Conclusion and discussion
Chapter 6

6.1. Introduction

For several decades now, the population distribution in Indonesia has been uneven. Almost half of the total population of the country live on Java island, which covers just 6.8 per cent of Indonesia’s territory. Migration is an important demographic factor in the redistribution of the population. Several studies on interregional migration in Indonesia have demonstrated the increasing importance of population mobility in Indonesia (e.g., Alatas, 1993 and Rogers et al., 2004). But apart from these studies, there has been relatively little research on migration flows between metropolitan and non-metropolitan areas or between metropolitan areas. Moreover, very few of the existing studies on this topic used multiple approaches.

The objective of this thesis was to contribute to our understanding of how interregional migration is related to macro factors, as well as to micro factors. More specifically, the general research question was as follows: What are the dynamics of interregional migration in Indonesia in the specific setting of metropolitan and non-metropolitan areas? This general research question was translated into specific research questions that were addressed in four empirical chapters. By working with both individual-level survey data and regional-level economic development indicators, we were able to incorporate macro-level, micro-level, as well as micro-macro viewpoints into this thesis. We then unpacked the general research question into sub-questions, and answered these sub-questions in four chapters.

Chapter 2:

a. Where do the main flows of migrants in Indonesia come from and what are their destinations?

b. What phase of population redistribution is Indonesia currently in based on observed migration patterns?

c. To what extent can patterns of regional concentration of migration flows be detected based on a set of origin-destination-regional flows?

Chapter 3:

d. To what extent are migration flows in Indonesia directed towards the more developed regions?

e. To what extent do macro determinants explain the interregional migration flows in Indonesia?

Chapter 4:

f. To what extent does the likelihood of undertaking certain types of migration vary by an individual’s position in the labour market and in the family life course?
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Chapter 5:

g. How are interregional migration patterns in Indonesia likely to develop, and what are the likely consequences of these developments for the regional population dynamics based on the recent historical trends in interregional migration?

h. How are these patterns likely to differ according to different thresholds of population density?

To answer these questions, we used data from two population censuses (Population Census 2000 and 2010) and one intercensal survey (Intercensal Survey 2005) conducted by BPS-Statistics Indonesia, various statistical methods, and an agent-based modelling approach.

6.2. Summary of the findings

The study in Chapter 2 investigated interregional migration in Indonesia by distinguishing between metropolitan and non-metropolitan regions in a population redistribution context. Thus, the answer to the first question in Chapter 2, which asks where the main flows of migrants in Indonesia come from and what their destinations are, is that Java is the primary origin, and also the main destination. In some regions, migration propensities have been steadily increasing: namely, Jakarta, Bodetabek, Bandung Raya, Rest of West Java and Banten (RoWJB), Kedungsepur, Rest of Central Java and Yogyakarta (RoCJY), Gerbangkertosusila, Rest of East Java (RoEJ), and Sulawesi. Regarding the second question posed in Chapter 2, which asks what phase of population redistribution Indonesia is currently in, the findings indicate that three types of migration related to three phases of population redistribution are discernible in Indonesia. These phases are urbanisation (traditional urbanisation and over-urbanisation), suburbanisation, and metropolitan-to-non-metropolitan migration. In general, Indonesia is currently in a phase of over-urbanisation. Indications of suburbanisation and metropolitan-to-non-metropolitan migration are still weak. In response to the question about whether patterns of regional concentration can be detected based on a set of origin-destination-regional flows, the results show strong indications of concentration (traditional urbanisation and over-urbanisation) in most metropolitan regions (Jakarta, Bandung Raya, Kedungsepur, Gerbangkertosusila and Mebidangro), but also weak indications of deconcentration (suburbanisation and metropolitan to non-metropolitan migration) in other areas (Jakarta, Bodetabek, and Bandung Raya).

The findings presented in Chapter 3 show a positive and significant effect
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of GDP per capita at the destination, which indicates that migration was directed towards more developed regions. These results answer the question of *to what extent migration flows in Indonesia are directed towards the more developed regions*, and confirm Long’s thesis that population redistribution has a positive relationship with economic development.

With regard to the question of *to what extent common migration determinants explain the interregional migration flows in Indonesia*, the findings in Chapter 3 are in line with the classical gravity model; that is, they show that the population size of the destination had a positive effect on migration, and that the distance was negatively related to the size of migration flows. However, unlike previous findings on inter-provincial migration in Indonesia (Van Lottum and Marks 2012), our descriptive results show indications that the friction of distance has weakened.

