

## ECONOMIC GEOGRAPHY OF INDONESIA: CAN MP3EI REDUCE INTER-REGIONAL INEQUALITY?<sup>1</sup>

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### ABSTRACT

*Recent Yudhoyono's government set a development of the Masterplan for Acceleration and Expansion of Indonesia Economic Development (Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia – MP3EI) to drive the realization of high, balanced, fair and sustainable economic growth (CMEA, 2011). MP3EI highlights 6 major economic corridors to accelerate and induce interconnectivities across regions, provinces, and districts. This paper will explore to what extent the MP3EI can address the interregional inequality? It will examine the inter-provincial per capita GRDP (Gross Regional Domestic Product) disparities during 2001-2010 in Indonesia using Theil entropy index. Regional inequality tended to increase during the period due to between-island and within-island inequality. We will show that diversity does matter in Indonesia across provinces, districts, and islands. Java and Sumatra islands have predominated the Indonesian economy about 80%, while other islands in the Indonesian Eastern Regions have played a minor role. The better performing provinces are those that are resource-rich, densely populated, or better connected to global economy. We will also identify some major challenges to implement MP3EI. To implement MP3EI successfully, it requires a thorough understanding of Indonesia's growth poles, leading sectors in every province, and backward regions, and also debottlenecking infrastructure and financing problems.*

**Keywords:** *MP3EI, inequality, regions, geography, Theil index*

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### INTRODUCTION

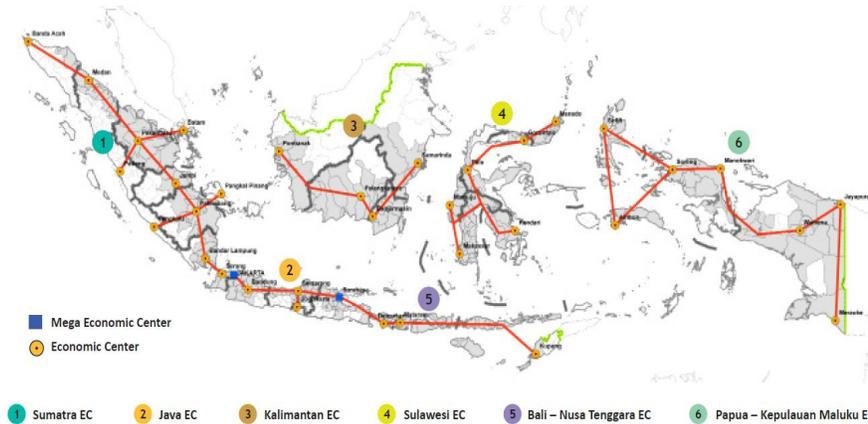
With 241 millions inhabitants ranked the 4th most populous country in the world in 2012 (BPS, 2013), Indonesia is a country endowed with the highest population and the richest natural resources within its archipelago of 17 thousand islands. It is the world's largest archipelago, stretching from east to west with a length of 5,200 km and a width of 1,870 km. As a country consisting of thousands of islands and located between two continents and two oceans, the archipelago has a unique combination of economic potentials with specific major islands or regions having its own strategic future-role in achieving Indonesia's 2025 vision.

Susilo Bambang Yudhoyono (SBY)'s government set a development of the Masterplan for Acceleration and Expansion of Indonesia Economic Development (*Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia – MP3EI*) to drive the realization of high, balanced, fair, and sustainable economic growth (CMEA, 2011). On February 21-22, 2011, a meeting between the Central Government and Head of Regions in Bogor Presidential Palace discussed various government and state owned enterprise projects in the six Indonesia's Economic Corridors (Figure 1). As a result, president SBY declared that the Masterplan for the Acceleration and Expansion of Indonesia's Economic Development (MP3EI) 2011-2025 was different from other existing plan documents because it set obvious targets, simple but complete plan with clear responsibilities, investments, and the results.

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Figure 1. Indonesia's Economic Corridor Based on MP3EI



Source: CMEA (2011)

This paper will focus on the following question: can the MP3EI address the Indonesia's economic geography that tends to concentrate geographically in the Indonesian Western Regions (KBI)? To implement MP3EI successfully, it requires a thorough understanding of Indonesia's growth poles, leading sectors in every province, backward regions, and also debottlenecking infrastructure and financing problems. This paper will attempt to solve the fundamental question by inquiring Indonesia's recent development, followed by analysing the geographic dimension of the Indonesian economy, and exploring regional inequality by Theil entropy index.

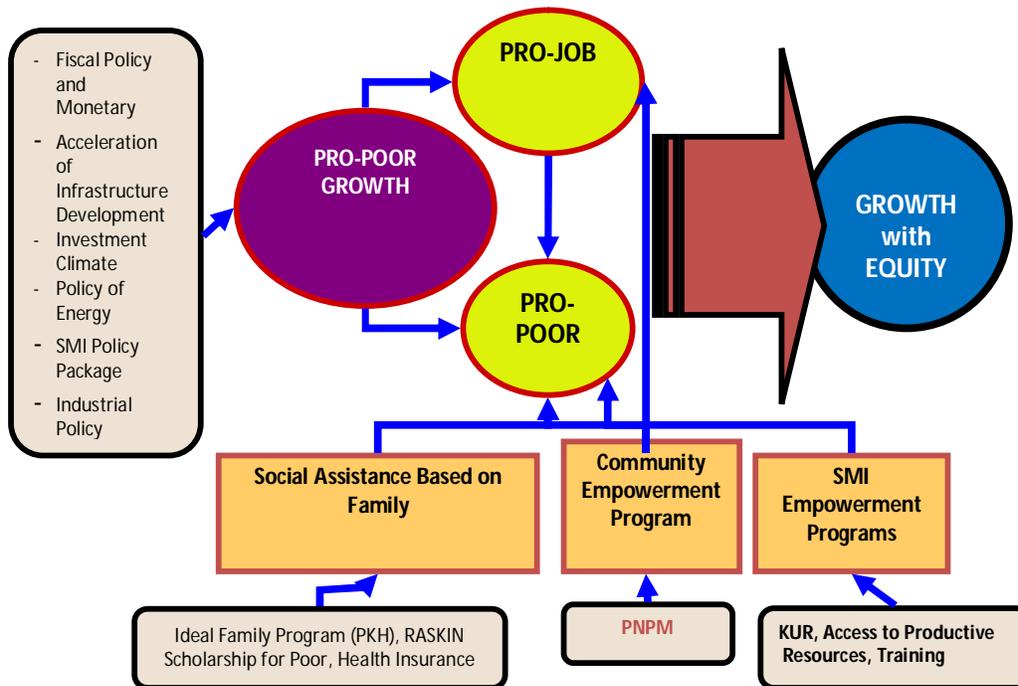
## SURVEY OF RECENT INDONESIA'S DEVELOPMENT

### SBYnomics

Following inauguration of President SBY and Vice President Boediono on 20 October 2009, SBY said that his priority for the next five years, which will be his final term under the Constitution, would be to improve public welfare through economic growth "coupled with equity" (Yudhoyono, 2009). Figure 2 elaborates the paradigm of growth with equity in three pillars: pro-growth, pro-job, and pro-poor programmes (Jakarta Post, 2009). Most of the resources and policies will be prioritized to ensure the implementation of the following eleven national priorities, namely: (1) reform of the bureaucracy and administration; (2) education; (3) health; (4) reducing poverty; (5) food security; (6) infrastructure; (7) investment in the business sector; (8) energy; (9) environment and natural disasters; (10) left-behind, frontline, most outer, and post conflict regions; and (11) culture, creativity, and technological innovation (Figure 3).

The 2010-2014 National Medium-Term Development Plan (RPJMN 2010-2014) is the elaboration of the Vision, Mission, and Program of the President, the formulation of which is guided by 2005-2025 National Long-Term Development Plan (RPJPN 2005-2025). The vision, mission, and action programs of current regime state explicitly their roadmap for realizing an Indonesia that is more advanced and prosperous, more self-reliant, more secure and peaceful, more democratic and equal (Yudhoyono & Kalla, 2004; Yudhoyono, 2006, 2009).

