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Regional Distribution of Creative and Cultural Industries in Indonesia

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REGIONAL DISTRIBUTION OF CREATIVE AND CULTURAL INDUSTRIES IN INDONESIA

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Abstract

This study examines the degree to which creative industries fit regional economic settings in the developing world. In so doing, we examine the characteristics of regions where clusters of these industries are found, particularly in Indonesia. Our findings show that creative industries develop in particular regions in this country, but the characteristics of these industries and spatial settings are different from developed countries. In the literature, it is well-established that creative industries are most likely to concentrate in large urban regions, where innovation and cross-fertilization of ideas take place with the support of talent pooling and relatedness among niche producers. This argument is valid for explaining the clustering of ‘innovative’ creative industries in Indonesia. However, the same conclusion cannot be drawn for long-established ‘traditional’ cultural industries, which are promoted as creative industries by the government, although they rather focus on preserving heritage values. In this respect, we suggest that policy strategies for creative industries would be applicable to fairly advanced regions with sufficient human capital and economic diversification. Meanwhile, regions specialized in traditional cultural industries can apply a different strategy to optimize the impact of these industries.

Keywords: creative industries, cultural industries, spatial distribution, developing countries, Indonesia

JEL codes: R10, R12, Z11, Z18

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Introduction

The idea of creative industries is built upon particular contexts and phenomena in the developed world. Now, developing countries also adopt this idea as a policy instrument. It is still unclear though the extent to which the notion of creative industries can effectively be used in developing countries (Fahmi, 2014; Kong et al., 2006). There are important arguments as to why the development of creative industries in the emerging economy can have different patterns and dynamics than in the developed world. First, creative industries in developing countries are different, in that they are not always associated with intellectual property and innovation. Rather, they are mostly crafts-intensive (UNCTAD, 2013) and in many cases, governments in the developing world attempt to promote and relabel traditional businesses as creative industries (Fahmi, 2014; Kong et al., 2006). In developed countries crafts usually constitute a small fraction of the economy. By comparison, crafts make up a large proportion and have a more important position in developing countries (UNCTAD, 2013). It is clear that, however, crafts – or traditional businesses – have different characteristics than ‘innovative’ creative industries. This is to say, they have different specific needs and should therefore be treated differently.

Second, it is yet unclear the extent to which place contexts in the emerging economy support the development of creative industries. Existing conceptual and empirical contributions have established that creative industries usually form geographical clusters, especially in large cities, where they can benefit from large markets and a variety of activities and people. Urbanization economies help creative industries develop through new knowledge creation and cross-fertilization of different specialties (Feldman and Kogler, 2010; Lazzeretti et al., 2012; Potts, 2007; Potts et al., 2008; Rosenthal and Strange, 2004). It is yet unproven whether this premise is also valid for developing countries, as ‘Western’ theories might not be automatically universal (see Yeung and Lin, 2009). The characteristics of regional economies and technology in developing countries are less advanced, and this might become an obstacle in encouraging the creation of new knowledge (Yusuf and Nabeshima, 2005). Besides, institutional settings and entrepreneurial environments in these countries are clearly different. In the literature, creative industries are considered a form of innovative enterprise, while in developing countries entrepreneurship often appears a necessity rather than an opportunity (Singer et al., 2015).

Given the policy attention to creative industries and the potentially different development path of these industries in developing countries, it is important to understand the meaning and dynamics of creative industries beyond the developed world. As described, tradition-based businesses reflect the specificity of creative economy in developing countries and they potentially reveal different development patterns. However, governments often implement the same strategies for both creative and those traditional businesses (e.g. Fahmi, 2014). In this respect, we argue that policy strategies for creative industries might not be relevant for regions specialized in traditional cultural industries, and vice versa. If it is true that both types of industries have the same development trajectories, they would have been interrelated, for instance, one would either substitute or complement another. However, if they have different development paths, they will be located in different regions, and thus, policy strategies should be designed differently for these regions.

In line with this argument, this paper aims to examine the degree to which creative industries fit in regional economic settings in developing countries, despite the economic and technological circumstances. In so doing, we identify the characteristics of regions where these industries are clustered. In accordance with specific contexts reflected by the Indonesian case, this paper addresses the degree to which developing countries in general, and Indonesia in particular, differ from developed countries regarding factors affecting the locational patterns of creative industries. Indonesia is a point in case where the idea of creative industries is adjusted according to local contexts. The Indonesian government has implemented the creative economy policy, but uses the broad definition of creative industries, in which long-established cultural industries embedded in particular regions (e.g. batik, crafts) are classified as creative industries, although they do not focus on the creation of new knowledge (Fahmi, 2014). Batik and traditional crafts in fact dominate the creative industries classification. It is therefore important to make a clear distinction between creative industries (innovative businesses, e.g. advertising, design and multimedia services) and more traditionally oriented handicraft businesses, which we will summarize as traditional cultural industries. This paper also complements the existing research on the locational patterns of creative industries at the regional level which is mostly descriptive (e.g. Boix et al., 2013; Power, 2002; Pratt, 2004), but little is conducted to explain the factors determining the patterns (e.g. Lazzeretti et al., 2012). As the study is performed at the regional level, our research findings will allow us to determine how far creative industries should be taken into account in national and regional development policies. For

this, a comparison of the spatial pattern, and its explanation, of traditional cultural industries is crucial.

This article is organized as follows. Since there are various definitions of creative industries used across studies and nations, in the following section we review the conceptual ideas of creative industries. This is followed by a conceptual foundation for examining the regional factors affecting the concentration of creative industries. The methodological framework is then presented, followed by an overview of creative industries at the national level. The factors associated with the spatial distribution of these industries are then examined, followed by discussion and conclusions.

Creative industries: conceptual definitions

There are different definitions of creative industries used in existing studies as well as in policies across countries (see Evans, 2009). ‘Creative’ and ‘cultural’ industries are often used interchangeably and, in many cases, their categorizations overlap. The demarcation and complementarities between both terms industries are complex, as they have always been interrelated in a ‘tortuous and contorted definitional history’ (Roodhouse, 2006).

The idea of creative industries is rooted in the concept of cultural industries – in addition to the knowledge economy and the service industry concepts (Flew, 2002; Garnham, 2005). The term cultural industries is used to represent those which attribute their products with symbolic meaning and intellectual property derived from cultural values (Banks and O’Connor, 2009; Galloway and Dunlop, 2007; O’Connor, 2000). Tony Blair’s government in the UK introduced creative industries as a ‘substitution’ of the earlier term. Some scholars consider the notion of creative industries as a more neutral term as it does not allude to the controversy on the commodification of culture (Hesmondhalgh, 2008; Pratt, 2009). This development is complemented by an understanding that knowledge, innovation and post-industrialization increasingly play an vital role in the urban world (Flew, 2002; Garnham, 2005). As such, creative industries have a broader scope which comprises not only the previously categorized cultural industries (e.g. film, recorded arts), but also ‘copyright industries’, such as software and games (see also UNCTAD, 2013). Nonetheless, some scholars still prefer to use the term cultural industries, as it represents more accurately the importance of culture in the economy, or ‘culturalization of economies’(O’Connor, 2000; Scott, 1997; Smith and

Warfield, 2008). Although it is correct that economic values become more important in creative industries, it is not precise to describe these industries as purely commercialistic, while cultural industries as having no economic motivations (Flew, 2002). This precludes a precise conceptual demarcation between the terms.

In this study, we follow the idea of ‘commercial oriented’ creative industries and, referring to Hartley (2005: 5), define the term as ‘the conceptual convergence of the creative arts (individual talent) with cultural industries (mass scale), in the context of new media technologies (ICTs) within a new knowledge economy’. Creative industries put more emphasis on individual talent, creativity and intellectual property, compared to cultural industries which prioritize symbolic meanings inherent in their products (Galloway and Dunlop, 2007). The use of technology, new knowledge, originality, and copyrights have also become more important in creative industries (Banks and O’Connor, 2009; Galloway and Dunlop, 2007; Garnham, 2005).

In conclusion, although creative industries cover a more inclusive scope of individual creativity, the aforementioned important aspects would filter out some activities from the creative industries classification. As an implication, some cultural industries might no longer be considered creative industries. In the UK, for instance, crafts and antiques are recently considered to be removed from the list of creative industries (DCMS, 2013).

Defining creative industries in the Indonesian context

Defining creative industries in the context of Asian countries, and particularly Indonesia, could be even more challenging. Utilizing cultural creativity for economic development is not a new idea in these countries. However, according to our observation, there is a fundamental difference between the term cultural industries meant in the Western understanding and the one found in Asian contexts. Although ‘cultural industries’ have been in operation in Asia for a long time, they rather focus on offering cultural exoticism and seem to have different development trajectories from those mentioned in the literature (O’Connor and Xin, 2006). Heritage and conservative values are preserved since they deliver unique selling points, while the importance of knowledge creation, originality and technology are somewhat taken for granted (Kong et al., 2006; O’Connor, 2013; O’Connor and Xin, 2006).