There are four determinants of migration that have rarely been considered for the case of Indonesia: namely, the percentage of agriculture workers, the percentage of highly educated workers, the contiguity of regions, and migrant stock. These four determinants were explored in Chapter 3. The share of agriculture workers, which can be used in addition to GDP as a proxy for economic development, was shown to have mostly insignificant effects on migration both at the origin and at the destination, while the signs of the coefficients for this variable were found to be mostly negative at the origin and positive at the destination. The findings on the effect of education on migration were in line with the theoretical expectation that individuals tend to migrate to regions with high levels of educational attainment. Migrant stock, which can be used as a proxy for social network size, was shown to have a strong positive effect on interregional migration in Indonesia. As the inclusion of the migrant stock variable in the model reduced the effects of distance and contiguity between regions (proxies for the costs of moving), it may be assumed that social networks had a positive impact on migration and the cumulative causation of migration.

The aim of the study in Chapter 4 was to investigate to what extent the life course characteristics of an individual were associated with different types of migration in the Indonesian context. The findings indicated that for out-migration from Jakarta to other metro areas, from non-metro areas to Jakarta, and from non-metro areas to other metro areas, the propensity to migrate reached a peak at ages 15-22; while for most other types of migration, the propensity to migrate reached a peak at ages 23-29. After these ages, the propensity to migrate declined up to retirement age, or to ages 55-69. An increased likelihood of migrating was also observed among people in the oldest age group (70+) for some types of migration: namely, out-migration from Jakarta to metro areas within commuting distance and to other metro areas,
migration from other metro areas to other metro areas, and migration from other metro areas to non-metro areas. An exception to this general age pattern was found for out-migration flows from Jakarta to the nearby metro area: this type of migration was shown to be just as common at ages 30-54 as it is at ages 23-29. These findings indicate that young adults were the most mobile category, but that migration from Jakarta to nearby metro areas was common among older adults as well. The results also suggest that people who were beyond the age of labour market entry were more likely to move short than long distances. The higher migration propensities among the oldest age group were likely related to a desire to move to a more comfortable place that offers a better living environment, or to a place where more care is available.

The findings also showed that men and women differed somewhat in their propensities to migrate. Males were less likely than females to migrate from other metro areas to Jakarta, from non-metro areas to Jakarta, and to other metro areas. However, males were more likely than females to migrate from Jakarta to other metro areas, and to migrate to non-metro areas from all origins. A positive effect of education on migration was found; that is, the probability of migration increased with the level of education. The findings on the effects of labour market participation status on migration were mixed, and showed different patterns for each migration type. There were some indications that people working in the formal sector were more likely to move to areas where they could improve their well-being or their skills; that is, to more developed areas.

The results further indicated that individuals who migrated for marriage were especially likely to choose an area that was affordable, but that had a metro ambience or was close to Jakarta. Compared to married people, divorced people were more likely to move to non-metro areas, and widowed people were more likely to move to another metro area within commuting distance, or to a non-metro area. People with dependent children who were living in Jakarta were likely to migrate to a metro area within commuting distance; whereas people with dependent children who were living in another metro area were likely to migrate to a similar area (metro to metro migration). However, people with dependent children who were living in a non-metro area were likely to migrate to a metro area (non-metro to metro migration).

The flexibility of ABMS in modelling the non-linearity in migration processes is a major reason why we chose ABMS as the modelling strategy. Furthermore, compared to the conventional projection method, the use of ABMS allowed us to account jointly for both macro factors and micro factors. This combination of micro and macro factors (called the bottom-up approach) enabled us to model the individual's interactions with other individuals at the micro level, as well as the
individual’s interaction with his or her environment, which emerged in a macro pattern of origin-destination migration flows. In the three empirical chapters of this thesis (Chapters 2, 3, and 4), we explained the dynamics of interregional migration in Indonesia for the 2000-2010 period using a range of modelling approaches. In these chapters, we showed that interregional migration in Indonesia has not been a linear process, but has instead been characterised by different phases that were triggered by changing circumstances, and the reactions of migrants to these circumstances. In Chapter 5, we presented an agent-based model based on combined information from Chapters 2, 3, and 4. The aim of the model was to replicate interregional migration in Indonesia in the 2000-2010 period, and to project the interregional migration pattern in the 2015-2035 period.

