

BEYOND GEOGRAPHIC CONCENTRATION OF ECONOMIC ACTIVITIES IN INDONESIA:¹

The Role of industrialization, Urbanization, and Tourism

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Abstract—The emergence of geographic concentration or clustering has become a central attention in the literature of economic geography, business strategy and national competitiveness. However, we still know little of *where* and *why* the phenomenon of clusters across regions, cities, and industries.

This paper explores the driving forces underpinning trade-hotel-restaurants clusters in Indonesia by using correlation, trends, and scatter diagrams. The major contribution of this paper has been to incorporate “space” explicitly into economic analysis of clusters and uneven development of industrialization, urbanization, and trade-hotel-restaurant (tourism), within a country.

Keywords— cluster, urbanization, industrialization, logistic regression, geography

I. Introduction

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.

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The issue of geographic concentration or clustering has become a central attention in the literature of economic geography (Krugman, 1998), business strategy and national competitiveness (Porter, 1998, Porter & Solvell, 1998), and regional studies (Maskell *et al.*, 1997, Scott & Storper, 1992). However, we still know little of how common and widespread the phenomenon of agglomeration across regions, cities, and industries. Ironically, in mainstream economics, prior to the 1990s, economic geography—the study of where economic activity takes place and why—was quite surprisingly neglected (e.g. Fujita *et al.*, 1999: 1-2, Krugman, 1995), with only a few notable exception (e.g. Chinitz, 1961, Hoover, 1936, Isard, 1956). More importantly, what are the driving forces that pulled economic activities toward urban agglomerations and clusters? To what extent the interlinkages among industrialization, urbanization, and trade-hotel-restaurants?

This paper attempts to address these unresolved questions. First, the urban agglomerations and industrialization in the world, ASEAN, Indonesia will be introduced. Then, the interlinkages among industrialization, urbanization, and tourism in Indonesia will be discussed.

II. The Emergence of Urbanization and Industrialization

The world is becoming increasingly urban. By 1995 almost half of the world’s population lived in urban areas (UN, 1998: 2), the level of urbanization is expected to rise from 52% in 2011 to 67% in 2050 (UN, 2013: 4). Table 1 shows that the more developed regions are expected to see their urbanization rate increase from 78% in 2011 to 86% in 2050 while in the less developed regions, the proportion urban will likely increase from 47% to 64% over the same period. Urbanization rates in less developed regions have been higher, even tripple, than those of more developed regions since 1970.

TABLE 1. Percentage Urban Population and Rate of Urbanization in the World, 1950-2050

Development group	Percentage urban					Rate of urbanization (percentage)			
	1950	1970	2011	2040	2050	1950-1970	1970-2011	2011-2040	2040-2050
World	29.4	36.6	52.1	59.9	67.2	1.09	0.86	0.74	0.57
More developed regions	54.5	66.6	77.7	82.1	85.9	1.01	0.38	0.29	0.23
Less developed regions	17.6	25.3	46.5	55.8	64.1	1.81	1.48	0.95	0.69

Source: UN (2013: 4)

The urbanization rate in South East Asia is relatively higher than that of other Asian countries. During the last six decades the degree of urbanization, measured as the percentage of population residing in urban areas, has approximately tripled in the ASEAN countries, even quintupled for Indonesia (Table 2). In 1950 the degree of urbanization in the ASEAN countries was 15 percent, slightly below than that of other Asian countries. In 2000 most of ASEAN countries experienced a relatively higher degree of urbanization than the average Asian countries. However, at the world level, the degree of urbanization in ASEAN was still low.

TABLE 2. Urbanization by Southeast Asian Countries, 1950-2030

Country	Urbanization rate (%)				
	1950	1975	2000	2015*	2030*
<u>Brunai Darussalam</u>	26,8	62,0	73,9	82,8	87,0
<u>Kamboja</u>	10,2	10,3	16,9	26,1	36,9
<u>Timor Leste</u>	10,0	8,9	7,4	9,5	15,2
Indonesia	12,4	19,3	42,0	57,8	67,7
<u>Laos</u>	7,2	11,1	19,3	27,4	38,2
<u>Malaysia</u>	20,4	37,7	61,8	71,0	77,6
<u>Myanmar</u>	16,2	23,9	28,0	37,6	49,1
<u>Filipina</u>	27,1	35,6	58,5	69,2	76,1
<u>Singapore</u> ¹	100,0	100,0	100,0	100,0	100,0
<u>Thailand</u>	16,5	23,8	31,1	36,7	47,0
<u>Vietnam</u>	11,6	18,9	24,3	32,4	43,2
Total	15,4	23,4	39,6	51,2	60,7

Note: * Projection. ¹ Singapore is a city state with 100% of its inhabitants living in urban region.