This condition is evident in the Indonesian case. The Indonesian government uses the creative economy as a policy instrument, but its essential idea is interpreted in a different

way than in developed countries (Fahmi, 2014). The DCMS (2001) classification of creative industries is adopted, but long-established ‘traditional’ cultural industries embedded in several regions, such as batik and crafts, are also considered creative industries (see MTCE, 2011). We do not argue that traditional cultural industries are not creative, but in fact, their products do not evolve significantly, and they do not generate new ideas and designs (Fahmi, 2014), and this is not in line with the ‘innovative nature’ of creative industries. As such, traditional cultural industries could better be categorized into a different sector. Whilst creative industries aim to promote individual creativity in a modern economy, traditional cultural industries have a different agenda: they promote the uniqueness of Indonesian traditions, and can still be very important for regional economic development. In the empirical part of this study we thus attempt to distinguish between the two types.

Places for creative industries

Economic and social contexts of place provide conditions that boost creativity and entrepreneurial behaviour (Clare, 2013; Florida, 2002; Lee et al., 2004). Previous studies have shown that creative (and cultural) industries are most likely to flourish in larger cities (e.g. Boix et al., 2013; Lazzeretti et al., 2008; Lorenzen and Frederiksen, 2008; Power, 2002). In general, larger cities provide better access to recent technology, economic resources and soft infrastructure. These supply factors attract creative industries which search for knowledge and innovative externalities (Comunian et al., 2010; Florida, 2002, 2012; Landry, 2008; Storper and Scott, 2009). An alternative explanation originates from the demand side, which describes that cities function as centres of consumption and places of cultural expression and enjoyment. These industries converge in cities to control demands and market trends more easily (Glaeser et al., 2001; Scott, 1997). The latter explanation would appear most relevant to cultural industries.

Yet, it is unclear whether any of these dynamics, to a certain extent, explain the development and locational patterns of creative industries in developing countries. To construct a conceptual framework for examining the concentration of creative industries, we review both supply- and demand-side factors and reflect them on the context of developing countries. These factors comprise human capital, economic and entrepreneurial climate, potential markets, urbanization economies, and institutional factors.

Human capital

To start a creative business, creative people are required. Such people are generally young in spirit and are more able to adapt to new knowledge and technology (Florida, 2012; Ó Cinnéide and Henry, 2007). They are generally—but not necessarily—highly educated (Florida, 2012). These people are expected to possess the required entrepreneurial skills for improving the economic value of their products (Ó Cinnéide and Henry, 2007; Potts, 2007; Potts et al., 2008). Entrepreneurial skills also enable creative entrepreneurs to search for new opportunities and to reduce risks in order to develop their business (Sawyer, 2012). The concentration of creative industries is therefore likely to be supported by a talent pool of young creative people and university graduates, including in the developing world. Many developing countries have experienced a ‘demographic bonus’, so they might benefit from the increasing participation of young people in the labour market (Lam, 2006). However, this does not merely mean that these youngsters would start creative businesses and form a cluster of creative industries. There should be other factors triggering the formation of creative businesses and networks between them, such as university education and spinoffs.

Potential markets

Creative industries are associated with post-industrial cities, where service industries dominate the economy (Flew, 2002). These service firms might become the potential consumers of creative industries, especially those requiring specific services, such as advertising, publishing and multimedia services. Creative industries are also focused on continuously monitoring trends and consumers’ taste in uncertain and rapidly changing markets (Caves, 2000; Pratt, 2008; Reimer et al., 2008). However, as they generally have extensive networks and are supported by information technology (IT) and social media, their markets are not necessarily limited by their locations (Florida and Jackson, 2010). Therefore, it is to be expected that creative industries prefer urbanized areas and fairly advanced regions which have good connectivity to IT, which helps them reach both local and global markets.

In developing countries, ‘post-industrial’ cities might not be in existence yet. However, there are fast growing cities which have a supraregional function beyond their direct hinterland and where specialized business services are an important contributor to

the local economy (Cohen, 2004). Creative industries are likely to congregate in these major cities, as these cities provide relatively advanced facilities, including IT, which help them approach their potential markets.

Economic and entrepreneurial climate

Employment structure and economic conditions can determine the regional distribution of creative industries. A favourable entrepreneurial climate and culture will encourage people to seek out new opportunities and start new businesses (Malecki, 1993). Creative entrepreneurs will probably be located in areas characterized by creativity, diversity and innovation (Lee et al., 2004).

As has been explained, the influence of such a climate on creative industries in developing countries might require a complex interpretation. When people become entrepreneurs, this does not automatically mean that they vigorously respond opportunities in the economy, but rather they might not be able to perform other jobs (Singer et al., 2015). It is thus uncertain whether creative industries are started by a creative recognition of economic opportunities, in which entrepreneurial climate plays a role (cf. Ó Cinnéide and Henry, 2007).

Urbanization economies

Creative industries have been found to benefit from urbanization economies which support innovation and flexibility by facilitating information flow and interaction networks (Scott, 2006). Large cities particularly have a wide diversity that fosters cross-fertilization of ideas (Jacobs, 1992; Rosenthal and Strange, 2004). Related variety within sectors and path dependency are found to induce cross-fertilization (Boix et al., 2014; Lazzeretti et al., 2013). A diversity of skills will encourage creative firms to collaborate with each other through frequent interactions and knowledge transfer (Feldman and Kogler, 2010; Potts et al., 2008; Power, 2002). As such, we might expect that creative industries will be concentrated in regions with diversified economies. In a developing country such as Indonesia, regions with such diversified economies are rather limited. Manufacturing industries, and even agricultural activities, are still important contributors to the economy,

although this does not rule out the possibility that service industries dominate several urban economies.

Institutional factors

Previous studies have shown that ‘soft’ factors, such as urban amenities, quality of life, and social diversity and tolerance – as Florida (2012) postulated – are associated with the locational patterns of creative industries or occupations (e.g. Lazzeretti et al., 2013; Wenting et al., 2011). Besides, cultural amenities encompassing objects, symbols and quality could play a role, as they facilitate the creative process (Andersson et al., 2014; Boix et al., 2014; Lorenzen and Frederiksen, 2008). Since developing countries have different societal and cultural contexts, however, it might be problematic to apply these factors. There would be better proxies representing the ‘coolness’ of place in developing countries, and they might vary from case to case.

‘Traditional’ cultural industries: different explanations?

We have argued that creative and traditional cultural industries could have different regional patterns. Using Western concepts of cultural industries to examine the regional distribution of traditional cultural industries might be problematic, as they seem to have different development trajectories. Whilst cultural industries in the literature are typically linked with the function of cities as centres for cultural consumption (Pratt, 2009; Scott, 1997), traditional cultural industries, particularly in Indonesia, are not always associated with urban living. Many of these industries have existed for a long time by sharing traditional knowledge and skills hereditarily. In this regard, factors affecting their regional distribution might be different from creative industries. A pool of university graduates and young creative people could not be important. Entrepreneurial climate and economic diversification might not be a prerequisite since they have somewhat little interest in creating innovative designs and values. Since they create cultural products with strong, and often exotic, traditional values, they might be located close to tourism objects, which would be their important potential markets.

Methodology

To identify the characteristics and spatial patterns of creative and cultural industries in Indonesia, we used the 2006 Economic Census data, obtained from the BPS-Statistics Indonesia. This dataset provides information about the characteristics of firms, observed every ten years, but it is not panel data.¹ It is the most recent economic census data available. Creative industries were classified according to the Indonesian industrial classification (KBLI, similar to ISIC). As described in an earlier section, it is difficult to determine which sectors use ‘creativity, skill or talent’. These aspects should ideally be measured at the level of occupations or firms, as some occupations within an industry, and also firms within a particular sector, might be innovative while others might not. Using the available data, we measured these aspects at the level of industrial sectors, and this remains a limitation of studies on creative industries (see also Lazzeretti et al., 2008; Lorenzen and Frederiksen, 2008; Power, 2002). We eventually decided based on, to the best of our knowledge, whether a certain sector creates original ideas and designs, whether its products have intellectual property and so can be copyrighted, and the sector’s potential to utilize recent technology. Applying these criteria, we classified advertising, architecture and design, visual and recorded arts, radio and television, publishing, IT-based and software industries, and research and development as creative industries (see Appendix A)². Meanwhile, batik, crafts and antique markets were grouped into traditional cultural industries, and analysed separately. In our classification, fashion would seem to fit in the creative industries category. However, many fashion firms in Indonesia were not involved in creating new designs and style. For this reason, we excluded fashion from the creative industries category in the analytical model. Due to missing values, some regions were excluded, namely Tanjungpinang, Pontianak, Minahasa, Manokwari, and Nabire.

The data were aggregated at the municipality/district (*kota/kabupaten*) level to reveal their regional differences. We calculated the location quotient (LQ) which is commonly used to depict the relative proportion of creative or cultural industries in the region

¹ The Economic Census (*Sensus Ekonomi*) is carried out in two stages. In the first stage (L1) all business units (firms) in each census block are identified and listed. In the second stage (L2) a visit is paid to each firm and information about their business is obtained. The responses of each firm are noted in questionnaires.