We have demonstrated that the model describes the observed migration flows in the 2000-2010 period quite well. Specifically, the model can be used to predict migration rates and detailed origin and destination pairs of flows over time. Thus, an agent-based model approach can be used as an alternative to the conventional projection method for predicting migration flows, including in the case of Indonesia.

The simulations showed that up to 2035, the dynamics of migration lead to urbanisation and deconcentration processes; i.e., to suburbanisation and metropolitan to non-metropolitan migration. When we look at individual responses to population density, we see that the lower the tolerance for population density is, the faster the process of suburbanisation is for Jakarta, Bandung Raya and Mebidangro. The corresponding regions for Jakarta (Bodetabek) and Mebidangro (Rest of Sumatera) will continue to experience rising levels of in-migration from Jakarta and Mebidangro. In contrast, Kedungsepur and Gerbangkertosusila both profit from the negative externalities in the largest metropolitan areas (Jakarta and Mebidangro): the lower the tolerance for population density is, the faster the process of urbanisation is in these two metropolitan areas.

Compared to the official population projection, the inclusion of population density in the projection resulted in a much stronger projected slowdown of growth of the largest metropolitan regions and a much stronger redistribution to other areas. While Jakarta, Bandung Raya, and Mebidangro are projected to decline; Bodetabek, Kedungsepur, and Gerbangkertosusilo are projected to grow. Moreover, non-metropolitan areas outside of Java are projected to grow, while non-metropolitan areas in Java are projected to decline. The projected pattern in 2035 shows that Sumatera (Mebidangro and Rest of Sumatera) is becoming the other main destination for migration, after Java. These findings strongly suggest that there is a growing metropolitan-to-non-metropolitan movement in Indonesia,
 whereby the metropolitan areas are sending migrants to all destinations, while the non-metropolitan areas are receiving migrants from all origins.

6.3. Discussion of the findings

Levels of migration

The existing literature on internal migration is overwhelmingly focused on developed countries, such as Europe, the United States, and Australia. The scarcity of studies for Indonesia may be partly attributable to the relatively low migration intensities in this country. As Titus (1978) noted, the issue of internal migration in Indonesia has been dismissed as relatively unimportant in quantitative demographic studies. A study that compared the aggregate crude migration intensities (ACMI) from 96 countries (Bell et al., 2015) and another study that compared the crude migration intensities (CMI) from 70 countries (Bell & Charles-Edwards, 2013) both concluded that New Zealand, the United States, Australia, and Canada are among the most mobile countries. Bell et al. (2015) found that the country with the highest ACMI for the 2000-2010 period was New Zealand, at 55 per cent; meaning that 55 out of 100 New Zealanders changed their place of residence over a five-year interval. The results also showed that for the same period, India had the lowest ACMI, at five per cent; while Indonesia had an ACMI of 11 per cent. Looking at the 1999-2000 period, Bell and Charles-Edwards (2013) concluded that Australia was among the most mobile countries, while Indonesia was among the least mobile countries. However, Bell and Charles-Edwards (2013) only provided cross-country comparisons of internal migration, and did not investigate the regional variations within a country. In Chapter 2, we presented a comparison of internal migration rates in Indonesia that shows that for the 2000-2010 period, Jakarta and Mebidangro were among the most mobile regions, while Rest of Indonesia was among the least mobile regions.

Trends in migration and secular rootedness

For the US, Cooke (2011, 2013) showed that the trends in annual internal migration rates for the 1948-2009 period form a quadratic trend, with an increasing trend up to 1968 and a decreasing trend from 1968 onwards, and 2009 having the lowest migration rate in the study period. These findings are in line with those of Bell and Charles-Edwards (2013), who found that in the US, the five-year CMI decreased from 9.6 per cent in 1990 to 8.9 per cent in 2000. Bell and Charles-Edwards (2013) showed that the lifetime CMI in the US was unchanged between 2000 and 2010, at 31.6 per cent. In Indonesia, by contrast, internal migration has been increasing. For the 1971-1990 period, Alatas (1993) and Firman (1994) found that levels of internal
migration were increasing in Indonesia. In addition, Bell and Charles-Edwards (2013) showed that between 2000 and 2010, the lifetime CMI for Indonesia increased from 8.4 per cent to 12.9 per cent; while the five-year CMI for Indonesia increased from 2.2 per cent to 2.4 per cent. In line with the results of Bell and Charles-Edward (2013), the findings in Chapters 2 and 3 showed that internal migration was increasing in Indonesia in the 2000-2010 period, and that the distance travelled was also increasing; i.e., the internal migration flows in Indonesia became more spatially dispersed over time, as migrants increasingly moved between all possible origins and destinations. These findings indicate that internal migration has been decreasing in the most mobile countries, such as the US; but has been increasing in Indonesia.