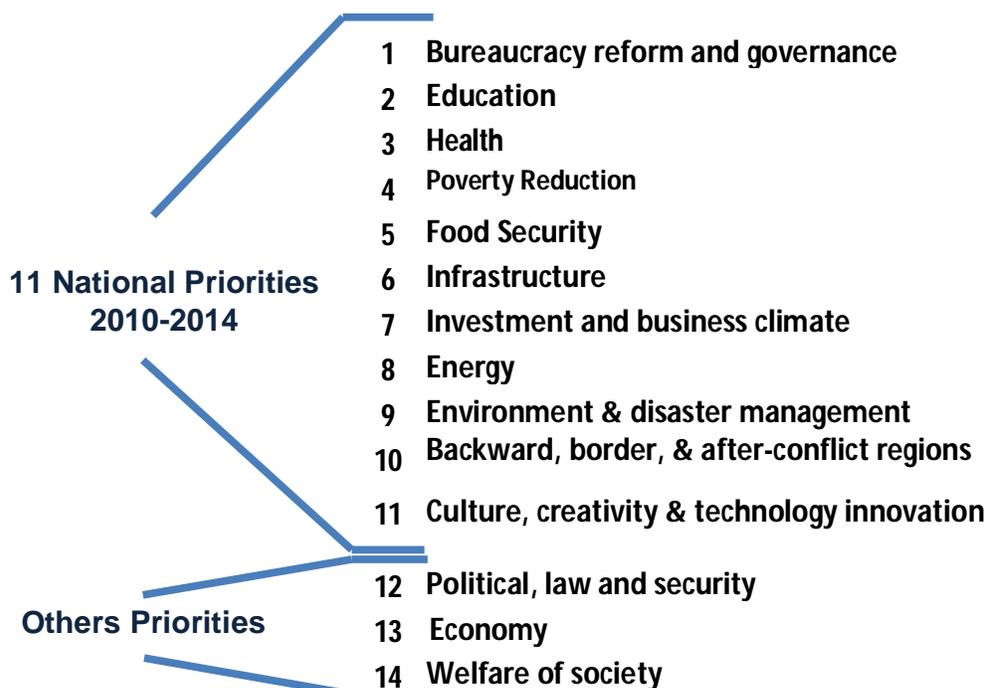
Figure 2. Recent Government Framework To Achieve "Prosperity, Democracy And Justice"



Source: Alisjahbana (2010)

More specifically, in the 'pro-growth' agenda, economic growth has been accelerating (Kuncoro, 2010). In the period 1997-1999, the economic crisis resulted in an economic decrease of 2.9% per year. In the period 2000-2004 also known as the period of economic recovery, the economy again had a positive growth of 4.5%. Within the period 2005-2008, the economic growth has reached an average of 6%. In fact, by excluding the oil and gas sector, the non-oil and gas economic growth has already approached 7%. It reached 6.6% in 2005-2008, this compared with 5.4% in between 2000 and 2004. In 2009, the average economic growth reached 4.5%. The performance of Indonesia's economic growth has made Indonesia to be deemed as having a well performing economy, compared to many nations who were experiencing negative economic growth rates.

Figure 3. National Priorities of Unity Indonesia Cabinet II 2010-2014



Source: Presidential Instruction No. 1 Year 2010

The Indonesian government quite effectively steered the national economy through ‘storm’ of the 2008 Global Financial Crisis (GFC) (Kuncoro, et al. 2009). In the first quarter of 2008, Indonesia’s real Gross Domestic Product (GDP) was comparable with other Southeast Asian countries. From then on, Indonesia’s economic performance fared much better than economic contractions in the other economies in Asia. Less exposure to external shocks from the international trade and expansionary fiscal and monetary policies in particular allowed the economy weather the worst of the crisis and rebound during the first half of 2009 (IMF, 2009: 71-74). Table 1 shows that the ASEAN-5 economies (i.e. Indonesia, Malaysia, Philippines, Thailand, and Vietnam) are projected to grow by 5.4% in 2010 and 5.6% in 2011. Private domestic demand is expected to be the main driver of growth, with net exports playing a lesser role than in the past, reflecting stronger imports relative to historical standards. Among the ASEAN-5, the Indonesian economy has proved to be remarkably resilient, with output growing at 4.5% in 2009 compared with 1.75% for the ASEAN-5 as a whole, thanks to strong domestic demand. Indonesia’s growth is expected to accelerate to 6% in 2010 and to 6.25% in 2011, reflecting a pickup in private investment.

Table 1. Selected Asian Economies: Real GDP, Consumer Prices, and Current Account Balance (Annual percent change unless noted otherwise), 2008-2011

	Real GDP				Consumer Prices <sup>1</sup>				Current Account Balance <sup>2</sup>			
	2008	2009	Projections		2008	2009	Projections		2008	2009	Projections	
			2010	2011			2010	2011			2010	2011
<b>Asia</b>	5.2	3.5	6.9	7.0	5.8	2.0	4.1	2.8	4.0	3.6	3.4	3.3
<b>Advanced Asia</b>	0.2	-3.0	3.1	3.2	2.8	-0.1	0.3	0.8	2.4	3.1	2.6	2.4
Japan	-1.2	-5.2	1.9	2.0	1.4	-1.4	-1.4	-0.5	3.2	2.8	2.8	2.4
Australia	2.4	1.3	3.0	3.5	4.4	1.8	2.4	2.4	-4.4	-4.1	-3.5	-3.7
New Zealand	-0.1	-1.6	2.9	3.2	4.0	2.1	2.1	2.5	-8.6	-3.0	-4.6	-5.7
<b>Newly Industrialized Asian Economies</b>	1.8	-0.9	5.2	4.9	4.5	1.3	2.3	2.3	4.9	8.9	6.6	6.6
Korea	2.3	0.2	4.5	5.0	4.7	2.8	2.9	3.0	-0.6	5.1	1.6	2.2
Taiwan Province of China	0.7	-1.9	6.5	4.8	3.5	-0.9	1.5	1.5	6.2	11.2	8.5	7.7
Hong Kong SAR	2.1	-2.7	5.0	4.4	4.3	0.5	2.0	1.7	13.6	11.1	12.1	10.1
Singapore	1.4	-2.0	5.7	5.3	6.5	0.2	2.1	1.9	19.2	19.1	22.0	22.4
<b>Developing Asia</b>	7.9	6.6	8.7	8.7	7.4	3.1	5.9	3.7	5.7	4.1	4.1	4.1
China	9.6	8.7	10.0	9.9	5.9	-0.7	3.1	2.4	9.4	5.8	6.2	6.5
India	7.3	5.7	8.8	8.4	8.3	10.9	13.2	5.5	-2.2	-2.1	-2.2	-2.0
<b>ASEAN-5</b>	4.7	1.7	5.4	5.6	9.3	2.9	4.8	4.6	2.7	5.1	3.3	2.2
Indonesia	6.0	4.5	6.0	6.2	9.8	4.8	4.7	5.8	0.0	2.0	1.4	0.4
Thailand	2.5	-2.3	5.5	5.5	5.5	-0.8	3.2	1.9	0.6	7.7	2.5	0.3
Philippines	3.8	0.9	3.6	4.0	9.3	3.2	5.0	4.0	2.2	5.3	3.5	2.3
Malaysia	4.6	-1.7	4.7	5.0	5.4	0.6	2.0	2.1	17.5	16.7	15.4	14.7
Vietnam	6.2	5.3	6.0	6.5	23.1	6.7	12.0	10.3	-11.9	-7.8	-6.9	-6.0
<b>Other Developing Asia<sup>3</sup></b>	3.9	3.7	4.3	5.0	12.9	11.5	9.1	7.4	-2.3	-0.8	-1.0	-1.3
<i>Memorandum</i>												
Emerging Asia <sup>4</sup>	7.0	5.6	8.2	8.2	7.0	2.9	5.4	3.5	5.6	4.9	4.5	4.5

- <sup>1</sup> Movements in consumer prices are shown as annual averages. December–December changes can be found in Tables A6 and A7 in the Statistical Appendix.
  - <sup>2</sup> Percent of GDP.
  - <sup>3</sup> Other Developing Asia comprises Islamic Republic of Afghanistan, Bangladesh, Bhutan, Brunei Darussalam, Cambodia, Fiji, Kiribati, Lao People’s Democratic Republic, Maldives, Myanmar, Nepal, Pakistan, Papua New Guinea, Samoa, Solomon Islands, Sri Lanka, Timor-Leste, Tonga, and Vanuatu.
  - <sup>4</sup> Emerging Asia comprises all economies in Developing Asia and the Newly Industrialized Asian Economies.
- Source: IMF (2010)