² Unlike the government’s classification (MTCE, 2011), we excluded trade and other supporting activities, as we only focus on the production of creative products.

compared to the national level (Boix et al., 2014; Lazzeretti et al., 2008, 2013). The formula is as follows:

$$LQ = \frac{l_i/l}{L_i/L}$$

where l_i = the number of (firms or employment in) creative or cultural industries in the region, l = total number of industries in the region, L_i = the number of (firms or employment in) creative or cultural industries at the national level, and L = the number of all industries (or employment) at the national level (see also Boix et al., 2014). LQs can be calculated by using either employment or firm establishment data. We used number of establishments since the dataset used in this study concerns business characteristics at the firm level, and these creative firms are generally small. Besides, the data on employment, especially for regions outside Java and Bali, are unreliable. However, we performed robustness analyses using employment data for Javanese and Balinese regions only,³ to confirm the conclusions drawn from the main model.

The next step in the analysis was to explain the regional distribution of creative and cultural industries. For this, regression models were estimated with LQ for each type of industry as the dependent variable. We also employed several explanatory variables, for which we obtained data from BPS-Statistics Indonesia. Two more districts in Papua were excluded due to missing values: Teluk Wondama and Boven Digoel.

The following subsections describe the selection of these explanatory variables, which were derived from theoretical considerations explained in the previous section, including human capital, potential markets, economic and entrepreneurial climate, and urbanization economies (see Table 1).

Relationships between creative and traditional cultural industries

We included LQ for traditional cultural industries in the model simulating creative industries, as well as LQ for creative industries in the model simulating traditional cultural industries. This is intended to observe the relationship between both industries, particularly whether they are co-located and have a coinciding development trajectory.

³ In the robustness analysis, the national level (L_i/L) is defined as all regions in Java and Bali.

Human capital

Human capital was represented by the percentage of university graduates (GRAD) and the percentage of young people in the municipal/district population (YOUNG).

Potential markets

Several variables were employed to catch different aspects of potential markets. The logged value of total population (lnPOP) was used to represent the market size of a region. As explained in the previous section, we expected service industries (LQ_SERVF or LQ_SERVE) to be the potential consumers of creative industries.⁴ Purchasing parity power measured at expenditure per capita (PPP), which is one of indicators used in the calculation of the human development index,⁵ was employed to reflect the affordability of creative and cultural products. In view of the Indonesian government's aim to use creative industries in the development of tourism (Fahmi, 2014), we included the number of firms in tourism industries in a region as a variable (TOURISM).

Economic and entrepreneurial climate

To represent regional economic conditions and entrepreneurial climate, we used unemployment rates (UNEMP) and self-employment rates (SELF_EMPL). An endogeneity problem may arise as we use employment rates. Nevertheless, we tried to exclude this variable and the results remained robust.

⁴ LQ_SERVF has quite a high correlation with GRAD (0.696); LQ_SERVE has a high correlation with RELVARE (0.511) (see Appendix B). We tried excluding the LQ for services from the regression models, but the results remained robust, and the VIF values were also in the tolerable range. We therefore chose the models which included this variable since their model fits were also better.

⁵ While other countries use GDP per capita as a measure of the quality of life, in Indonesia this aspect is measured by an index reflecting differences in standard living costs (PPP), see <http://www.bps.go.id/Subjek/view/id/26>

Urbanization economies

Unrelated variety (UNRELE or UNRELF) and related variety (RELVARE or RELVARF) reflect regional economic diversity and cross-fertilization (Frenken et al., 2007). Unrelated variety is the entropy index measured at the 2-digit class of KBLI codes, which indicates diversity *between* sectors. Related variety is the weighted sum of the entropy index measured at the 5-digit level within each 2-digit class of KBLI codes. Related variety thus represents the diversity *within* each sector, and it is assumed that the more diversified the industries within each sector are, the more related they are, as they produce similar products (Frenken et al., 2007).

It is difficult to find good proxies for institutional factors because the data on urban and cultural amenities at the regional level are not available. We tried using data on religious and social tolerance, which are part of the data on social capital stock,⁶ and incorporated the data into our analytical model. However, this variable did not provide any added value to our discussion, so we have not used it in our final model.

Estimation methods

We used spatial econometrics to correct for potential spatial autocorrelations, which may exist between neighbouring municipalities and districts. Municipalities and districts are administrative entities, while the actual socio-economic systems may transcend these boundaries. Our application of this method also provides an insight into the use of spatial econometrics in an archipelagic country. Both the specific-to-general and the general-to-specific framework were followed (see Elhorst, 2013). We used the first-order Queen contiguity matrix, but in this approach 20 localities, including those on remote islands, did not have neighbours. To overcome this, we defined nearby localities as neighbours if there was any connection between them, in the form of a bridge or frequent local boat services. This still left five localities without neighbours, which we excluded from the analysis:

⁶ “Stok Modal Sosial 2010 (Berdasarkan Data Susenas 2009)”, available from BPS-Statistics Indonesia, Jakarta, 2010

Natuna, Sangihe Islands, Talaud Islands, Maluku Tenggara Barat, and Aru Islands. These are small, remote areas and unlikely to influence the results to any extent.

Table 1. Variables used in the analysis

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The Development of Creative Industries in Indonesia

To understand the position of creative industries in Indonesian economic development, we first review the changing economic geography and sectoral productivity between 1966 and 2013 to position creative industries within Indonesia's overall economic development. We then describe the characteristics and development patterns of creative industries at the national level followed by the regional distribution of these industries.

Understanding the meaning of creative industries in the Indonesian economy

The increasing role of creative industries in Indonesia's economy can be positioned within the overall macroeconomic development of the last few decades. This is particularly related to development since the New Order period, when President Suharto led the country (1966-1998). During this period the economic policy was highly focused on labour-intensive sectors, and Indonesia experienced rapid industrialization. As seen in Table 2, manufacturing and other industries grew significantly between 1966 and 1995. These industries were mostly related to natural resource exploitation, which were largely backed by foreign direct investment (Aswicahyono et al., 2011). The New Order economic policy followed the stages of growth as put forward by Rostow, and one of its goals was that the country's economy would 'take off' in the 2000s (Broad, 1995). Unfortunately, the 1998 East Asian crisis hit almost every sector in Indonesia. At that time, many firms closed down and unemployment rates increased. Manufacturing is still a significant contributor to the economy, but its growth is not as rapid as it was in the past (see Table 2). The service sector, however, has grown more rapidly, indicating a shift towards a more diversified

economy. Creative industries belong to this area of development, and their development is path dependent. Creative industries did not emerge as an outcome of deindustrialization, but rather they grew because of crises: people started to earn their living in informal sectors and entrepreneurial activities, including creative industries. This development has occurred along with the advance in technology and expansion of global knowledge networks. As such, the initial motivation for starting in creative – and traditional cultural – industries in Indonesia appears different from the general picture in developed countries, in which start-ups in creative industries are based on opportunity recognition and a search for new technologies (Ó Cinnéide and Henry, 2007).

Table 2. Sectoral change in Indonesia's GDP

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This development did not happen everywhere; the stages and conditions of economic development differ across the country. We would therefore expect that creative industries will not be found everywhere. Since Java and Bali have a more advanced level of economic development (Hill et al., 2008), their regional economic settings support the development of these industries. This is however not the case for traditional cultural industries which have been established for a long time. The presence of these industries may be more connected with development of cultural entrepreneurship in the past, which took place within community clusters (kampongs). In these clusters people have been producing cultural products for many years, and transferring the skills for making those products from generation to generation.

Characteristics of creative and traditional cultural industries in Indonesia

According to the dataset we used, creative industries made up 0.63% of all firms in 1996, and this figure increased to 0.69% in 2006 (see Table 3). These are still quite small proportions. By comparison, traditional cultural industries made up 5.80% of all firms in 1996, and 8.23% in 2006. Creative and cultural industries, together, accounted for 9.71% of the total number of firms in Indonesia in 2006. This is proportionally quite high, even compared to developed countries such as Austria, the UK and Canada (see Evans, 2009).

When employment data were considered – only for Javanese and Balinese regions, because of reliability of the data – creative industries accounted for 1.33%, while cultural industries contributed to 7.07% of the total employment in Java and Bali in 2006. Both creative and traditional cultural industries had a higher average annual firm growth than other industries. We can therefore expect that both industries will make increasing contributions to economic development. They also share similar characteristics: they are mostly smaller firms and informal businesses, and both have grown in the last decade (see Figure 1). Creative industries are generally larger and register higher turnovers, and most of them have been established in the past few decades.

Figure 1. General characteristics of creative (CI) and traditional cultural industries (CULT)

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As seen in Table 3, the proportion and growth of each subsector vary. Fashion industries show quite a high growth. One possible explanation is that the demand for apparel has increased quite significantly along with the rise of the middle income class in Indonesia (Investor Daily, 2011). The performing arts and publishing also have high growth rates, possibly because of the newfound freedom of expression in writing and art performances following the 1998 political reforms. The production of crafts is fast growing as well, indicating the importance of this subsector, although it cannot be described as innovative.

This descriptive overview is indeed useful as a general guide for the next stage of analysis. We can conclude that there are creative industries in Indonesia, even though they constitute only a small proportion of all firms. We also see that traditional cultural industries are growing significantly. It is therefore necessary to compare creative and traditional cultural industries to identify the impact of each on the economy.