Cooke (2011) observed that alongside economic and demographic factors, the rise of secular rootedness has been an important factor in the decrease in levels of internal migration in the US. The study showed that 20 per cent of the decline in internal migration in the US in the 1999-2009 period was related to the decline in migration behaviour in the US population. To our knowledge, no previous study has decomposed for Indonesia the relative contributions of economic factors, demographic change factors, and migration behaviour factors to the increase in internal migration levels. Instead, most previous migration studies for Indonesia (e.g., Darmawan & Chotib, 2007; Dohar, 1999; Firman, 1994; Titus, 1978; Van Lottum & Marks, 2012) have shown that migration in Indonesia has been largely in response to inequalities in regional development. The findings presented in Chapters 2, 3, and 5 are in line with these previous results. Furthermore, the findings outlined in Chapter 2, which show that movement towards the metropolitan areas is growing, indicate that migration in Indonesia has indeed been mainly in response to inequalities in regional development.

Although Rogers et al. (2004) have observed that certain tribes in Indonesia are well-known for their high mobility levels – e.g., the Minangkabau and the Batak in Sumatra, the Bugis and the Makassarese in Sulawesi, the Banjarese in Kalimantan, and the Madurese in Java – the evidence suggests that, in general, Indonesians are much less mobile than people in the developed world. Thus, unlike in the developed countries, where migration is seen as a normal event in the life of an individual; in Indonesia migration is not a widely accepted cultural phenomenon, but instead occurs primarily in response to external factors. In other words, Indonesians seem to be more rooted in their homes and communities than people in the developed world.

Migration and population redistribution phases

In the 1970s, Titus (1978) attributed the low rates of population mobility in
Indonesia to the country’s phase in the mobility transition model: i.e., at that time, Indonesia was in the early phase of the transition away from a pattern of migration to agrarian frontiers, and towards a pattern of rural to urban migration. The social and regional inequalities in Indonesia were also shown to have influenced the volume, direction, and composition of internal migration in Indonesia (Titus, 1978).

In the 2000s, Indonesia entered the late transitional society phase of the mobility transition, in which traditional urbanisation is dominant, and the largest cities are the primary destination of migration. At the regional level, there have been variations in levels of population mobility, as some regions are already in the most advanced phase of the mobility transition, while others are still in the earliest phase (Rogers et al., 2004). Some studies (e.g., Alatas, 1993; Firman, 1994; Rogers et al., 2003) have found indications of both increasing urbanisation and increasing suburbanisation.

Although most of the migration studies that documented the concentration versus de-concentration dichotomy were focused on the developed countries (Kontuly & Geyer, 2003), this phenomenon has also been observed in Indonesia. Previous studies (e.g., Rogers et al., 2004) and the study presented in Chapters 2 and 5 have found indications of population concentration (in the form of traditional urbanisation and over-urbanisation), as well as some signs of population deconcentration in Indonesia for the 2000-2010 period.

According to Long (1985), the phase of over-urbanisation occurs when a society has good links to technology and international trade, but has a limited infrastructure of transportation networks and commercial organisations. The phase of over-urbanisation has already occurred in Jakarta, which currently has several forms of public transport and reasonably high levels of connectivity. Increasing connectivity between regions could reduce the physical costs of migration, and could reduce the effects of distance on migration (Chapter 2). Therefore, it could be argued that over-urbanisation is attributable not to the limitations of a city’s transportation networks, but rather to the advantages associated with having access to such forms of infrastructure. This finding is in line with Bell et al.’s (2015) arguments that the increasing connectivity between regions may result in higher internal migration levels, and is in contrast to Zelinsky’s (1971) argument that increasing connectivity might serve as a substitute for internal migration.