**Table 2. Real GDP Growth of Indonesia, Asia, Developing and Developed Economies, 2010-2013 (year on year)**

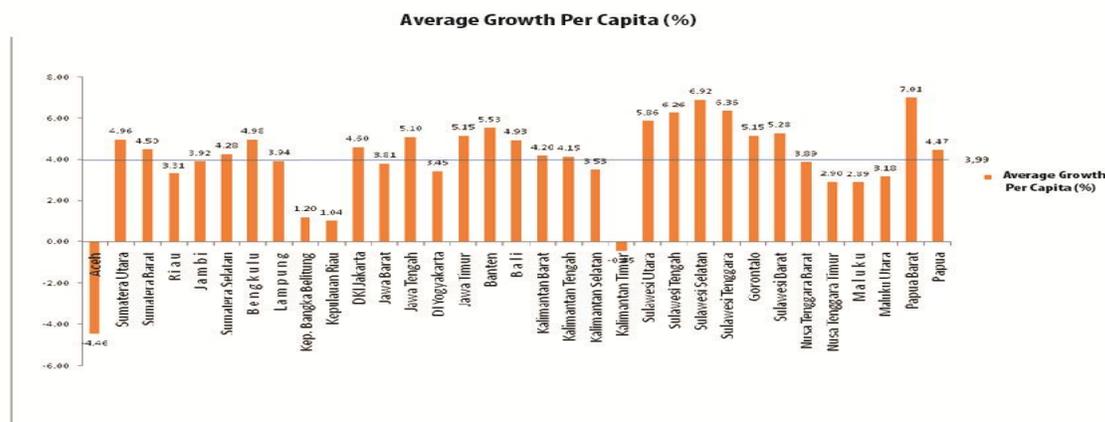
Countries	2009	2010	2011	2012*	2013*
Indonesia	4.5	6.1	6.4	6.0	6.3
Malaysia	-3.6	7.2	5.3	4.4	4.7
Singapura	-3.3	14.5	4.8	2.0	2.9
Thailand	-3.5	7.8	4.5	5.5	5.9
Filipina	1.0	7.3	5.0	4.8	4.7
China	8.5	10.4	9.2	7.8	8.2
India	5.4	8.6	8.2	4.8	5.9
Emerging & developing economies	2.1	7.5	6.2	5.6	6.9
Advanced economies	-3.2	2.1	1.6	1.4	1.9

Source: IMF (2012)

Weaker momentum in China and India weighed on regional economic outlook in Asia. For Asia as a whole, GDP growth fell to its lowest rate since the 2008 global financial crisis during the first half of 2012. Table 2 shows that the ASEAN economies are projected to grow by 5.1% in 2012 and 5.5% in 2013. Going forward, growth is projected to pick up very gradually, and Asia should remain the global growth leader, expanding over 2 percentage points faster than the world average next year (IMF, 2012).

As far as spatial dimension is concerned, regional economic growth varies by provinces. Figure 4 show some provinces grew more than national average during 2004-2010. Resource-rich provinces, such as Papua, Papua Barat, Sumatra Utara, and all provinces in Sulawesi, grow more than the average national economic growth. Provinces with densely populated and good airports/seaports, such as Jakarta, Jawa Tengah, Jawa Timur, Banten, grew faster than that of the national average. The following section will elaborate the trend of spatial inequality in Indonesia.

**Figure 4. Average Growth Per-Capita Provinces in Indonesia 2004-2010**



Source: Calculated from BPS (2012)

**Geographic Concentration in Indonesia**

The most striking features of the geography of economic activity is *concentration* and *unevenness*. Spatial concentration of

economic activities within a country indicates that industrialisation constitutes a geographically selective process. Within the U.S., for illustration, the majority of manufacturing has been concentrated in a relatively small part of the country, within the so-called manufacturing belt, since the second half of the nineteenth century (Krugman, 1991: 11-4). Spatial concentration is also found in the UK's Axial Belt of industry and the manufacturing belt of German Ruhr (Hayter, 1997: 45). Whereas, in many developing countries, the uneven spatial distribution of both industry and population gathers around capital cities such as Bangkok, New Delhi, Mexico City, Sao Paulo, and Jakarta, which engender a spatial system based on the accumulation of capital and labour in urban agglomerations (Kuncoro, 2012a).

Concentration of economic activities in Indonesia has been located overwhelmingly and spatially in Java and Sumatra Island since 2000. Statistics Indonesia shows the spatial structure of the Indonesian economy has been dominated by provinces in the Java Island, which contributed to the Indonesia's GDP of 57.5-61%, followed by about 21-23% of the island of Sumatra (BPS, 2012). Indonesia Eastern Region (KTI) only gets the rest about 20%. Table 3 shows the role of the islands in the formation of the national GDP in detail.

The predominant role of Java and Sumatra is largely driven by industrial sector. Most of Indonesian modern manufacturing establishments have persisted to locate in Java and to a much lesser extent, Sumatra island (Kuncoro, 2007). Even when we classify all provinces of Indonesia into five main islands (i.e. Sumatra, Java, Kalimantan, Sulawesi, Eastern Islands), Java and Sumatra provided more than 90% of Indonesia's manufacturing employment (and value added) over the period (Kuncoro, 2012b). The share of Java's employment tended to decline slightly, while Sumatra's share tended to increase substantially. Other main islands in Indonesia played a minor role in the Indonesia manufacturing employment.

**Table 3. Percentage Share of Island to Indonesia's GDP, 2000-2012\***

Island**	2000	2004	2010	2012*
Sumatra	22.66	22.25	21.07	23.60
Java	58.95	59.70	61.05	57.50
Bali & Nusa Tenggara	2.71	2.77	2.77	2.40
Kalimantan	9.55	9.29	8.57	9.50
Sulawesi	4.17	4.35	4.81	4.80
Maluku & Papua	1.96	1.65	1.74	2.20

\* uptill second quarter

\*\* Sum of GRDP Provinces within each island

Source: Calculated from BPS (2012)

Moreover, Java with more than half of Indonesians inhabitants offers a huge potential market and is importance by its own rights. In terms of total population, Indonesia has been the fourth biggest country in the world after China, India, and USA. The number of Indonesian populations increased from 179.4 millions in 1990, 194.8 millions in 1995, 206.2 millions in 2000, to 237.6 millions in 2010 (BPS, 2013). Yet the increasing number of inhabitants was not followed by an equal distribution of population geographically. In 1995, Java Island resided by around 59 per cent of Indonesia population (i.e. around 115 millions) but it has area of only 7% of total area of Indonesia. **With a current population of 135 millions now, Java is not only the 'heartland' of economic activities but also the world's most populous island amongst more than 17,000 islands in Indonesia.**

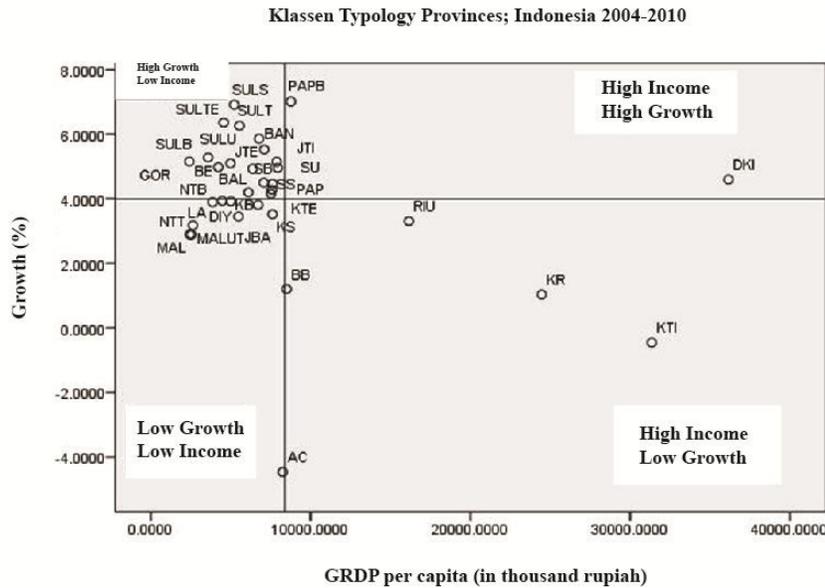
Further detail examination of the Indonesia's spatial concentration by provinces will offer a clearer picture of the Indonesia's economic geography. With regional typology analysis, we can divide provinces in Indonesia into 4 classes based on two key indicators, namely regional economic growth and regional income per capita (Figure 5). By calculating the average GRDP growth as the vertical axis and the average GRDP per capita as the horizontal axis, the 33 provinces in Indonesia can be divided into four classes, namely: high growth and high income, high income but low growth, high growth but low income, and relatively backward provinces with low growth and low income (Hill, 1989; Kuncoro, 2004, 2012a).