Table 3. Overview of creative industries by category at the national level

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Regional differences in creative and cultural industries

As discussed earlier, creative and traditional cultural industries have different characteristics. This is also apparent in their regional patterns. The correlation between the LQs for both industries (see Appendix B) is fairly low. As expected, the regional distributions of both industries differ. Figure 1(e) shows that most economic activities, including creative and traditional cultural industries, are concentrated in Java and Bali. Figure 1(f) shows that creative industries (71.2%) are concentrated in urban areas. By contrast, traditional cultural industries are mainly located in rural areas (75%) – unlike the cultural industries mentioned in the literature which are mostly concentrated in urban areas. This suggests that creative and traditional cultural industries could have different favourable place-specific contexts.

Figure 2. Quantile maps of the concentration of creative and cultural industries

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To illustrate the concentration of these industries, Figure 2 shows quantile maps of LQs for each industry. In Map A, we see that strong concentrations of creative industries are mostly found on Java Island. A few strong concentrations can also be found in several major cities on other islands. It would seem that creative industries grow in highly urbanized areas, where the level of economic development is relatively advanced, and social and economic diversity is relatively high.

Strong concentrations of traditional cultural industries are found not only in Javanese and Balinese regions, but also on other islands (see Map B). This indicates that traditional cultural industries grow not only in relatively advanced economies, such as Java, but also in the less advanced regional centres outside Java. Although concentrations of both types of industries are found on the same island, they are distributed in different clusters. We

would therefore expect creative and cultural industries to have different determinants of regional distribution.

Explaining the concentration of creative industries in Indonesia

In this section we present our estimation results, which test whether the regional factors derived from theory are associated with the actual concentration of creative industries. We ran ordinary least squares (OLS) regression models for both creative and traditional cultural industries. To correct for significant heteroskedasticity test results, we used and present only the OLS model with robust standard errors. We subsequently corrected for spatial autocorrelations by estimating spatial econometric models (see Elhorst, 2013). We ran Lagrange multiplier (LM) tests for spatial lag and error, then estimated spatial lag (SAR), spatial error (SEM) and spatial Durbin (SDM) models. We also ran likelihood ratio (LR) tests to determine whether the SDM model could be simplified to either the SAR or SEM model. All of our spatial regression analyses pointed to the SDM model as the best choice, so we present only this model.

The following subsections present the estimation results. We first discuss each factor in the main model simulating the concentration of creative industries, where we also compare it to that of traditional cultural industries. By discussing this, we test whether Western theories can explain the concentration of these industries, which are promoted as creative industries by the government (see Model 1A and 2A in Table 4). This is followed by the robustness analyses using the employment data for Javanese and Balinese regions only (see Models 1B and 2B in Table 5).

Table 4. Main results

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Relationships between creative and traditional cultural industries

Our estimation results demonstrate no mutual relationships between creative and traditional cultural industries. LQ for traditional cultural industries was not significant in Model 1A, and was negative in Model 2A. LQ for creative industries was also not significant in Model 1B, and was negative in Model 2B. This finding indicates that the concentration of traditional cultural industries is pertinent to that of creative industries, but they both have completely different patterns. As our descriptive overview showed that both creative and traditional cultural industries have high growth rates (see Table 3), we can conclude that both industries neither substitute nor complement each other. In other words, they develop in different regions and have different development trajectories.

Human capital

Our estimation results show that creative and traditional cultural industries have different human capital requirements. Human capital is positively associated with the concentration of creative industries in Indonesia. The percentage of graduates and young people in the total population was positive. This supports the thesis that the concentration of creative industries is facilitated by young creative people, who are generally highly educated (Ó Cinnéide and Henry, 2007). The concentration of traditional cultural industries is not shown to be governed by the same factors. Human capital appears to play no role, as shown by the percentage of graduates, which was not significant, and young people, which was negative.

In conclusion, similar to the developed world contexts, the clustering of creative industries in Indonesia is supported by higher education and young creative talents. However, these qualifications do not seem necessary for traditional cultural industries, which appear not to exploit new knowledge and intellectual property.

Potential markets

Of the variables used as proxies for potential markets, we found that most did not explain the concentration of creative industries. The SDM indirect and total impact coefficients of total population have positive signs in Model 1A, indicating that creative industries can benefit from the presence of a large population in the region. The coefficient for LQ for services is positive and significant, showing that creative industries are dependent on tertiary economic activities as potential consumers. This also indicates that

creative industries tend to be concentrated in relatively advanced economies, in line with the current literature on creative industries (Flew, 2002). The concentration of traditional cultural industries is associated with different potential markets. The LQ for services exerts a negative and significant impact on the concentration of these industries. This indicates that these industries do not correspond to relatively advanced regional economies. The SDM indirect and total impact coefficients for tourism industries are positive in Model 2A, indicating that tourism objects can create demand for cultural products from a region.

In conclusion, different potential markets are associated with concentrations of creative and cultural industries. The concentration of creative industries corresponds to more advanced economies, while traditional cultural industries do not. This strengthens the argument that traditional cultural industries have established in several regions and have no associations with the current development of ‘tertiarized’ regional economies.

Economic and entrepreneurial climate

We expected that a favourable economic and entrepreneurial climate would foster the concentration of creative industries. The SDM indirect impact coefficient for self-employment rates is negative in Model 1A, indicating that high self-employment rates in a region decrease the concentration of creative industries in the surrounding regions. As expected, this aspect shows a complex situation. One possible explanation is that regions with higher self-employment rates attract creative industries from the surrounding area. Another explanation could be that creative industries made up only a small proportion of all firms, so self-employment rates are not associated with the concentration of these industries. Besides, self-employment seems not to be an ideal proxy for entrepreneurship, as it might rather represent necessity-based entrepreneurship. In this regard, it could be that creative industries are not started as necessity-based entrepreneurship, but rather as a response to opportunity, in line with the literature (Ó Cinnéide and Henry, 2007). When traditional cultural industries are concerned, self-employment is positive, but not significant in Model 2A. Meanwhile, unemployment rates appear to exert a negative impact on the concentration of these industries. This shows that lower unemployment, which reflects relatively good economic conditions, is likely to support the concentration of traditional cultural industries.

In conclusion, we found an unclear difference between creative and traditional cultural industries with regard to this factor. This is not to say that both industries do not

require a preferable entrepreneurial and economic climate. However, entrepreneurial environment in a developing country, such as Indonesia, is rather complex, in that the same industries might be established both as a recognition of economic opportunities and as a necessity (Singer et al., 2015).

Urbanization economies

Related variety, which represents diversity within sectors, positively affects the concentration of creative industries. Unrelated variety, on the other hand, is not significant. This result resonates with the current literature on the geography of innovation and creative industries (Feldman and Kogler, 2010; Lazzeretti et al., 2013; Pratt, 2008). Our findings suggest that the concentration of creative industries is strengthened by diversity within sectors, which encourages cross-fertilization of skills and knowledge transfer between firms in the local creative environment.

A contrary result is found for traditional cultural industries. The SDM direct and total impact coefficients for unrelated variety in Model 2A are positive, indicating that sectoral diversity facilitates the concentration of traditional cultural industries, while related variety is negatively associated with the concentration of these industries. A concentration of traditional cultural industries requires diversity *between* sectors but not *within* sectors. This supports our thesis that traditional cultural industries are not concerned with the exploitation of new knowledge, and so do not benefit from cross-fertilization between firms.

Table 5. Robustness analysis

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Robustness analysis

Robustness analyses were conducted to check whether our estimation results would change when we used employment data to calculate LQs (cf. Lazzeretti et al., 2008; Lorenzen and Frederiksen, 2008; Power, 2002). As reliable employment data are not

available for the entire country, these analyses are limited to Java and Bali. Generally speaking, the results of robustness analyses supported the conclusions drawn from the main model (see Table 5). There were slight differences in some coefficients, but this did not change our final conclusions. With regard to human capital, a difference was found in the percentage of young people which is negative in Model 2A, while the same variable in Model 2B is positive. The inconsistency of these results possibly corresponds to the disparity in human capital levels between Java-Bali and other regions.

There were few changes in significance level and signs with regard to potential markets. Most notably, the LQ for service industries became insignificant and the number of tourist objects was negative in Model 1B. However, LQ for services is still negative in Model 2B simulating traditional cultural industries. In addition, the coefficient of purchasing power parity became significant in Model 2B, suggesting that high-income consumers are likely to make use of cultural products from the surrounding regions. Overall, these results strengthen that the potential markets for creative and traditional cultural industries differ.

Similarly, unemployment rates exert a negative influence on the concentration of both creative and cultural industries, indicating that both require a favourable economic climate. Self-employment rates are positive in the models for both creative and cultural industries. The robustness analysis used data for Java and Bali only, and it is possible that the regional entrepreneurial climate on Java and Bali is different from other islands in Indonesia, which may impact the concentration of creative industries.

Finally, with regard to urbanization economies, only unrelated variety became insignificant in Model 2B, but this does not affect our conclusion that both creative and traditional cultural industries require different conditions of economic diversification.

