daerah dan perdagangan bebas (khususnya AFTA)?

7. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan posisi institusi anda terhadap otonomi daerah dan perdagangan bebas (khususnya AFTA) dan bagaimana dampak kedua hal ini terhadap Indonesia? Mengapa?

DAMPAK OTONOMI DAERAH

8. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan dampak otonomi daerah terhadap Indonesia?

9. Bagaimana anda menggambarkan hubungan pemerintah pusat dan pemerintah daerah sebelum dan sesudah otonomi daerah?

DAMPAK PERDANGANGAN BEBAS ASEAN

10. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan dampak perdagangan bebas terhadap Indonesia?

11. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan posisi Indonesia dalam pelaksanaan perdagangan bebas?

12. Berdasarkan pengalaman/pengetahuan saudara, bisakah dijelaskan peran pemerintah pusat pada pelaksanaan perdagangan bebas di daerah?

DAMPAK KEMAMPUAN LOKAL DAERAH DAN INDUSTRI MANUFAKTUR

13. Bagaimana pendapat saudara mengenai tingkat kepentingan variabel-variabel industri dibawah ini, terhadap kinerja desentralisasi dan perdagangan bebas?

- Proporsi tenaga kerja
- Tingkat baca-tulis
- Infrastruktur
- Ketersediaan Teknologi
- Kapasitas pemerintah daerah dalam PAD dan DAU
- Modal fisik pemerintah daerah
- Keterkaitan ekonomi antar-daerah
- Export-impor antar negara ASEAN
- Tarif ASEAN FTA

14. Menurut saudara, apakah terdapat keterkaitan erat antara kinerja industri dengan pertumbuhan ekonomi daerah dimana industri tersebut berlokasi?

15. Berdasarkan pengalaman/pengetahuan saudara, apakah terjadi perubahan signifikan terhadap kinerja industri sejak pelaksanaan otonomi daerah dan perdagangan bebas?

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