Based on this regional typology, two provinces enjoyed high growth and income are merely DKI Jakarta and Papua Barat. The former is capital city of Indonesia that relies heavily on service based and manufacturing industry sector. Papua Barat is a resource based province, well known as a major producer of oil as well as the beautiful Raja Ampat marine and diving location.

East Kalimantan, Riau, Riau Archipelago (Kepri), Bangka Belitung can be classified as high income and low growth. These provinces are known as rich resource based regions. East Kalimantan, Riau, and Kepri are the major producer of oil and gas in Indonesia. East Kalimantan is home of coal mining and forestry products. Bangka Belitung, as a new province splitting from South Sumatra, offers a great tin mines and beauty of its nature based tourism. The relatively low growth of the provinces reflects its major sectors entering a sunset stage.

Provinces classified as high growth but low income consist of North Sumatera, South Sumatera, West Sumatera, Jambi, Banten, Central Java, East Java, Central Kalimantan, Bali, Gorontalo, West Nusa Tenggara, Bengkulu, North Sulawesi, West Sulawesi, Central Sulawesi, South Sulawesi, South East Sulawesi, and Papua. The relatively low income of the provinces reflects the poverty incidence still substantial. However, the relatively higher growth rate indicates that those provinces grow enormously and catch up with those of high income provinces.

Figure 5. Provinces in Indonesia by GRDP Per Capita and Regional Growth, 2004-2010



Source: Calculated from BPS (2012)

AC = Aceh	SU = North Sumatra	SB = West Sumatra	RIU = Riau	JA = Jambi
BB = Kep. Babel	KR = Riau Achipelago (Kepri)	DKI = DKI Jakarta	JBA = West Java	JTE = Central Java
BAL = Bali	KB = West Kalimantan	KTE = Central Kalimantan	KS = South Kalimantan	KTI = East Kalimantan
SULTE = South East Sulawesi	GOR = Gorontalo	SULB = West Sulawesi	NTB = West Nusa Tenggara	NTT = East Nusa Tenggara
LA = Lampung	BAN = Banten	SULS = South Sulawesi	PAPB = West Papua	PAP = Papua
SS = South Sumatra	DIY = DIY	SULU = North Sulawesi	MAL = Maluku	
BE = Bengkulu	JTI = East Java	SULT = Central Sulawesi	MALUT = North Maluku	

Aceh, Maluku, North Maluku, West Java, South Kalimantan, West Kalimantan, Yogyakarta Special Region, East Nusa Tenggara, and Lampung can be included as relatively backward regions with low growth and low income. These provinces have not only generally higher poverty rate than the national rate, but also rely heavily on agriculture sector.

**METHODOLOGY TO MEASURE INTERREGIONAL INEQUALITY**

The pattern of geographic concentration in Indonesia will be analysed using the entropy index of inequality. The concept of entropy of a distribution is basically an application of information theory concepts in measuring economic inequality and industrial concentration. Henri Theil, an economist whose contributions to economics and econometrics are substantial and widely known, first introduced entropy in analysing the behaviour of passenger car production and geographic decomposition of new car registrations in the United States over 1936-1964 and 1959-1964 respectively (Theil, 1967: chap.8). Theil's subsequent empirical studies using the entropy index offers an insight into the understanding of regional per capita incomes and income inequality (Theil & Fiedman, 1973), international inequality (Theil, 1989), and the geographic distribution of gross world product (Theil & Chen, 1996).

The entropy index offers some advantages over other indexes of spatial concentration. The main feature of this index is that at a particular point in time it provides a measure of the degree of concentration (or dispersion) of spatial distribution over a set of regions and sub-regions within a country. Several empirical studies show that the entropy index analysis has proved most useful in analysis of changing industrial location patterns (Garrison & Paulson, 1973, Keeble, 1976: 26-9, Semple, 1973) and suburbanisation of metropolitan employment (Carlino, 1998).

The main shortcoming of the existing concentration/dispersion indices (Table 4) is that all indices, except the entropy index, only provide one single value in particular time. It has been long recognised that each index may be designed for various purposes and based on several underlying assumptions (Hoover, 1936, Isard, 1960, Malecki, 1991). Unlike the other indexes, the entropy index allows us to make comparison over time and provide a breakdown by smaller geographic sub-units. The former will be useful for analysing the trend of geographic concentration over time; the latter is importance when we explore further detailed pictures of spatial inequality, for example inter-regions within a country and inter-subregion within a region.

**Table 4. Existing Spatial Concentration or Dispersion Index**

Name of Index	Author	Distribution compared or description
• Coefficient of geographic association	Florence, <i>et al.</i>	Shares of manufacturing employment by states: industry <i>i</i> versus industry <i>j</i>
• Coefficient of concentration of population	Hoover	Shares by states: population versus areas
• Coefficient of redistribution	Hoover; Florence, <i>et al.</i>	Shares of population (or total wages earners, or employment in selected manufacturing industries) by states: year $\alpha$ versus year $\beta$
• Coefficient of deviation	Hoover	Shares of population by states: White versus Negro
• Index of dissimilarity	Duncan	Shares of workers by areas: occupation group <i>A</i> versus <i>B</i>
• Index of segregation	Duncan	Shares of workers by areas: specific occupation group versus all other occupation groups
• Coefficient of specialisation (Location Quotient, LQ)	Malecki	Shares of employment <i>i</i> in region <i>r</i> versus shares of industry <i>I</i> to total employment in the nation
• Geographic concentration	Ellison & Glaeser	The index tries to captures localised industry-specific spillovers and natural advantages
• Index of regional/national divergence	Krugman	The sum of absolute difference between share of industry <i>i</i> and other industry in total employment

Source: Ellison & Glaeser (1997); Isard (1960); Krugman (1991); Malecki (1991); Kuncoro (2012)

Perhaps the most significant feature of this entropy index is that it can distinguish ‘between-region’ inequality from ‘within-region’ inequality. More specifically, in the Indonesian context, the index is expressed as:

$$I(y) = \sum_{i=1}^N y_i \log \frac{y_i}{N} \quad (1)$$

where I(y) is the overall Indonesia entropy index of spatial inequality,  $y_i$  is the share of the *i* province to Indonesia’s GDP, N is the total number of province in island *r*. To capture the spatial inequality between islands in Indonesia, we may decompose equation 1 into:

$$I(y) = \sum_{r=1}^R Y_r \log \frac{Y_r}{N_r/N} + \sum_{r=1}^R Y_r \left[ \sum_{i \in r} \frac{y_i}{Y_r} \log \frac{y_i/Y_r}{N_r} \right] \quad (2)$$

where  $Y_r$  is the shares of GRDP all provinces in island *r*;  $N_r$  is the number of provinces in island *r*; and R is the total number of islands in Indonesia. The first term simply measures the degree of inequality in *island* shares of Indonesia, while the second term measures the degree of difference in *province* shares within each island, weighting this figure by the island’s overall share of Indonesia’s GDP.<sup>2</sup> The entropy index, including its decomposition into between-island and within-island spatial inequality, is calculated for 33 provinces in Indonesia and 5 main islands over the period of 2001-2010. Lower values of the index are associated with less inequality, and *vice versa*.

## FINDINGS AND DISCUSSIONS

### Trend of Spatial Inequality

To what extent the uneven geographic distribution of economic activities has persisted can be examined by applying the Theil’s entropy index of spatial inequality (i.e. equation 1 and 2). First, the total entropy index indicated a very high spatial concentration over the period of 2001-2010 (column 3 of Table 5). The average of total entropy index of Indonesia is around 0.72-0.75 during this period, far higher than the regional figures for developed and developing countries compiled by Theil (Table 6). Theil’s (1992) empirical study of more than 100 countries in US, Western Europe, Tropical Africa, Tropical America, and South Asia finds that the entropy index is ranging from 0.5 to 0.6 during 1960-1985. Although the direct comparison between our study and Theil’s is somewhat difficult due to lack of data up to sub-regions within each country, two major trends emerge: First, the spatial inequality in more than 100 countries, according to Theil, tended to increase over 1975-85, but the spatial inequality for Indonesia tended to decline in the same period. Second, the international inequality is mainly due to the regional inequality (column 5 of Table 6), while the spatial inequality in Indonesia is mainly because of inequality between-island (column 4 of Table 5).