In Indonesia, there have been two main types of migration flows: namely, movement from larger metropolitan areas to smaller metropolitan areas, and vice versa (Chapters 2 and 5). These types of movement are not included in Long’s framework. Examples of migration flows from smaller metropolitan areas to larger metropolitan areas include migration from Mebidangro to Jakarta, migration from
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Bandung Raya to Bodetabek, and migration from Gerbangkertosusila to Jakarta. Examples of migration flows from larger metropolitan areas to smaller metropolitan areas include migration from Jakarta to Mebidangro and migration from Jakarta to Gerbangkertosusila. While the latter type of migration flow could be categorised as a trend towards the deconcentration of large metropolitan areas, it also results in increasing numbers of people in small metropolitan areas. Thus, the increasing urbanisation rates among small metropolitan areas is attributable not only to the movement of individuals from non-metropolitan areas to small metropolitan areas, but also to inter-metropolitan movements. The deconcentration of Jakarta results in a concentration of population in other metropolitan areas.

Migration types and individual characteristics

For the 2000-2010 period in Indonesia, there were some indications of population concentration (in the form of traditional urbanisation and over-urbanisation), as well as some signs of population deconcentration. According to Champion (1999, 2001), urbanisation is an increase in the proportion of people living in urban areas resulting from a population concentration process. Conversely, suburbanisation and counter-urbanisation are caused by a population deconcentration process. The distinction between suburbanisation (local urban decentralisation) and counter-urbanisation (urban deconcentration) lies in the distance between the urban core and another area. Suburbanisation is a deconcentration process of the urban core that causes increasing concentration in the urban ring (short distance), while counter-urbanisation is a deconcentration process of the urban core in which people move beyond the urban ring (long distance) (Champion, 1999; Champion, 2001). For Indonesia, an example of urbanisation is migration from Rest of Indonesia to Jakarta; an example of suburbanisation is migration from Jakarta to Bodetabek; and an example of counter-urbanisation is migration from Jakarta to Rest of Indonesia.

The type of migration an individual undertakes varies depending on his or her characteristics and motives. According to Champion (1999), urbanisation can occur when young adults – and young women in particular – move to a city to get a better education or a better job. Champion (1999) argued that women are more likely than men to migrate because men are able to find work as labourers in the rural sector, whereas women tend to find more job opportunities in cities, including as domestic workers and in the service and manufacturing sectors. Our findings in Chapter 4 are in line with this description of the urbanisation process in Champion (1999): i.e., that women are more likely than men to migrate to more developed areas, and
that there are some indications that people are most likely to migrate to get a better education or a better job.

The characteristics of the deconcentration process of a region (suburbanisation and counter-urbanisation) also vary. Suburbanisation occurs primarily among younger middle-class families who want to maintain their proximity to the core of their city of origin (Butler, 2007; Champion, 1999). The trend towards counter-urbanisation, or the movement of middle-class people from urban areas to the countryside in search of a rural idyll, has been cited as an explanation for the population changes in the countryside in Western societies (e.g., Bijker & Haartsen, 2012).

However, the definition of “rural” is likely to be different in those Western societies than it is in Indonesia. According to the OECD, the Netherlands is the most urbanised of the OECD countries, and has no regions that are predominantly rural (OECD 2010). However, using the definition of rural based on the terminology employed by Statistics Netherlands and on Dutch perceptions, Bijker and Haartsen (2012) distinguished between urban and rural areas for their study on urban-rural migration in the Netherlands. They examined urban to rural migration by distinguishing between popular and less popular rural destinations. They concluded that migration from urban areas to popular rural areas is most likely to be undertaken by people with high levels of education who want to maintain their proximity to the central areas of the Netherlands, which provide good access to the labour market. They also found that those who move to less popular rural areas are most likely to do so to maintain proximity to family and friends.

The findings in Chapter 4 indicate that differences in individual characteristics are related to differences in the types of migration undertaken. Migration from Jakarta to metropolitan areas within a commuting distance, to other metropolitan areas, and to non-metropolitan areas are deconcentration processes in the form of suburbanisation or counter-urbanisation.