Discussion and Conclusions

This paper aimed to examine the extent to which creative industries fit in regional economic contexts in the developing world, particularly Indonesia. In so doing, we identified the spatial distribution of these industries and its determining factors. An analytical framework built upon the ‘Western’ theory was applied to identify the degree to which developing countries in general, and Indonesia in particular, differ from industrialized countries regarding regional economic settings supporting creative industries. On top of that, we actually see that the conceptual idea of creative industries is

interpreted differently in Indonesia, in that it is not always considered to promote individual creativity and intellectual property. Rather, long-established traditional cultural industries are considered creative industries, despite their strong attachment to heritage values and little attention to innovation and knowledge creation (Fahmi, 2014).

We found that creative industries have developed in particular regions in Indonesia, despite the economic and technological circumstances. However, these industries constitute a very small proportion of all firms and are found in limited places only in Indonesia. Strong overrepresentations of creative industries are found mostly in Javanese and Balinese regions, where economic development is relatively tertiarized. Our findings confirm theory and empirical evidence obtained in the developed world context which conclude that creative industries tend to be clustered in urban areas and in more advanced economies (Lazzeretti et al., 2013; Potts, 2007; Pratt, 2008). The clustering of creative industries is facilitated by the availability of human capital in a region, principally by young and higher educated people who are able to establish both formal and informal networks. They start creative businesses by building a learning platform, and generating knowledge spillover and competition. These processes take advantage of urbanization economies in which relatedness between niche producers facilitates the generation and cross-fertilization of innovative ideas (Feldman and Kogler, 2010; Scott, 2006). As such, supply factors appear to outperform the forces of demand for creative industries. This does not mean that, however, demand factors are not important to creative industries, in that these industries clearly require an economic environment where they can have access to recent technology and control their potential markets easily, but without being limited by their local markets (see Florida and Jackson, 2010). Nonetheless, whilst the literature has shown that entrepreneurial environment could attract and provide preferable conditions for creative industries (Ó Cinnéide and Henry, 2007), in the Indonesian context, the effect of entrepreneurial climate is rather unclear. This is possibly because entrepreneurial activities are performed as necessity rather than recognition of opportunities (see Singer et al., 2015).

Although our findings to a large extent confirm the conceptual and empirical contributions obtained from the developed world context, creative industries in Indonesia appear to be a particular phenomenon in large cities, which have a more advanced level of economic development. This also depicts the current state of regional disparity in Indonesia: while some major cities have already stepped up to the next stage of economic development, where tertiary and knowledge-based economic activities play more significant roles (Flew, 2002), other regions are still 'lagged behind' and focusing on

agricultural and industrial activities. This condition is potentially similar to other developing countries, where primate cities demonstrate ‘winner-takes-all’ effects.

Furthermore, we found that the factors and dynamics explaining the distribution of creative industries did not describe the presence of traditional cultural industries. As they were shown to be conceptually different in terms of creativity sources and intellectual property, traditional cultural industries have different development patterns. These industries also do not have relationships with creative industries, or in other words, they have different trajectories. Traditional cultural industries are not associated with human capital requirements of creative industries (i.e. higher education and young people) and diversified urban economic activities. Given the different spatial patterns and explanations for creative and traditional cultural industries, we suggest that the current policy that regards both industries as similar is likely to be imprecise. As such, policy strategies taken so far might be less effective since they are not tailored to the different elements of creative and cultural industries which have their own specificities. This conclusion potentially offers lessons for other countries that promote traditional industries as creative industries (see Kong et al., 2006).

The current national policy that obliges all local governments in Indonesia to promote creative industries in their localities would also appear less effective. We therefore suggest that policy strategies should instead be shaped in light of local specificities, since strategies that foster the development of creative industries are not applicable to every region. More advanced regions with sufficient human capital and diverse economic activities, such as specific cities on Java Island, are more likely to promote creative industries. It is also equally important to pay attention to other economic sectors which also contribute to the regional economy. In view of the large proportion and high growth rates of traditional cultural industries, it is clear that they are also important although they will affect the economy in a different way. For regions with strong concentrations of traditional cultural industries, policies aiming to stimulate these industries might be more effective than encouraging the formation of new creative industries.

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Table 1. Variables used in the analysis

| Variable name | Label | Source | Mean | SD |
|---|--|----------|--------|-------|
| Dependent variables | | | | |
| LQ_CI | Location quotients for creative industries, not including fashion (with firm data) | (a) | 0.815 | 0.538 |
| LQ_CULT | Location quotients for traditional cultural industries (with firm data) | (a) | 0.724 | 0.881 |
| LQ_CIE | Location quotients for creative industries, not including fashion (with employment data) | (a) | 0.909 | 0.599 |
| LQ_CULTE | Location quotients for traditional cultural industries (with employment data) | (a) | 1.070 | 0.857 |
| Explanatory variables | | | | |
| <i>Human capital</i> | | | | |
| GRAD | Percentage of university graduates in the local population | (b), (c) | 0.054 | 0.040 |
| YOUNG | Percentage of people aged 19-34 in the local population (2005) | (d) | 0.258 | 0.052 |
| <i>Potential markets</i> | | | | |
| lnPOP | Total population (natural logged) | (e) | 12.661 | 1.011 |
| LQ_SERVF | Location quotients for service sector industries, including 2-digit KBLI codes 65-99 (firm data) | (a) | 0.929 | 0.329 |
| LQ_SERVE | Location quotients for service sector industries, including 2-digit KBLI codes 65-99 (employment data) | (a) | 1.008 | 0.266 |
| PPP | Purchasing parity power (x100,000) | (f) | 6.136 | 0.168 |
| TOUR_OBJ | Number of tourism objects | (a) | 0.531 | 1.134 |
| <i>Economic and entrepreneurial climate</i> | | | | |
| SELF_EMPL | Percentage of self-employed people in the labour force (2007) | (g) | 0.194 | 0.076 |
| UNEMP | Percentage of unemployed people in the labour force (2007) | (g) | 0.083 | 0.042 |
| <i>Urbanization economies</i> | | | | |
| UNRELF | Unrelated variety (at 2-digit level), firm data | (a) | 3.048 | 0.341 |
| UNRELE | Unrelated variety (at 2-digit level), employment data | (a) | 3.725 | 0.308 |
| RELVARF | Related variety (at 5-digit level within 2-digit class), firm data | (a) | 2.151 | 0.458 |
| RELVARE | Related variety (at 5-digit level within 2-digit class), employment data | (a) | 2.531 | 0.334 |

Note: Strong correlations were found between LQ_CI and LQ_CIE (0.80) as well as between LQ_CULT and LQ_CULTE (0.87). We can therefore expect that the spatial patterns revealed by both firm and employment data are more or less identical. All data are given for 2006, except YOUNG (2005), SELF_EMPL (2007) and UNEMP (2007). Since these data were collected at adjacent time, it is argued that the actual conditions were not different.

The data were calculated from these sources:

- (a) Unpublished raw data "Sensus Ekonomi 2006", available from BPS-Statistics Indonesia, Jakarta
- (b) "Sensus Penduduk NAD dan Nias", available from BPS-Statistics Indonesia, Jakarta, 2005
- (c) Penduduk 5 tahun ke atas menurut kabupaten/kota dan pendidikan yang ditamatkan, available from BPS-Statistics Indonesia website http://www.datastatistik-indonesia.com/portal/index.php?option=com_supas&kat=2&idtabel=9&Itemid=953
- (d) Jumlah Penduduk menurut Jenis Kelamin dan Kelompok Umur, available from BPS-Statistics Indonesia website http://www.datastatistik-indonesia.com/portal/index.php?option=com_tabel&task=&Itemid=165
- (e) Population Estimation by Municipality/District, Unpublished material, BPS-Statistics Indonesia, Jakarta, 2010
- (f) Indeks Pembangunan Manusia, BPS-Statistics Indonesia, Jakarta, 2006
- (g) Unpublished material "Labour Force by Occupation Status and Sector", calculated from the 2007 SUPAS 2007 results", available from BPS-Statistics Indonesia, Jakarta, 2007

Table 2. Sectoral change in Indonesia's GDP

| | Agriculture | Manufacturing industries | Other industries | Services |
|------------------------------|-------------|--------------------------|------------------|----------|
| Annual growth rate (average) | | | | |
| 1961-1965 | 1.37 | 1.85 | 1.32 | 2.93 |
| 1966-1975 | 4.26 | 9.99 | 10.01 | 6.37 |
| 1976-1985 | 4.13 | 14.59 | 3.11 | 8.20 |
| 1986-1995 | 3.34 | 11.05 | 4.02 | 7.98 |
| 1996-2000 | 1.37 | 3.06 | 0.29 | -0.08 |
| 2001-2006 | 3.23 | 4.91 | 1.16 | 6.46 |
| 2006-2012 | 3.77 | 4.52 | 1.93 | 8.02 |
| Sectoral share (average) | | | | |
| 1961-1965 | 53.19 | 8.78 | 5.42 | 32.61 |
| 1966-1975 | 42.34 | 9.68 | 12.06 | 35.92 |
| 1976-1985 | 25.47 | 12.46 | 25.27 | 36.79 |
| 1986-1995 | 20.03 | 20.69 | 18.00 | 41.28 |
| 1996-2000 | 17.21 | 26.23 | 18.23 | 38.33 |
| 2001-2006 | 14.39 | 28.17 | 17.29 | 40.14 |
| 2006-2012 | 14.65 | 25.72 | 21.54 | 38.09 |