<sup>2</sup> A similar application of the entropy index has been conducted in the case of United Kingdom over the period of 1959-1971 (Keeble, 1976).

**Table 5. Indonesia Entropy Index By Main Islands, 2001-2010**

Year	Between-Island (1)	Within-Island (2)	Total (3)	(1) in % of (3) (4)
2001	0,4211	0,3265	0,7476	56,33
2002	0,4179	0,3205	0,7384	56,60
2003	0,4213	0,3041	0,7254	58,08
2004	0,4321	0,3014	0,7335	58,91
2005	0,4309	0,3036	0,7345	58,67
2006	0,4390	0,3029	0,7419	59,17
2007	0,4428	0,3027	0,7455	59,40
2008	0,4486	0,296	0,7446	60,25
2009	0,4451	0,2962	0,7413	60,04
2010	0,4463	0,2961	0,7424	60,12

Source: Calculated from BPS (2012)

The second important finding is the trend of the total entropy index showing a “U” curve shape (Figure 6). The period prior to 2004 has a steady decreasing pattern reflecting an increased dispersion of economic activities in Indonesia. The geographic concentration has tended to increase subsequently as reflected by an increase in the entropy indices. This suggests that geographic concentration in Indonesia tended to increase during SBY regime.

**Table 6. International Inequality By Region**

Year (1)	Internati- onal Inequality (2)	Regional Inequality (3)	Average within region (4)	(3) as % of (2) (5)	Inequality within region				
					North (6)	South (7)	Tropical America (8)	Tropical Asia (9)	Tropical Africa (10)
1960	0.5355	0.4146	0.1209	77.4	0.156	0.0690	0.099	0.115	0.080
1965	0.5832	0.4559	0.1273	78.2	0.137	0.066	0.078	0.151	0.082
1970	0.6124	0.4850	0.1274	79.2	0.109	0.071	0.071	0.173	0.081
1975	0.6216	0.4660	0.1556	75.0	0.086	0.073	0.054	0.251	0.097
1980	0.6491	0.4808	0.1683	74.1	0.085	0.063	0.054	0.258	0.155
1985	0.6407	0.4900	0.1506	76.5	0.086	0.093	0.058	0.200	0.187

*Note:*

*North* consists of 25 countries, including the U.S., Canada, Japan, South Korea, and 21 other countries in Western and Southern Europe.

*South* consists of Argentina, Chile, Uruguay, Australia, New Zealand, South Africa, Botswana, Lesotho, and Swaziland.

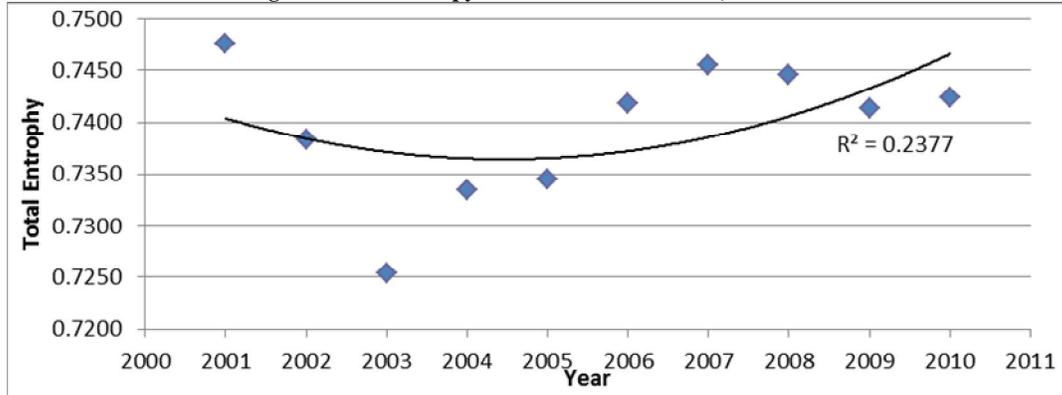
*Tropical America* includes Barbados, Bolivia, Brazil, Columbia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Surinam, Trinidad & Tobago, and Venezuela.

*Tropical Asia* is Afghanistan, Bangladesh, Burma, Fiji, Hong Kong, India, Indonesia, Iran, Iraq, Israel, Jordan, Kuwait, Malaysia, Nepal, Pakistan, Papua New Guinea, Philippines, Saudi Arabia, Singapore, Sri Lanka, Syrian Arab republic, Taiwan, and Thailand.

*Tropical Africa* consists of Algeria, Angola, Benin, Burundi, Cameroon, Central African Republic, Chad, Congo (People’s Republic), Egypt, Ethiopia, Gabon, Gambia, Ghana, Guinea, Ivory Coast, Kenya, Liberia, Madagascar, Malawi, Mali, Mauritania, Mautitius, Morocco, Mozambique, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Somalia, Sudan, Tanzania, Togo, Tunisia, Uganda, Zaire, Zambia, and Zimbabwe.

Source: Theil (1992: 913)

**Figure 6. Total Entropy and Its Trend: Indonesia, 2001-2010**

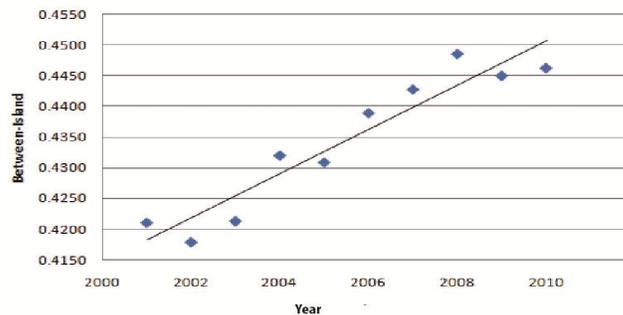


Source: Calculated from BPS (2012)

Table 5 shows that the total entropy index gives an indication of very high spatial concentration over the period. Another important finding is that the total entropy index from the year 2001-2011 shows "U" curve (Figure 6). Prior to SBY's regime, the entropy indices tended to decline but started to increase when the SBY came to power. This reflects a dispersion of economic activities occurred by 2004. However, the opposite pattern occurred between the years 2004-2007 as the spatial concentration tended to rise. Interestingly, in 2008-2010, the trend of total entropy Indonesia declined slightly.

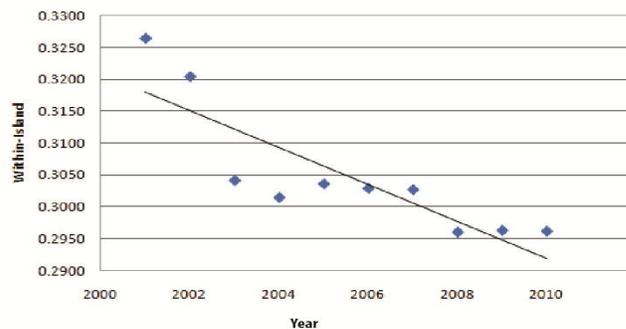
The factor determining the "U" curve of the total entropy index from 2001 – 2011 is the increasing trend on entropy indices between islands coupled with the declining entropy within island during 2001 – 2010 (Figure 7 and Figure 8). This reflects the trend of increasing spatial concentration in some islands, especially in the islands located in western part of Indonesia (i.e. Java and Sumatra). Interestingly, Figure 8 shows the within-island entropy index trends declined substantially during 2001-2010. It indicates the declining pattern of spatial inequality between provinces in each island.

**Figure 7. Between-Island Entropy and Its Trend: Indonesia, 2001-2010**



Source: Calculated from BPS (2012)

**Figure 8. Within Island Entropy and Trend: Indonesia, 2001-2010**



Source: Calculated from by BPS (2012)

### **Can MP3EI Reduce Spatial Inequality?**

World Bank (2009) argued that the spatial transformation process in East Asia, including Indonesia, via 3D (Density, Distance and Division), was needed for progress. 'Density' implies no country has grown to high income without urbanizing. Higher population density would encourage the growth of cities. Shorter 'Distances' is required as economic growth seldom comes without the need to move closer to density. The shorter the distance, the faster companies and workers take economic opportunities. Fewer 'Divisions' is needed as the growth seldom comes to a place that is isolated from others. Density, Distance (shorten distance), and Division (remove barriers and inequality) strategy to create a more rapid and inclusive economic development. The smaller the interregional inequality, it will reduce the barriers to entry to the global market (Kuncoro, 2011).