For Indonesia, migration from Jakarta to Bodetabek — or migration from an urban to a popular rural area, as defined for the Dutch context by Bijker and Haartsen (2012) — is typically undertaken by highly educated young adults in search of a home in an affordable area that has metro ambience or is close to Jakarta. Thus, this pattern seems to fit the suburbanisation trends observed in the Western societies. Migration from Jakarta to other metro areas and to non-metro areas — or from urban to less popular rural areas, as defined for the Dutch context — is undertaken primarily by highly educated young adult males looking to improve their well-being by finding a more suitable job in another metro area, or in a non-metro area.
6.4. Discussion of data, methods, and opportunities for future research

Three main datasets were used in this thesis: namely, the Population Census 2000, the Population Census 2010, and the Intercensal Survey 2005. These datasets provide transition (status) data that reflect interregional migration streams during the 1995-2000, 2000-2005, and 2005-2010 periods. Among the drawbacks of these data are that they are cross-sectional, and recorded individuals’ characteristics after migration. These issues could make it difficult to interpret the regression results in Chapter 4 as causal. However, because our sample size was larger than the use of longitudinal data (e.g., the Indonesian Family Life Survey/IFLS data) would permit, we were able to distinguish between nine types of migration. This in turn provided us with insights into the age distribution of each migration type, and into how an individual’s characteristics were related to different types of migration (Chapter 4).

On the other hand, if we had used IFLS data, we would have been able to analyse an individual’s characteristics before migration, as the IFLS includes records of individuals’ migration histories and their information before and after migration. The IFLS data also allow for a longer period of observation. The IFLS started in 1993, and is still ongoing, with the latest wave of data collected in 2014 (Strauss et al., 2016). However, because the number of observations recorded in the IFLS was limited (around 50,000 individuals in around 16,000 households covered in 2014), the survey sample was not large enough to allow us to study migration while distinguishing between types of origins and types of destinations. Thus, the IFLS data are not sufficient for analysing interregional migration flows in a particular regional setting, as we did in this thesis. Compared to the use of data from the 2005 intercensal survey, which covers 1.1 million individuals in around 250,000 households, the use of IFLS data would have resulted in larger sampling errors; especially since in the IFLS data migration observed only rarely. The IFLS data are thus more suitable for analyses of the general question of “who” migrates, but are not sufficient for detailed origin-destination analyses. The inclusion of questions related to individuals’ characteristics before migration in the intercensal survey – and, possibly, in censuses – would benefit further migration research, and would help us develop a more comprehensive understanding of interregional migration in Indonesia.

The definition of metropolitan areas and non-metropolitan areas used in this thesis was based in part on the definition of metropolitan regions in Indonesian Government Regulation No. 26 (2008), and in part on the metropolitan agglomeration sizes published by the World Bank (2012). Although most of the metropolitan areas were covered in this thesis, it would be useful to define metropolitan areas by, for example, applying the agglomeration index proposed by Uchida and Nelson (2010).
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They suggested using three criteria to determine the agglomeration index: namely, population density, the presence of an urban core, and the connectivity to the urban core. In contrast to the definition of metropolitan areas used in this thesis, the World Bank (2012) employed the modified agglomeration index to identify 44 metropolitan regions consisting of 23 single cities and 21 sets of several districts/municipalities. The use of such self-defined metropolitan and non-metropolitan regions would provide us with a more detailed explanation of the population redistribution phases across metropolitan and non-metropolitan areas in Indonesia.

The time span for the population redistribution framework presented in Chapter 2 was relatively short, whereas while Long’s research focused on trends over longer time spans. Extending these time spans could provide a clearer picture of the population redistribution in Indonesia.

In Chapter 3, we showed that gravity models are useful for explaining migration in Indonesia, both in theoretical and in methodological terms. A significant advantage of using gravity models (and other models that focus on macro-level migration flows) is that they allow for the inclusion of the characteristics of the regions of destination, as well as of the regions of origin. Some of these variables are currently under-studied as factors that could determine migration in Indonesia, and particularly socio-cultural variables related to language, ethnicity, and culture. The differences in language, ethnicity, and culture can be used as proxies for non-physical migration costs, and could therefore shape migration patterns in Indonesia.

There are some remaining questions related to these variables. For example, are there any particular destinations that are especially favoured by a specific ethnic group? Does the diversity of Jakarta in terms of ethnicity and languages make Jakarta the most attractive destination for migrants? To what extent do differences in racial composition shape migration pattern in Indonesia?

Chapter 4 showed how different types of migration vary with different individual characteristics. The idea of migrant selectivity was assessed in this chapter. However, it was also necessary to explore the extent to which migrants differ from those who were left behind. For example, how much more or less educated are migrants compared to non-migrants? Moreover, while the triggering effect of certain life events on migration has rarely been investigated for Indonesia, the availability of IFLS data allowed us to examine this effect using event-history analysis, and to gain new insights into how particular life events trigger interregional migration in Indonesia.