Source: UN (2003)

Urbanization in Indonesia increased tremendously following the country's rapid development in the 1970s. Since then, Indonesia has been facing high urbanization rate driven by rural-urban migration. In 1950, 15% of Indonesia's population lived in urban areas. In 1990, 40 years later, this number is more than tripled to 42%. Indonesia took only another 15 years to increase the urban population to 57.8% in 2015, higher than those of ASEAN countries (51,2%).

Industrialisation has become main the driving force behind Asia's rapid rates of urbanization. Table 3 indicates to what extent manufacturing sector has played a key role in GDP, export, and import. Except in the obvious case of resource-based industries, manufacturing has shown a strong tendency to locate in and around main cities. Agriculture

and manufacturing have jostled for space around urban centres, blurring the accepted distinction between rural and urban (McGee, 1991). Indeed, industries tend to agglomerate in areas where the localised capabilities are well suited to cater for their need, and they may benefit from spatial proximity. Cities offer various advantages in terms of higher productivity and incomes that attract new investment, new technology, educated and skilled workers to a disproportionate degree (Malecki, 1991).

Next section will explore the interlinkages among industrialization, urbanization, and tourism in Indonesia as one of countries in ASEAN that experienced fast urbanization rate.

III. Role of Industrialization, Urbanization, and Tourism in Indonesia

With 241 million inhabitants in 2012, Indonesia offers a huge potential market. Indonesia is recorded as the world's fourth most populous country after China, India and the United States, and as the largest Moslem population in the world. Indonesia promotes 'unity in diversity' where its people can live together in peace and harmony, and also an example of how democracy can go hand in hand with religiosity especially Islam. MSU (2013), using Market Potential Index, put Indonesia ranked 16th based on eight dimensions that is chosen to represent the market potential of a country among emerging economies comprise more than half of the world's population.

TABLE 3. GDP Share, Export and Import Share of Manufacturing Sector: ASEAN countries, 2007 and 2008

Country	GDP Share ¹		Employment Share ²		Export Share		Import Share	
	2008	2009	2008	2009	2008	2009	2008	2009
Brunai Darussalam	54.8	-	5.8 ³	-	3.5	-	79.0	-
Cambodia	30.1	26.8	9.5 ³	-	96.5	97.3	82.7	80.5
Indonesia	42.1	41.7	12.2	12.1	50.2	49.5	67.8	70.3
Lao PDR	-	-	-	-	67.5	65.4	61.7	64.2
Malaysia	38.9	36.6	18.1	16.1	70.5	73.6	80.8	82.2
Myanmar	-	-	8.8 ³	-	25.8	28.3	67.8	70.1
Philippines	32.8	31.8	8.4	8.3	57.9	64.2	49.2	53.6
Singapore	31.4	31.4	16.8	15.7	71.5	75.4	66.3	68.9
Thailand	48.0	47.0	13.9	13.7	79.4	79.0	73.9	75.1
Viet Nam	41.8	41.7	14.0	14.4	46.5	34.4	50.1	62.8
Total in percent					66.6	67.7	67.9	70.8
Total in Million US \$					650,668	548,729	624,773	514,305

Source: ASEAN Secretariat (2010)

Originating from a traditionally agricultural-based economy, Indonesia has shifted a larger portion of its economic activities toward manufacturing and service oriented sectors (Figure 1). In 1968, agriculture sector contributed about 51% of Gross Domestic Products (GDP), the highest relative to other sectors while manufacturing industry only contributed 8.5%. The industrialization had not dominated the Indonesian economy until 1978. Agriculture sector's contribution in 1978 decreased 21.5% compared to that in 1968. In 1978, manufacturing industry contribution reached 10% of GDP, or rose 1.5% than that in 1968. Other sectors that had been experiencing increase in

its contribution to GDP were service sector, in particular trade-hotel-restaurant. Figure 1 shows that manufacturing industry and services have become the leading sectors in Indonesia since 1993. In 1998, manufacturing industry contributed 23.9% to GDP and kept increasing until 2004 (28%), and so did the services.