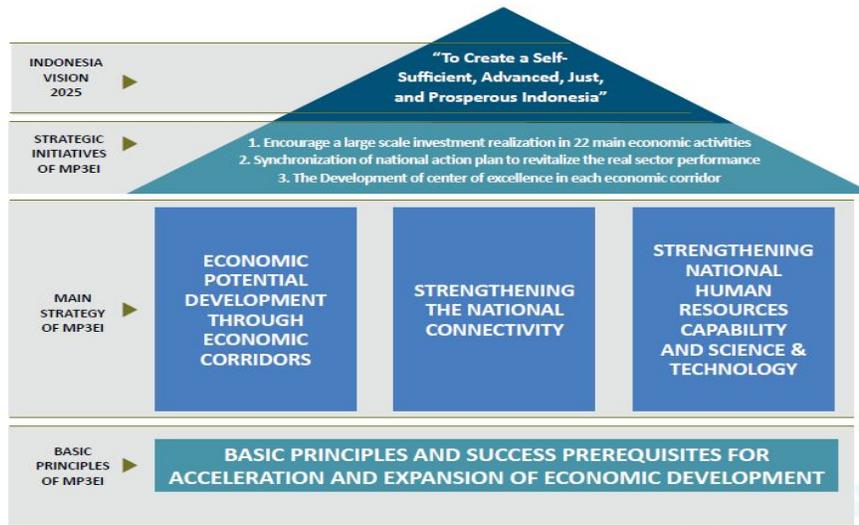
The important message from World Bank suggests that governments do not need to worry about the rapid urbanization such as Jakarta and other metropolitan cities as it is the sign of economic progress. The concentration of economic activity is inevitable and usually desirable for economic growth, but the large spatial disparities in welfare levels that often accompany this concentration are not. Shortening the 'distance' between Jakarta and metropolitan, large and small cities across Indonesia is an imperative. Therefore, the MP3EI is a badly needed plan to accelerate Indonesia's development and boost interconnectivity between regions by setting the six corridors, namely: the corridors of Sumatra, Java, Kalimantan, Sulawesi, Bali, Papua and Maluku corridor (Kuncoro, 2011a). Recall Figure 1 that depicts a map of the six priority economic development corridors in Indonesia.

MP3EI provides a new theme for the region's economic development, as follows: (1) It is not directed for exploitation activity and natural resource exports, but for the value added creation; (2) It is not directed to create economic concentration at certain region but to diverse and inclusive economic development, and enable regions in Indonesia to be developed its economic potentials; (3) It does not merely emphasize on the economic development controlled by central government, but synergize the sectoral development and maintain the advantages of national competitiveness; (4) It does not only emphasize on the land transport development, but also air and sea transportation; (5) It does not only emphasize on the infrastructure that rely on government budget but also encourage public-private partnership.

MP3EI has a vision to create a self-sufficient, advanced, just, and prosperous Indonesia. Furthermore, The MP3EI vision is achieved through some strategic initiatives: (1) Encourage a large scale investment realization in 22 main economic activities; (2) Synchronize national action plan to revitalize the real sector performance; (3) Develop centers of excellence in each economic corridor. The main strategy is formed based on strategies, involving: (1) economic potential development through economic corridors; (2) strengthening the national connectivity; (3) strengthening national human resources capability and science & technology.

Moreover, MP3EI implements the main strategies by utilizing the basic principles and success for acceleration and expansion of economic development (Figure 9). MP3EI is a working document and it will be updated and refined progressively. It contains the main direction of development for specific economic activities, including infrastructure needs and recommendations for change of regulations as well to initiate the need of new regulations to push for acceleration and expansion of investment. MP3EI is an integral part of the national development planning system. MP3EI is not meant for substituting the existing Long Term Development Plan 2005–2025 and the Medium-Term Development Plan 2009–2014.

Figure 9. Framework Approach MP3EI



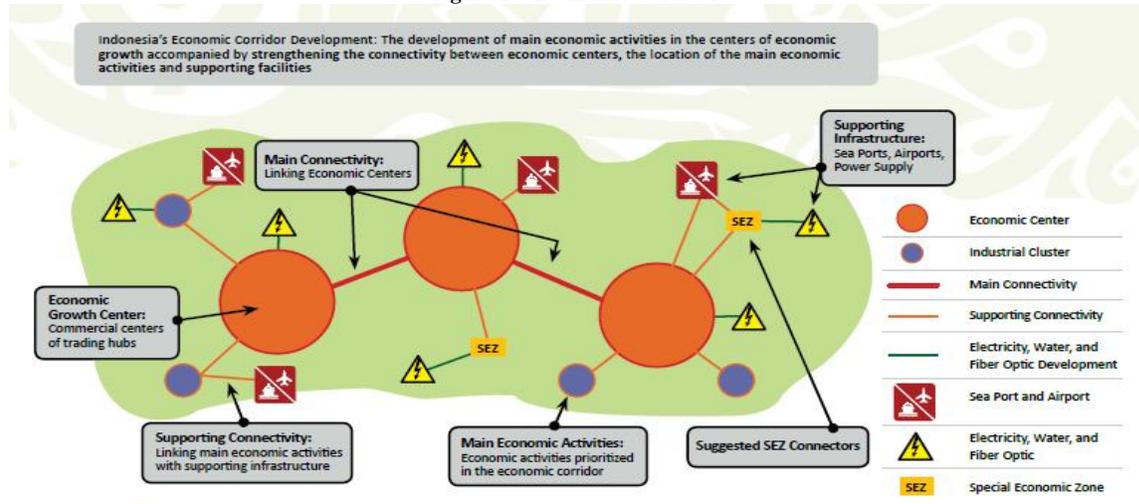
Source: CMEA (2011: 24)

This economic development by MP3EI should affect positively on all stakeholders. Furthermore, this positive movement needs supportive actions from the various level of governments, from centre, provinces, and districts. The governments should encourage development of human resources, technology and entrepreneurship within healthy competitive environment. Moreover, enhancing the entrepreneurship will be realized by simplify and cut the cost of bureaucracy such as easing and shortening the procedure to get business license. Moreover, the government should provide equal opportunities to improve economy by creating conducive macroeconomics, political, legal and social environment. Then, it needs to change the mindset to improve prosperity has to be carried out extensively by all stakeholders of the nation.

Acceleration and expansion of Indonesia's economic development are based on the development of existing and creating new growth centers (Figure 10). The purpose of developing new growth centers is to optimize agglomeration advantages, to explore regional strengths (specific local products), and to reduce spatial imbalance of economic development throughout the country. The development of economic growth centers will be managed through the development of industrial clusters and Special Economic Zones (SEZ) (Kuncoro, 2011b). This will be accompanied with increased and improved connectivity between the centers of economic growth (major cities) and main industrial clusters. Increasing the economic potential of the region through the economic corridors has become one of the three main pillars of MP3EI.

Furthermore, MP3EI is achieved through globally connected. Globally connected is a connectivity system aimed at connecting the country with the rest of the world via a system of global connectivity through a network of international gateway/exchange located at the major seaports and airports supported by custom and trade facilities. To realize this vision, the strengthening of connectivity that integrates growth centers inside economic corridors, as well as between economic corridors is required (Kuncoro, 2011a). The strengthening of international connectivity especially to facilitate international trade as well as an entry point for foreign tourists is also required.

Figure 10. Economic Corridors



Source: CMEA (2011: 32)

However, the economic corridors need integration with the cluster development and the regional core competency as suggested by the National Industrial Policy (Kuncoro, 2007). Best practices program, such as ‘one village one product’ in Japan, ‘one tambon one product’ in Thailand, California wine cluster, and the world class leather based clusters in Italy (Kuncoro, 2012; Porter, 1998) can offer a model for the regions to develop its leading sectors and commodities.

Fawait’s (2012) study, by using static location quotient (SLQ) and dynamic location quotient (DLQ) (Kuncoro, 2012a), indicates that most of the themes for each economic corridor under MP3EI have been consistent with its leading sectors (Table 7). Based on MP3EI, Sumatra is determined as a centre of production and processing of agricultural and national energy barns. This is consistent with the calculation of its leading sectors as the every province in Sumatra Island has relied on mining and electricity-gas-water supply sector. SLQ and DLQ for each province in Java show the comparative advantage of the most densely populated island in manufacturing and trade-hotel-restaurant sector. Based on MP3EI, the theme for Java is a driver of industrial and national services.