Source: Calculated from "World Development Indicators", available from <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=World-Development-Indicators#>

Table 3. Overview of creative and cultural industries by category at the national level

| Industries | 1996 | | 2006 | | Average Annual Growth |
|---|------------|--------|------------|--------|-----------------------|
| | Frequency | % | Frequency | % | |
| The number of firms (all regions) | | | | | |
| Advertising and marketing | 2,431 | 0.03% | 2,564 | 0.02% | 0.53% |
| Architecture and design | 4,144 | 0.05% | 2,837 | 0.02% | -3.72% |
| Visual and recorded arts | 15,485 | 0.17% | 20,585 | 0.16% | 2.89% |
| Radio and television | 4,177 | 0.05% | 2,981 | 0.02% | -3.32% |
| Performing arts | 8,666 | 0.09% | 18,259 | 0.14% | 7.74% |
| Publishing | 18,237 | 0.20% | 37,920 | 0.29% | 7.59% |
| IT, software and computer services | 2,580 | 0.03% | 3,042 | 0.02% | 1.66% |
| Research and development | 1,639 | 0.02% | 1,031 | 0.01% | -4.53% |
| <i>Creative industries (1)</i> | 57,359 | 0.63% | 89,219 | 0.69% | 4.52% |
| Antique markets | 1,396 | 0.02% | 1,379 | 0.01% | -0.12% |
| Crafts | 529,772 | 5.79% | 1,064,649 | 8.22% | 7.23% |
| <i>Traditional cultural industries (2)</i> | 531,168 | 5.80% | 1,066,028 | 8.23% | 7.21% |
| <i>Fashion (3)</i> | 51,322 | 0.56% | 102,339 | 0.79% | 7.15% |
| <i>Creative and cultural industries (1+2+3)</i> | 639,849 | 6.99% | 1,257,586 | 9.71% | 6.99% |
| <i>Other industries (4)</i> | 8,514,445 | 93.01% | 11,696,736 | 90.29% | 3.23% |
| <i>All industries (1+2+3+4)</i> | 9,154,294 | | 12,954,322 | | 3.53% |
| The number of employment (Java and Bali) | | | | | |
| <i>Creative industries (1)</i> | 340,507 | 1.50% | 501,642 | 1.33% | 3.95% |
| <i>Traditional cultural industries (2)</i> | 2,094,348 | 9.21% | 2,668,690 | 7.07% | 2.45% |
| <i>Fashion (3)</i> | 628,985 | 2.77% | 822,256 | 2.18% | 2.72% |
| <i>Creative and cultural industries (1+2+3)</i> | 3,063,840 | 13.48% | 3,992,588 | 10.58% | 2.68% |
| <i>Other industries (4)</i> | 19,672,111 | 86.52% | 33,751,055 | 89.42% | 5.55% |
| <i>All industries (1+2+3+4)</i> | 22,735,951 | | 37,743,643 | | |

Source: Calculated from the results of Sensus Ekonomi 1996 and 2006, available from BPS-Statistics Indonesia

Table 4. Main results

| | Model 1A: Concentration of Creative Industries (LQ_CI) | | | | Model 2A: Concentration of Traditional Cultural Industries (LQ_CULT) | | | |
|---|---|------------|------------|-----------|---|------------|-----------|------------|
| | OLS | SDM | | | OLS | SDM | | |
| | B (Robust SE) | Direct | Indirect | Total | B (Robust SE) | Direct | Indirect | Total |
| Relationships CI-CULT | | | | | | | | |
| LQ_CI | | | | | -0.054 (0.09) | -0.130 | 0.266 | 0.136 |
| LQ_CULT | -0.011 (0.02) | -0.023 | 0.000 | -0.022 | | | | |
| Human capital | | | | | | | | |
| GRAD | 5.279 (0.95) *** | 6.003 *** | -1.200 | 4.802 *** | 1.6942 (1.39) | 2.082 | -1.525 | 0.557 |
| YOUNG | 0.974 (0.42) ** | 0.821 ** | 2.471 *** | 3.292 *** | -1.464 (0.83) * | -1.000 | -0.595 | -1.595 |
| Potential markets | | | | | | | | |
| lnPOP | 0.023 (0.02) | -0.016 | 0.107 *** | 0.091 ** | 0.1895 (0.03) *** | 0.149 *** | 0.022 | 0.171 ** |
| LQ_SERVF | 0.296 (0.09) *** | 0.282 *** | -0.226 | 0.056 | -0.94 (0.20) *** | -0.934 *** | -0.051 | -0.985 *** |
| PPP | 0.001 (0.00) | -0.001 | 0.001 | 0.001 | 0.0035 (0.00) | -0.002 | 0.003 | 0.002 |
| TOURISM | 0.004 (0.00) | 0.006 | -0.005 | 0.000 | 0.0269 (0.02) | 0.001 | 0.058 *** | 0.058 *** |
| Economic & entrepreneurial climate | | | | | | | | |
| SELF_EMPL | -0.363 (0.22) * | -0.246 | -1.200 *** | -1.446 ** | -0.019 (0.43) | 0.127 | 0.102 | 0.23 |
| UNEMP | 0.120 (0.59) | -0.152 | -0.272 | -0.424 | -2.143 (1.04) ** | -0.246 | -3.958 * | -4.204 * |
| Urbanization economies | | | | | | | | |
| UNRELF | 0.053 (0.06) | 0.076 | 0.014 | 0.090 | 0.6404 (0.12) *** | 0.454 *** | 0.264 | 0.718 *** |
| RELVARF | 0.283 (0.05) *** | 0.273 *** | -0.025 | 0.248 * | -0.179 (0.12) | -0.307 *** | 0.335 | 0.028 |
| Intercept or Rho | | | | | | | | |
| | -1.788 (0.61) *** | | | 0.392 *** | -4.032 (1.69) ** | | | 0.224 *** |
| N | 428 | | | 428 | 428 | | | 428 |
| R2 | 0.601 | | | 0.682 | 0.273 | | | 0.385 |
| F | 59.57 *** | | | | 15.57 *** | | | |
| Mean VIF | 1.69 | | | | 1.82 | | | |
| Spatial diagnostics | | | | | | | | |
| Moran's I | 6.93 *** | | | | 5.36 *** | | | |
| LM lag | 28.37 *** | | | | 33.74 *** | | | |
| RLM lag | 0.20 | | | | 9.21 *** | | | |
| LM error | 42.84 *** | | | | 24.98 *** | | | |
| RLM error | 14.67 *** | | | | 0.44 | | | |
| SDM model test | | | | | | | | |
| LR test SAR | | | | 54.03 *** | | | | 29.93 *** |
| LR test SEM | | | | 32.93 *** | | | | 34.12 *** |

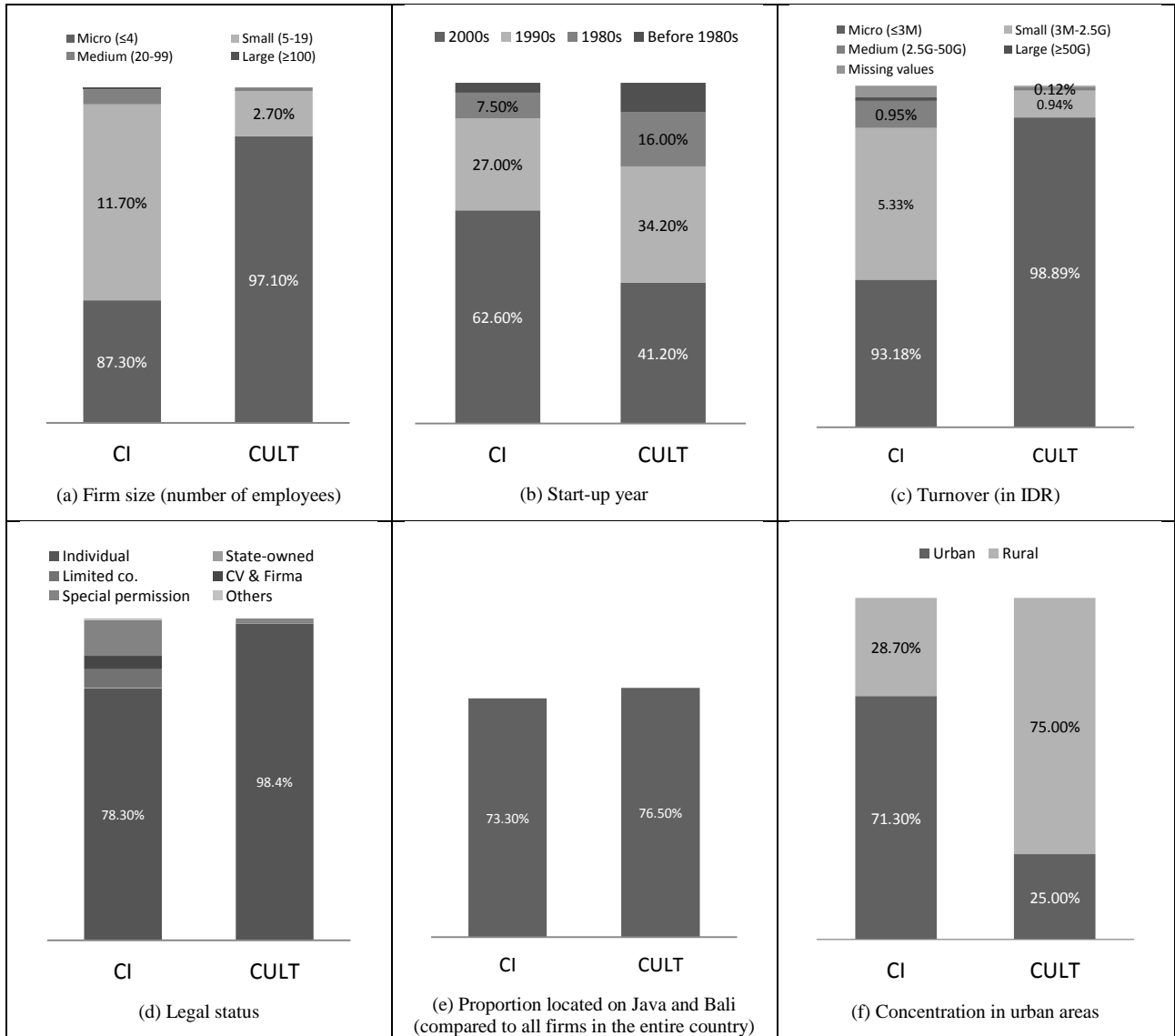
Note: Standard errors in parentheses. *** significant at 1%, ** significant at 5%, * significant at 10%