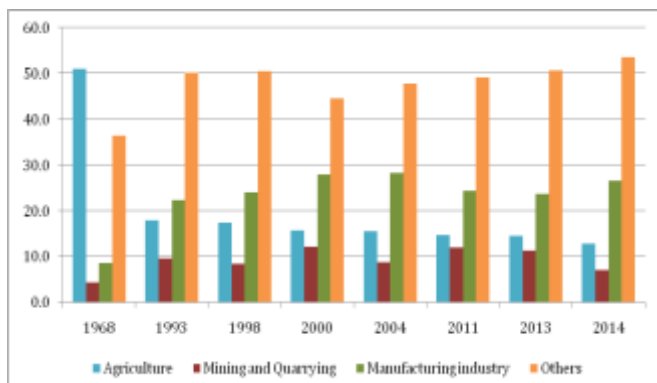


Figure 1. Sectoral Contribution to Indonesian GDP, 1968-2014 (%)
 Source: Calculated from BPS (2008, 2010b; 2015)

During the last 15 years, manufacturing industry and trade-hotel-restaurant have played an important role in the Indonesia's economy. Compared to other sectors during 2000-2014, trade-hotel-restaurant, together with manufacturing industry, have made a significant contribution. The share of the manufacturing industry and trade-hotel-restaurant remained stable around 24-28% and 17% respectively over the last 14 years. Figure 2 shows that in average, the predominant role of these two sectors was higher than the other 7 sectors, which only accounted for only about 0,7-13.95%. Trade-hotel-restaurant sector is largely supported by three major sub-sectors: wholesale and retail trade (14,1%), followed by restaurants (2,24%), and hotels (0,71%).

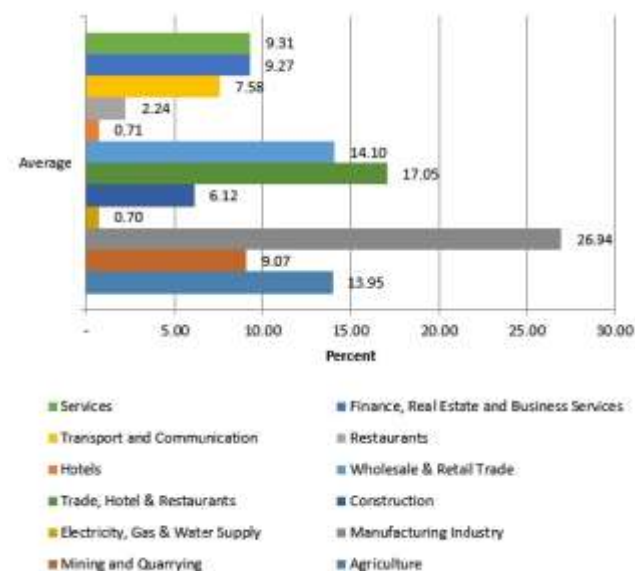


Figure 2. Share of Trade-Hotels-Restaurants, Manufacturing Industry and Other Sectors to GDP: Indonesia, 2000-2014
 Source: Calculated from BPS (2000-2014)

Figure 3 shows that industrialisation and tourism (reflected by trade-hotel-restaurant) have become main the

driving force behind Indonesia's rapid rates of urbanization during 1960-2014. Urbanization rate in Indonesia increased from 15% in 1960 to 53% in 2014. At the same time, industrialization and tourism increased around 7-28% and 11-71% respectively.