According to MP3EI, theme for Borneo and Sulawesi economic corridor is different from others. Borneo’s economic corridor has the theme of development as a centre of production and mineral processing and energy barn nationwide. This is in accordance with the analysis of SLQ and DLQ that shows these islands have a leading sector in mining and quarrying.

Recently, MP3EI for Sulawesi has a theme of economic corridor development as a centre of production and processing of agricultural, plantation, fisheries, oil and gas and mining nationwide. It is also consistent with the DLQ and SLQ analysis finding that each province in the Sulawesi Island has a comparative advantage in agriculture and mining-quarrying sector.

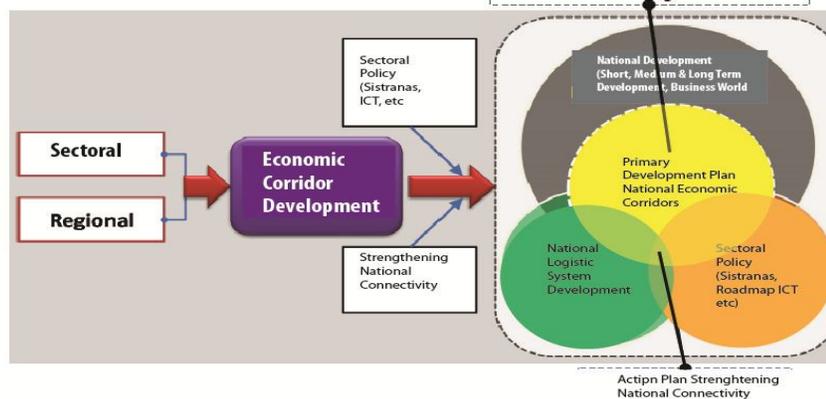
**Table 7. Consistency Between MP3EI and Leading Sectors Based on SLQ and DLQ**

Corridors	MP3EI			Leading Sector based on Fawait's study (2012)	Conclusion
	Economic Centres	Main Economic Activities	Theme		
Sumatera	Banda Aceh Medan Pekanbaru Jambi Palembang Tanjungpinang Pangkal Pinang Padang Bandar Lampung Bengkulu Serang	Palm Oil Rubber Coal Shipping Steel Sunda Straits National Strategic Area	Center for Production and Processing of Natural Resources As The Nation's Energy Reserves	Agriculture, mining and quarrying	<b>Appropriate</b>
Java	Jakarta Bandung Semarang Yogyakarta Surabaya	Food & Beverage Textile Transportation Equipment Shipping ICT Defense Equipment Greater Jakarta Area	Driver for National Industry and Services Provision	Electricity, gas water, trade, hotels and restaurants, transport and communications	<b>Appropriate</b>
Sulawesi	Makassar Kendari Mamuju Palu Gorontalo Manado	Agriculture (Rice, Com, Soybean, and Cassava) Cocoal Fishery Nickel Oil and Gas	Production and Processing Center of Agricultural, Fisheries, Oil and Gas and Mining National	Agriculture	<b>Inappropriate</b>
Kalimantan	Pontianak Palangkaraya Banjarmasin Samarinda	Oil and Gas Coal Palm Oil Steel Bauxite Timber	Center for Production and Processing of National Mining and Energy Reserves	agriculture, transport and mining and quarrying	<b>Appropriate</b>

Source: Fawait (2012); CMEA (2011: 51, 74, 96, 120)

To reduce interregional inequality both between islands and within island (interregional inequality between provinces) requires an integration among MP3EI, sectoral policy, and national logistic system (Figure 11). Indeed interconnectivity is the basic concept for developing the economic corridors (Kuncoro, 2011a; 2012). Interconnectivity encompasses intra-connectivity between major growth poles in each province, intra-island corridor, and the international trade gate. It is clear that the acceleration on the infrastructure development such as trans-high ways in Kalimantan, Sumatera, Sulawesi, even toll roads, airports, seaports, railways have to be implemented.

**Figure 11. MP3EI and the Need of Strong Linkage With Sectoral, Logistic System, and Regional Policy**  
**Masterplan for Acceleration and Expansion of Indonesia Economic Development**



Source: Alisjahbana (2011)

In short, a synergy among central government, local governments (municipalities/cities/provinces), Bank of Indonesia, Indonesia's Chamber of Commerce (Kadin), Business Associations, State Owned Enterprises (BUMN), domestic and foreign private investors is a key step of the development. The need on the infrastructure development until 2014 estimated around US\$ 150 billions is very unlikely financed only by the existing National Budget.

Accelerating development by MP3EI requires adequate financing. The problem arises because most regions have relied heavily on the central government transfers. Transfer to regions in the form of General Allocated Funds (DAU), Specific Allocated Funds (DAK), Revenue Sharing Funds (DBH), and Specific Autonomy Fund failed to reduce inequality significantly. Therefore, it is the right time now to revise the Law on the Fiscal Decentralization Number 33 Year 2004 because: (1) the resource-rich regions received much more DBH than DAU; (2) poor and backward regions relied heavily on the DAU (Kuncoro, 2012). In the Indonesian Eastern Regions, the growth poles concentrated only in the regions that have a great deal of natural resources.

The alternative for financing MP3EI is domestic financing such as national savings and issuing municipal/provincial bonds. It has been timely to give the greater allowance for the local government to issue regional bonds. Trillion rupiah of regional funds has been deposited in Indonesian Bank Certificate (SBI). Moreover, there has been large amount of excess public budgets.

## CONCLUSIONS

This paper has attempted to illuminate to what extent MP3EI with 6 major economic corridors can accelerate and induce interconnectivities across regions, provinces, and districts in Indonesia. By employing Theil entropy index, it finds that disparities among regions during 2001-2010 in Indonesia showed a "U" curve: prior to SBY's regime, the entropy indices tended to decline but started to increase when the SBY came to power. Regional inequality tended to increase during this period due to between-island and within-island inequality. Diversity does matter in Indonesia across provinces, districts, and islands. Java and Sumatra islands in KBI have played a dominant role in the Indonesian economy about 80%, while other islands in the KTI have played a minor role. The better performing provinces are those that are resource-rich, densely populated, or better connected to global economy.

We have identified some major challenges to implement MP3EI. To implement MP3EI successfully, it requires a thorough understanding of Indonesia's growth poles, leading sectors in every province, and backward regions, and also debottlenecking infrastructure and financing problems. MP3EI have been identified to face the following challenges: first, gravity of Indonesia's economic activity tended to be concentrated geographically in the Indonesian Western Region for more than five decades. Second, interregional inequality keeps increasing in the era of regional autonomy after 2000. Third, transfer to regions (General Allocated Fund, Revenue Sharing Fund, Special Allocated Fund) has not been succeeded to reduce disparities among regions, even our analysis using entropy indices shows an increase spatial inequality between provinces in Indonesia.

Accelerated development with MP3EI requires adequate funding. The fundamental problem is that the regional development and financing relied heavily on regional transfers from the central government. The transfer of funds to regions, in the form of the DAU, DAK, DBH, and the Special Autonomy Fund, has not been able to reduce development disparities among regions significantly. There is a strong desire of the government to bring all components of the nation to participate in the planning, process, and implementation of policy strategies. It indeed is a big improvement because the "songs" that echoed throughout the regions in Indonesia in the past was a dominant centralization in planning and implementation of development of Indonesia.

National development priorities and implementation of MP3EI need to be followed up with concrete actions to improve the coherence between various level of governments (central, provinces, municipalities, cities), businesses, academicians, and civil society. Therefore the study recommends two strategic steps: first, the development of an inclusive strategy needs to be

implemented more seriously. Major objective of this strategy is to reach out and uplift the whole society (development for all). Our findings offer some insights about interregional inequality and spatial aspect of the Indonesian economy.

Second, to create economic growth and reduce poverty, unemployment and inequality at the same time, the government should undertake some breakthroughs: (1) reallocate some funds from ministries and central institution, deconcentration, and assistance tasks to transfer funds to the region; (2) boost public investments to accelerate infrastructure development in backward regions and KTI; (3) encourage private investments by providing ease of licensing and the provision of adequate infrastructure; (4) encourage the provincial and district governments to implement pro-public budgeting rather than pro-bureaucratic budgeting.