Table 5. Robustness analysis

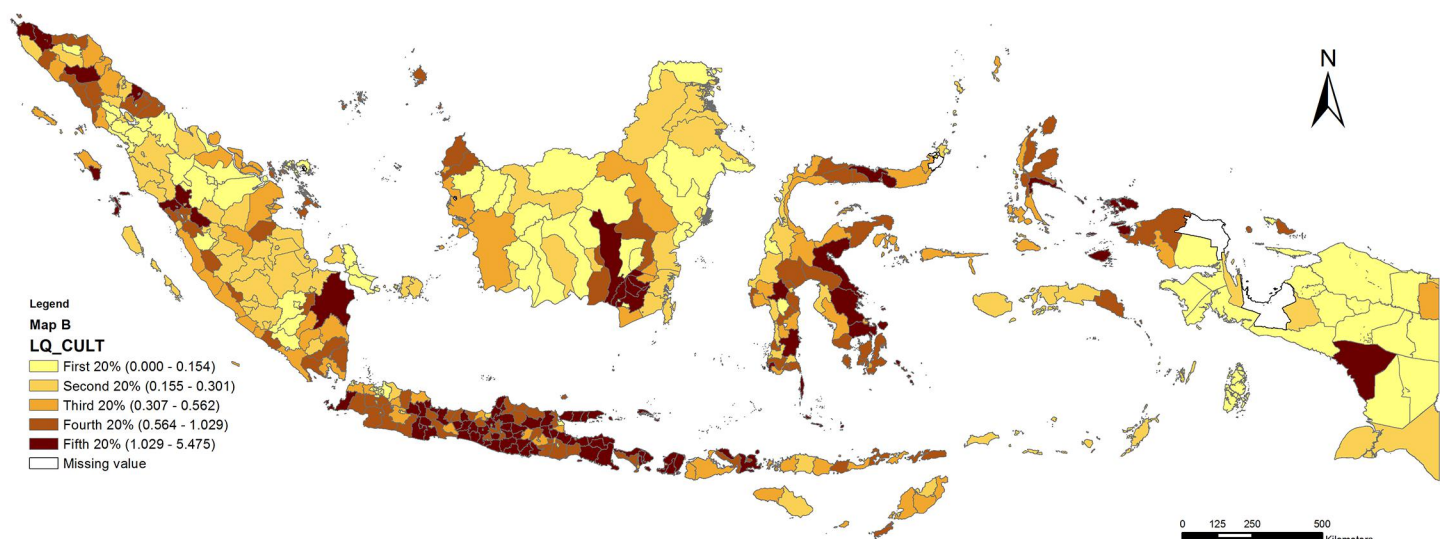
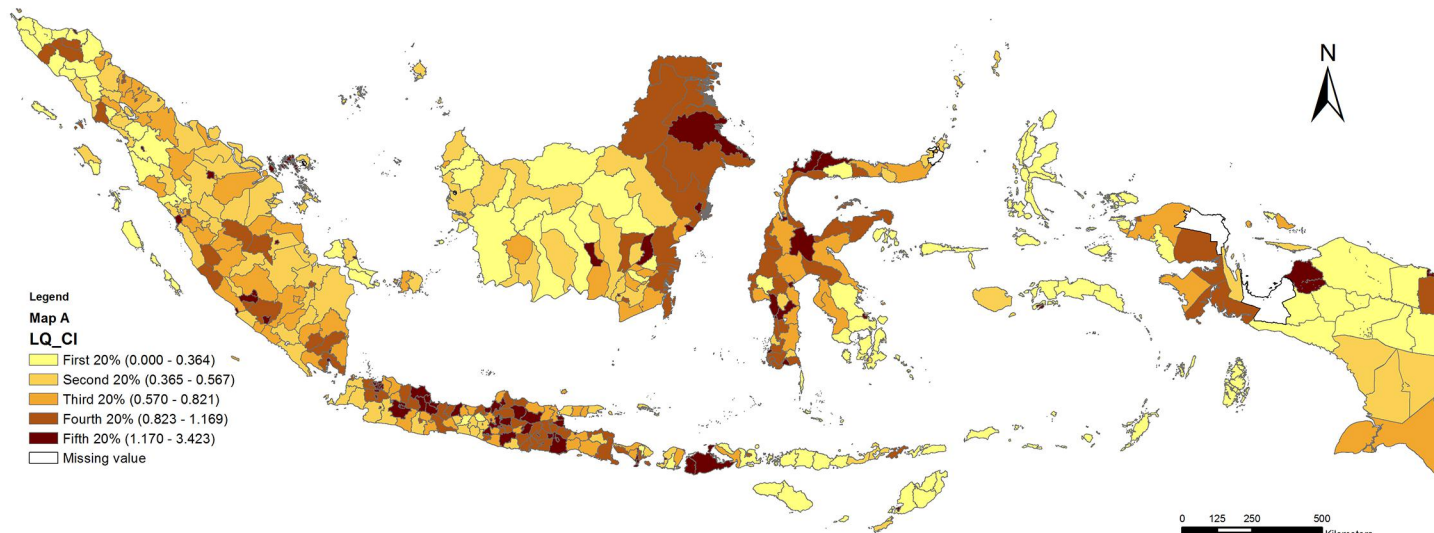
| | Model 1B: Concentration of Employment in Creative Industries (LQ_CIE) | | | | Model 2B: Concentration of Employment in Traditional Cultural Industries (LQ_CULTE) | | | |
|---|--|------------|----------|------------|--|------------|-----------|----------|
| | OLS | SDM | | | OLS | SDM | | |
| | B (SE) | Direct | Indirect | Total | B (Robust SE) | Direct | Indirect | Total |
| Relationships CI-CULT | | | | | | | | |
| LQ_CIE | | | | | -0.416 (0.10) *** | -0.362 *** | 0.060 | -0.302 |
| LQ_CULTE | -0.179 (0.06) *** | -0.206 ** | -0.110 | -0.316 | | | | |
| Human capital | | | | | | | | |
| GRAD | 6.574 (1.43) *** | 7.238 *** | 0.091 | 7.329 * | -0.996 (2.01) | -1.589 | -1.633 | -3.222 |
| YOUNG | 2.299 (1.21) * | 2.653 * | 2.573 | 5.226 * | 4.592 (1.69) *** | 3.477 * | 0.082 | 3.559 |
| Potential markets | | | | | | | | |
| lnPOP | 0.130 (0.06) ** | 0.117 | -0.005 | 0.112 | 0.098 (0.09) | 0.209 * | -0.538 ** | -0.329 |
| LQ_SERVE | -0.305 (0.20) | -0.369 | -0.347 | -0.717 | -0.801 (0.31) ** | -0.462 | -0.546 | -1.008 * |
| PPP | -0.255 (0.57) | -0.421 | 0.288 | -0.133 | 0.816 (0.98) | -0.295 | 3.814 * | 3.518 |
| TOUR_OBJ | -0.019 (0.01) ** | -0.023 ** | -0.016 | -0.038 | -0.009 (0.01) | -0.024 * | 0.013 | -0.011 |
| Economic and entrepreneurial climate | | | | | | | | |
| SELF_EMPL | 1.018 (0.97) | 1.508 *** | 1.058 | 2.567 ** | 2.751 (1.72) | 3.892 ** | 0.382 | 4.274 |
| UNEMP | -6.577 (1.49) *** | -7.500 *** | -3.725 | -11.225 ** | -11.184 (2.55) *** | -3.626 | -5.147 | -8.773 * |
| Urbanization economies | | | | | | | | |
| UNRELE | 0.125 (0.17) | 0.058 | -0.083 | -0.025 | 0.262 (0.29) | 0.033 | 0.220 | 0.253 |
| RELVARE | 0.486 (0.18) *** | 0.518 *** | 0.150 | 0.668 | -0.320 (0.35) | -0.555 ** | 0.516 | -0.039 |
| Intercept or Rho | | | | | | | | |
| | -1.079 (3.52) | | | 0.315 *** | -4.949 (6.12) | | | 0.059 |
| N | 124 | | | 124 | 124 | | | 124 |
| R2 | 0.431 | | | 0.518 | 0.355 | | | 0.514 |
| F | 9.48 *** | | | | 7.16 *** | | | |
| Mean VIF | 1.85 | | | | 1.67 | | | |
| Spatial diagnostics | | | | | | | | |
| Moran's I | 2.76 *** | | | | 0.78 | | | |
| LM lag | 5.12 ** | | | | 0.27 | | | |
| RLM lag | 0.57 | | | | 0.29 | | | |
| LM error | 4.82 ** | | | | 0.09 | | | |
| RLM error | 0.27 | | | | 0.10 | | | |
| SDM model test | | | | | | | | |
| LR test SAR | | | | 3.31 | | | | 23.05 ** |
| LR test SEM | | | | 2.98 | | | | 23.24 ** |