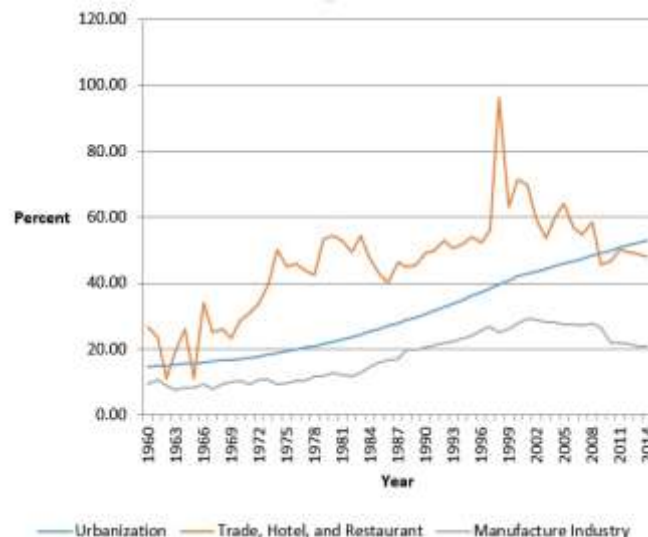


Figure 3. Industrialization, Urbanization, and Trade-hotel-restaurant in Indonesia, 1960-2014
 Source: Calculated from World Bank (1960-2014)

Further detailed analysis using Pearson correlation and provincial data show that the correlation between manufacturing industry and trade, hotel, and restaurant is 0,31 and significant with $\alpha=1\%$. The positive correlation shows that the relationship between manufacturing industry and trade, hotel, and restaurant is parallel: the higher the contribution of manufacturing industry, the higher the contribution of trade-hotel-restaurant, and vice versa.

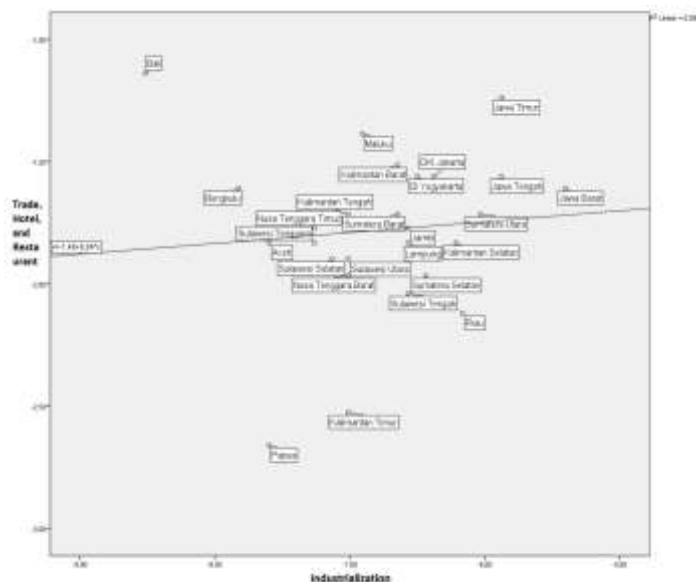


Figure 4. Linkage Between Industrialization and Trade-Hotels-Restaurants: Indonesia, 2000-2013

The positive correlation between industrialization and trading, hotel, and restaurant is supported by the scatter diagram, which shows positive trend between industrialization and trade-hotel-restaurant. In another word,

the higher the development of manufacturing industry, the higher the trade-hotel-restaurant in a province, and vice versa. Figure 4 shows that East Java, Bali, Maluku, DKI Jakarta, and Central Java are provinces which have high industrialization and trade-hotel-restaurant cluster. On the contrary, Aceh and Papua are provinces with low share of manufacturing industry and low concentration of trade-hotel-restaurant cluster.

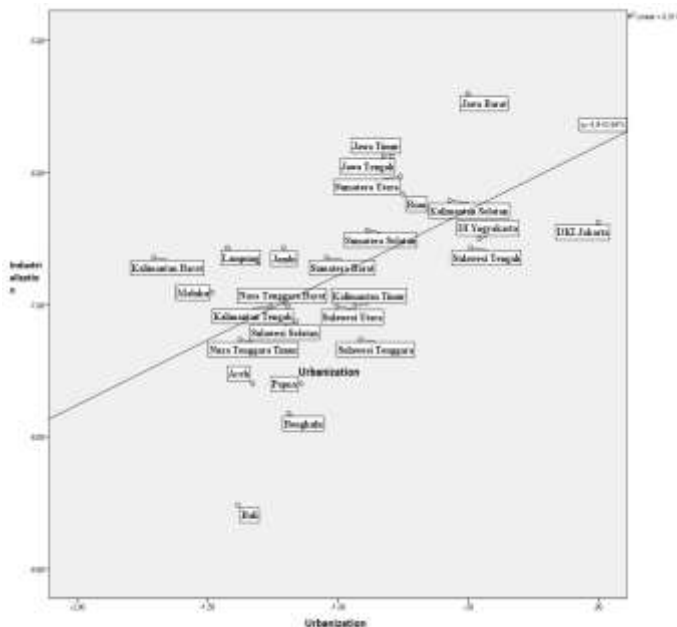


Figure 5. Trend Between Industrialisation and Urbanization: Indonesia, 2000-2013

The positive result between urbanization and industrialization is supported by scatter diagram which shows a positive trend between urbanization and industrialization. In another word, the higher the urbanization, then the higher the industrialization, and vice versa. Figure 5 shows that East Java, Bali, DKI Jakarta, and Central Java are densely populated provinces with high industrialization. Meanwhile, Aceh and Papua are provinces with low urbanization and industrialization.