#### REFERENCES

- Alisjahbana, A. (2010). *Percepatan pembangunan ekonomi yang inklusif dan berkeadilan [Inclusive and just acceleration of economic development]*. Paper presented at the Plenary Session of Indonesian Economists Association, Bandung, 21 July.
- Alisjahbana, A. (2011). *Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia 2011-2025 [Masterplan for Acceleration and Expansion of Indonesia's Economic Development 2011-2025]*. Paper presented at the Work Meeting between Central and Local Government, 21-22 February.
- Badan Pusat Statistik (BPS). (2013). *Penduduk Indonesia menurut Provinsi 1971, 1980, 1990, 1995, 2000 dan 2010 [Indonesia Population based by Provinces 1971, 1980, 1990, 1995, 2000 and 2010]*. Retrieved January 24, 2013, from [http://www.bps.go.id/tab\\_sub/view.php?kat=1&tabel=1&daftar=1&id\\_subyek=12&notab=1](http://www.bps.go.id/tab_sub/view.php?kat=1&tabel=1&daftar=1&id_subyek=12&notab=1).
- BPS. (2012a). *Berita resmi statistik [Official statistic news]*, No. 31/05/Th. XV, 7 May, Jakarta: BPS.
- BPS. (2012b). *Data sosial ekonomi [Economic social data]*, 3 August, Jakarta: BPS.
- BPS. (2012c). *Produk Domestik Regional Bruto Atas Dasar Harga Konstan 2000 Menurut Provinsi, 2004-2010 [Regional Gross Domestic Products based on Constant Price 2000 by Provinces, 2004-2010]*. Retrieved July 25, 2012, from [http://www.bps.go.id/tab\\_sub/view.php?kat=2&tabel=1&daftar=1&id\\_subyek=52&notab=2](http://www.bps.go.id/tab_sub/view.php?kat=2&tabel=1&daftar=1&id_subyek=52&notab=2).
- Carlino, G.A. (1998). Trends in metropolitan employment growth. *Federal Reserve Bank of Philadelphia*, July/August, 13-21.
- Coordinating Minister of Economic Affairs (CMEA) (2011). *Masterplan for acceleration and expansion of Indonesia economic development 2011-2025*. Jakarta: Coordinating Ministry for Economic Affairs, Republic of Indonesia.
- Cardenas, M. & Ponton, A. (1995). Growth and convergence in Colombia:1950-1990, *Journal of Development Economics*, 47, 5-37.
- Ellison, G. & Glaeser, E.L. (1997). Geographic concentration in U.S. manufacturing industries: a dashboard approach. *Journal of Political Economy*, 105, 889-927.
- Fawait, M. (2012). *Analisis pertumbuhan ekonomi provinsi-provinsi di Indonesia tahun 1993-2008 [an analysis of provincial economic growth in Indonesia 1993-2008]*. Unpublished master's thesis, Yogyakarta: Magister Sains UGM.
- Garrison, C.B. & Paulson, A.S. (1973). An entropy measure of the geographic concentration of economic activity. *Economic Geography*, 49(3): 319-24.
- Harrison, B. (1992). Industrial districts: old wine in new bottles? *Regional Studies*, 26, 469-83.
- Hayter, R. (1997). *The dynamic of industrial location: the factory, the firm, and the production system*. Chichester: John Wiley and Sons.
- Hill, H. (ed.). (1989). *Unity and diversity: regional economic development in Indonesia since 1970*. Singapore: Oxford University Press.
- Hoover, E. (1936). The measurement of industrial localization. *Review of Economics and Statistics*, 18, 162-71.
- International Monetary Fund (IMF). (2012). *World economic outlook update 2012*. Washington: International Monetary Fund.
- IMF. (2009). *World economic outlook update 2009*. Washington: International Monetary Fund.
- IMF. (2010). *World economic outlook update January 2010*. Washington: International Monetary Fund
- Isard, W. (1960). *Methods of regional analysis: an introduction to regional science*. Cambridge and London: M.I.T Press.
- Keeble, D. (1976). *Industrial location and planning in the United Kingdom*. London: Methuen & Co Ltd.
- Krugman, P. (1991). *Geography and trade*, London: MIT Press/Leuven UP, p.142.
- Kuncoro, M. (2012a). *Perencanaan daerah: bagaimana membangun ekonomi lokal, kota, dan kawasan [Regional planning: how to develop local economy, cities and zones]*. Jakarta: Salemba Empat.
- Kuncoro, M. (2012b). *Ekonomika aglomerasi: dinamika dan dimensi spasial kluster industri Indonesia [Economics of agglomeration: dynamics and spatial dimension of Indonesia's industrial clusters]*. Yogyakarta: UPP STIM YKPN.
- Kuncoro, M. (2011a). Koridor ekonomi Indonesia [Economic corridors of Indonesia]. *Investor Daily*, Retrieved February 28, 2011, from <http://website.mudrajad.com/content/koridor-ekonomi-indonesia>.
- Kuncoro, M. (2011b). MP3EI: mitos atau realitas? [MP3EI: a myth or reality?]. Retrieved August 1, 2011, from <http://cetak.kompas.com/read/2011/08/01/0415106/mp3ei.mitos.atau.realitas>.
- Kuncoro, M. (2010). Satu tahun SBY-nomics [One year Susilo Bambang Yudhono-nomics. Retrieved October 21, 2010, from <http://cetak.kompas.com/read/2010/10/21/03040298/satu.tahun.sby-nomics>.
- Kuncoro, M. (2007). *Ekonomika industri Indonesia: menuju negara industri baru 2030? [Industrial economics of Indonesia: towards a new industrial nation 2030?]*. Yogyakarta: ANDI Offset.
- Kuncoro, M. (2004). *Otonomi dan pembangunan daerah: reformasi, perencanaan, strategi, dan peluang [Autonomy and regional development: reformation, planning, strategy and opportunities]*. Jakarta: Erlangga.
- Kuncoro, M. (2002). *Analisis spasial dan regional: studi aglomerasi dan kluster industri Indonesia [Spatial and regional analysis: a study of agglomeration and industrial clusters in Indonesia]*. Yogyakarta: UPP-AMP YKPN.
- Kuncoro, M, Widodo, T., & McLeod, R.H. (2009). Survey of recent developments, *Bulletin of Indonesian Economic Studies*, 45(2), 149-50.

- Malecki, E.J. (1991). *Technology and economic development: the dynamics of local, regional, and national change*. New York: John Wiley & Sons, Inc.
- Porter, M.E. (1998). Clusters and the new economics of competition. *Harvard Business Review*, November-December, 6, 77-91.
- Semple, R.K. (1973). Recent trends in the spatial concentration of corporate headquarters. *Economic Geography*, 49(4), 309-18.
- Theil, H. (1967). *Economics and information theory*. New York/Amsterdam: American Elsevier-North Holland Publishing company.
- Theil, H. (1989). The development of international inequality, 1960-1985, *Journal of Econometrics*, 42, 145-155.
- Theil, H. & Chen, D. (1996). The geographic distribution of gross world product, 1950-1990. In Theil, Henri, Dongling Chen, Kenneth Clements, and Charless Moss (eds.), *Studies in global econometrics*. Dordrecht/Boston/London: Kluwer Academic Publishers.
- Theil, H. & Fiedman, Y. (1973). Regional per capita incomes and income inequalities: point estimates and their standard errors, *Journal of the American Statistical Association*, 68, 513-539.
- The Jakarta Post. (2009). SBY's priorities: prosperity, democracy and justice. Retrieved October 21, 2009, from <http://www.thejakartapost.com/news/2009/10/21/sby039s-priorities-prosperity-democracy-and-justice039.html>.
- World Bank. (2009). *World development report 2009: reshaping economic geography*. Washington DC: World Bank.
- Yudhoyono, S.B. (2009). *Membangun Indonesia yang sejahtera, demokratis, dan berkeadilan [Developing prosperous, democratic, and faired Indonesia]*. Jakarta.
- Yudhoyono, S.B. (2006). Triple track strategy: upaya mengurangi pengangguran dan kemiskinan [Triple track strategy: efforts to reduce unemployment and poverty]. Retrieved December 21, 2006, from <http://www.presidensby.info/index.php/topik/2006/12/21/44.html>.
- Yudhoyono, S.B. & Kalla, M.J. (2004). *Membangun Indonesia yang aman, adil, dan sejahtera: visi, misi, dan program [Developing Indonesia that safe, fair and prosperous: vision, missions, and programs]*. Retrieved May 10, 2004, from [http://www.brighten.or.id/index.php?option=com\\_content&view=article&id=69:visi-misi-program&catid=52:buku&Itemid=83](http://www.brighten.or.id/index.php?option=com_content&view=article&id=69:visi-misi-program&catid=52:buku&Itemid=83).