Note: Standard errors in parentheses. *** significant at 1%, ** significant at 5%, * significant at 10%

Figure 1. General characteristics of creative (CI) and cultural industries (CULT) (2006)



Source: Illustrated from the results of Sensus Ekonomi 2006, available from BPS-Statistics Indonesia



Appendix A: Categorizing creative and cultural industries

| No. | Description | KBLI (2006) | KKKP (1996) |
|--|---|--|--|
| Creative Industries | | | |
| 1 | Advertising and marketing | | |
| | Advertising service; marketing research service | 74300; 74130 | 8293 |
| 2 | Architecture and design | | |
| | Architecture consultancy service; interior design | 74210; 45404 | 8294; 5440 |
| 3 | Visual and recorded arts | | |
| | Photography service; film and video reproduction (re-recording) including by government and private; recording media and reproduction | 74940; 22302; 92111; 92112; 22130; 22301 | 9791; 9628 |
| 4 | Radio and television | | |
| | Radio and television by government and private | 92131; 92132 | 9627 |
| 5 | Performing arts | | |
| | Drama, music and other entertainment by government and private; Entertainment supporting services; impresario | 92141- 92143; 63450 | 9631; 9632 |
| 6 | Publishing | | |
| | Publishing Book, textbook, atlas, brochure, pamphlet, music books, newspaper, journal, tabloid, magazine, special publishing, and others; printing; news agency by government and private, reporter (freelance) | 22110; 22120; 22140; 22190; 22210; 92201; 92202; 92203 | 3420; 9633; 9634 |
| 7 | IT, software and computer services | | |
| | Portal services; other multimedia service; hardware and software consulting; data processing and database service | 64323; 64329; 72100; 72200; 72300; 72400 | 8230 |
| 8 | Research and development | | |
| | Research and development Science and Engineering, social sciences, humanities, business and management | 73120; 73210; 73220; 74140 | 8240; 8295 |
| Traditional Cultural Industries | | | |
| 9 | Antique market | | |
| | Antique product retails and street vendors; government and private museum | 52406; 52594; 92321; 92322 | 6256; 9629 |
| 10 | Batik and crafts | | |
| | Rug/carpet; batik; embroidery; knitted fabrics; products made of leather or artificial leather; webbing of rattan, bamboo and others; woodcut other than furniture; kitchen tools from wood, rattan and bamboo; other wood, rattan and cork that not classified in other categories; other furniture; glass furniture; products and packaging from glass; furniture from porcelain; clay and ceramic products for home use and other than brick and roof tile; marble and granite products for home and decorative; stone products for home and decorative; furniture from wood, metal; various containers from metal; gemstone; jewellery for private use made of noble and non-noble metals; music instruments; toys; hair; packaging and box from paper and carton; knitting confection, socks and others; footwear for daily use, sport, engineering and others | 17220; 17124; 17293; 17301; 19129; 20291-20294; 20299; 36109; 26121; 26129; 26124; 26201; 26321; 26324; 26501; 26503; 36101; 36102; 36104; 28994; 36911-36913; 36915; 36921; 36922; 36942; 36993; 21020; 17302-17304; 19201-19203; 19209 | 3214; 3211; 3233; 3313; 3314; 3322; 3323; 3323; 3621; 3611; 3641; 3649; 3692; 3691; 3321; 3812; 3901; 3902; 3904; 3906; 3412; 3213; 3241; 3242 |
| Fashion | | | |
| 11 | Confection from textile and its equipment; from leather; from pelt and or accessories | 18101; 18102; 18202 | 3221; 3222 |

Appendix B: Correlation tables

For Model 1A and 2A

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----|-----------|--------|-------|--------|-------|--------|--------|-------|--------|-------|--------|-------|-------|----|
| 1 | LQ_CI | 1 | | | | | | | | | | | | |
| 2 | LQ_FASH | 0.154 | 1 | | | | | | | | | | | |
| 3 | LQ_CULT | -0.140 | 0.294 | 1 | | | | | | | | | | |
| 4 | GRAD | 0.702 | 0.126 | -0.154 | 1 | | | | | | | | | |
| 5 | YOUNG | 0.310 | 0.011 | -0.220 | 0.260 | 1 | | | | | | | | |
| 6 | lnPOP | 0.269 | 0.227 | 0.245 | 0.153 | 0.062 | 1 | | | | | | | |
| 7 | LQ_SERVF | 0.629 | 0.039 | -0.330 | 0.696 | 0.319 | 0.129 | 1 | | | | | | |
| 8 | tourobj | 0.157 | 0.049 | 0.118 | 0.138 | 0.064 | 0.182 | 0.091 | 1 | | | | | |
| 9 | PPP | 0.513 | 0.195 | 0.056 | 0.532 | 0.259 | 0.379 | 0.406 | 0.108 | 1 | | | | |
| 10 | SELF_EMPL | 0.024 | 0.018 | -0.121 | 0.081 | 0.166 | -0.186 | 0.069 | -0.027 | 0.008 | 1 | | | |
| 11 | UNEMP | 0.440 | 0.048 | -0.243 | 0.512 | 0.277 | 0.151 | 0.492 | -0.018 | 0.311 | 0.257 | 1 | | |
| 12 | UNRELF | 0.323 | 0.252 | 0.271 | 0.306 | -0.085 | 0.348 | 0.184 | 0.110 | 0.483 | -0.040 | 0.077 | 1 | |
| 13 | RELVARF | 0.588 | 0.109 | -0.041 | 0.481 | 0.190 | 0.407 | 0.449 | 0.177 | 0.538 | 0.085 | 0.425 | 0.452 | 1 |

For Model 1B and 2B

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|----|-----------|--------|--------|--------|--------|-------|--------|--------|--------|--------|-------|-------|-------|----|
| 1 | LQ_CIE | 1 | | | | | | | | | | | | |
| 2 | LQ_FASHE | 0.014 | 1 | | | | | | | | | | | |
| 3 | LQ_CULTE | -0.360 | 0.049 | 1 | | | | | | | | | | |
| 4 | GRAD | 0.536 | 0.184 | -0.371 | 1 | | | | | | | | | |
| 5 | YOUNG | 0.270 | 0.289 | -0.118 | 0.465 | 1 | | | | | | | | |
| 6 | lnPOP | 0.062 | 0.180 | 0.003 | -0.191 | 0.1 | 1 | | | | | | | |
| 7 | LQ_SERVE | 0.301 | -0.097 | -0.344 | 0.306 | 0.141 | 0.070 | 1 | | | | | | |
| 8 | TOUR_OBJ | 0.034 | 0.030 | 0.020 | 0.071 | 0.132 | 0.010 | -0.065 | 1 | | | | | |
| 9 | PPP | 0.333 | 0.198 | -0.153 | 0.614 | 0.265 | -0.030 | 0.181 | -0.067 | 1 | | | | |
| 10 | SELF_EMPL | 0.012 | 0.142 | -0.086 | 0.166 | 0.268 | -0.248 | -0.053 | -0.002 | -0.033 | 1 | | | |
| 11 | UNEMP | 0.081 | 0.300 | -0.388 | 0.432 | 0.518 | 0.087 | 0.009 | -0.129 | 0.234 | 0.492 | 1 | | |
| 12 | UNRELE | 0.395 | 0.280 | -0.150 | 0.460 | 0.349 | 0.160 | 0.278 | 0.019 | 0.437 | 0.043 | 0.216 | 1 | |
| 13 | RELVARE | 0.458 | -0.084 | -0.406 | 0.424 | 0.224 | 0.098 | 0.511 | 0.242 | 0.275 | 0.140 | 0.240 | 0.447 | 1 |