By examining Pearson correlations, trend and scatter diagrams in Figure 6, we found several interesting findings below: First, the relationship between industrialization and urbanization shows the highest positive correlation (0.418) and significant with α one percent. It means, the higher the urbanization in a province, the higher the manufacturing industry towards GRDP, and vice versa.

Second, the relationship between manufacturing industry and trade-hotel-restaurant is positive 0.318 and significant with α one percent. In other words, the higher the share of manufacturing industry in a province, the higher the share of trade-hotel-restaurant to GRDP, and vice versa.

Third, the relationship between urbanization and trade-hotel-restaurant is positive and significant with $\alpha = 0,01$. It suggests that the higher the number of urban dwellers in a province, the higher the share of trade-hotel-restaurant to GRDP, and vice versa.

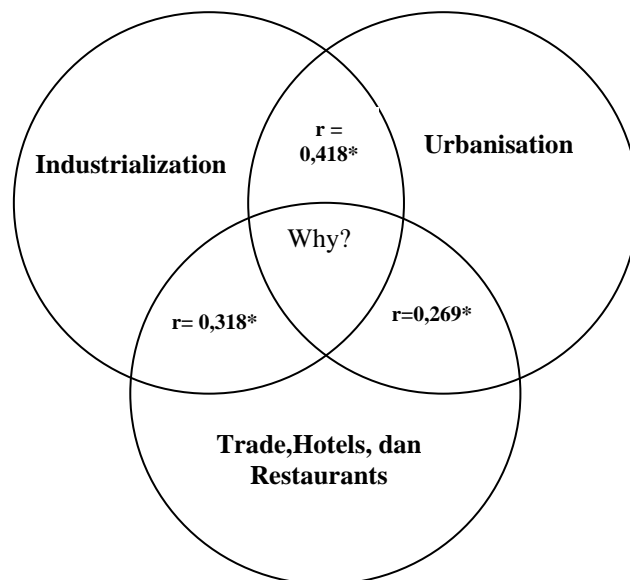


Figure 6. Interlinkages Among Industrialization, Urbanization, and Trade-Hotel-Restaurant

Note: * $\alpha=1\%$; r=Pearson correlation

IV. CONCLUSIONS

The major contribution of this paper has been to incorporate “space” explicitly into economic analysis of uneven development of manufacturing industry, urbanization and trade-hotel-restaurant within a country (Indonesia). A growing number of economists and business strategists have become interested in the study of location problems and clustering (e.g. Ellison & Glaeser, 1997, Krugman, 1995, Lucas, 1988, Porter & Solvell, 1998; Harrison, 1992; Hayter, 1997), which trigger the attention to the role of geography in the economic process. Despite this growing awareness, these concepts are as yet little tested empirically. Our study has attempted to fill this gap by exploring where and why clusters in a particular country (i.e. Indonesia) and at a particular time.

Our analysis finds that industrialisation and tourism (reflected by trade-hotel-restaurant) have become main the driving force behind Indonesia’s rapid rates of urbanization during 1960-2014. As urbanization rate in Indonesia increased from 15% (1960) to 53% (2014), industrialization and tourism increased around 7-28% and 11-71% respectively. Except in the obvious case of resource-based provinces, manufacturing industry has shown a strong tendency to locate in and around main cities, largely in Java island. The rise of urban agglomeration has shown that the agglomeration economies have reinforced the geographic concentration and unequal distribution of economic activities especially manufacturing industry and trade-hotel-restaurant.

Our study offers some new insights on studies of why economic activities are concentrated geographically (e.g.WB, 2009; Harrison, 1992) with an understanding of where they are located regionally and interplay between industrialization, urbanization, and tourism.

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