We attempted to explain the non-linearity in migration processes in Chapter 5. The use of ABMS allowed us to model this non-linearity, which was not possible using the conventional projection methodology. The key driver of the
population change modelled in Chapter 5 was population density, which will lead to city agglomeration. This agglomeration will in turn attract population, which finally results in urbanisation. At a later stage, when the city’s population density has reached very high levels, the city will become less attractive, and a process of deconcentration will occur. However, while evidence of non-linearity has been provided, such as the inverted U-shape for in-migration; the use of other macroeconomic variables would provide stronger evidence for this non-linearity. For example, the key variable for population change used in Chapter 5 was population density. Another endogenous variable could be added, such as GDP, and this variable could be allowed to interact with the growth in the population. Moreover, the use of a provincial scale for modelling in-migration pattern that resulted in the inverted U-shape (Chapter 5) showed that Jakarta was the only region that was plotted on the right side of the inverted U-plot, while all of the other regions were plotted on the other leg. Therefore, the existing evidence of the nonlinearity of the relationship between density and population growth could be further strengthened by looking at smaller geographical scales, and with longer time series for individual regions.

Another opportunity related to internal migration research in Indonesia is the potential decomposition of the factors that explain the trend towards increasing migration in Indonesia. The decomposition of each factor, as in, for example, Cooke (2011), could be performed in order to explain the relative contributions to increases in migration of economic factors, demographic changes, and migration behaviour. Furthermore, the efficiency of migration as a force for redistributing the population around the system remains understudied. These matters await further research.

6.5. Policy implications

Unlike in China, which imposes restrictions on rural-urban migration (the hukou system), there are no restrictions on internal migration in Indonesia. At any time, Indonesians can move from any point of origin to any destination within the boundaries of the country, with no limits set by the government. As the world’s largest archipelago, Indonesia consists of around 17,000 islands, of which around 6,000 are inhabited (NIA, 2004). Thus, each region has multiple points of entry.

In support of its population redistribution policy, the government of Indonesia has introduced transmigration (transmigrasi), a program of the government of Indonesia aimed at encouraging people to move from inner Indonesia (Java, Madura, Bali, and Lombok) to outer Indonesia (Sumatera, Kalimantan, Sulawesi and Papua) (Fearnside, 1997). The transmigration program represents a continuation of Dutch’s government policy of kolonisatie, which was started in 1905. After Indonesia became independent, the Indonesian government under President Soekarno reinstated the
program in 1949, with the goal of moving 48 million people from Java to outside Java within 35 years (Fernside, 1997; Otten, 1986). However, this program has so far done little to relieve the population pressure in Java, even as its implementation has been associated with substantial environmental, social, and financial costs (Fernside, 1997; Otten, 1986; Van Lottum & Marks, 2012). Between 1905 and 2010, the transmigration program succeeded in relocating just 7.9 million people; far short of the goal of 48 million relocations.

As long as the current economic and social inequalities between regions still exist, restricting or regulating the movement of people will likely have little effect on population migration in Indonesia. Thus, the larger goal should be to reduce the disparities between the regions, and particularly the inequalities between Java and Outer-Java, or between the western and the eastern parts of Indonesia. The government of Indonesia has implemented a policy aimed at reducing these disparities. Since 2010, the focus of the transmigration program has been not on maximising the number of people reallocated, but on improving the infrastructure development of the transmigration regions, and on reducing regional inequalities (MOLT, 2010).

Some of the findings reported in this thesis also suggest that interregional migration in Indonesia is predominantly a response to pull rather than to push forces; and that over time, push forces are decreasing while pull factors are increasing. The findings presented in Chapter 4 indicate that individual characteristics are associated with different migration outcomes. The results also show that while the decision to migrate is influenced by educational and job opportunities and environmental factors, how these factors affect migration decisions depends on the type of migration. These findings suggest that to attract migration, it is necessary to create new economic centres as well as education centres (amenities) for better education and better job opportunities, not only in Java but also outside Java. The development of infrastructure in Outer-Java and the creation of new core regions will likely attract migrants to Outer-Java. Efforts to develop areas of Outer-Java should include – but should not be limited to – job creation and increased access to education. Batam is an example of a success story of developing new industrial centres outside Java. For increasing the access to education, a strategy that could be develop is to build new educational centres outside Java which affiliate with education facilities in Java. The development of these new educational centres could increase the diversity in educational choices. An example could be creating collaborations between universities in Java and universities outside Java.
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