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Subjective Well-Being in Indonesia: Evidence of Rural-Urban Differences in Life Satisfaction

by

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ABSTRACT - This thesis uses data from the Indonesian Family Life Survey to assess to test for differences in life satisfaction between rural and urban inhabitants. Individual level data including various demographic and socio-economic variables is used to test for the relationship. Results suggest that life satisfaction in urban Indonesian areas is higher than that in rural regions. Furthermore, satisfaction in multiple satisfaction domains is tested as a predictor of overall life satisfaction. The results confirm this notion. However, differences in the effect of satisfaction domains on life satisfaction does not differ significantly between rural and urban dwellers.

KEY WORDS – Life satisfaction, urbanization, subjective-well being

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1. Introduction

While cities and urban areas have long been centers of growth and development, in the 21st century urbanization seems to approach a new quality (Glaeser et al., 1992). The United Nations project an increase in the share of urban populations from 55% in 2018 to 68% in 2068, while the OECD has titled its most recent publication on the issue “The Metropolitan Century”, outlining positive growth effects of the trend (OECD, 2015; UN Economic and Social Affairs, 2018). The worldwide rural population is projected to peak in the next decade, while 90 percent of urban growth will occur in Africa and Asia according to forecasts (UN Economic and Social Affairs 2018). However, the United Nations already draw important policy implications from the aforementioned developments: sustainable, balanced and equitable urban growth as well as management of spatial distribution and internal migration are deemed necessary (UN Economic and Social Affairs 2018). It is questionable however, whether conventional (economic) measures are sufficient to assess the success of policy making.

The motivation for this analysis is twofold. First, the research is situated at the nexus between urbanization, economic growth and the well-being of urban populations. On one hand, various studies find that cities act as “motors of growth” by stimulating productivity increases, certainly in developed nations (OECD, 2015: 15). Glaeser and Xiong (2017) also find positive productivity effects for the developing world, with especially pronounced effects in Asia. However, it is questionable whether the process of urbanization as a means to achieve economic growth comes at no cost. After all, economic development necessitates proper urban administration and may lead to adverse effects for the native population, as e.g. displacement may occur (Goldblum and Wang, 2000). Furthermore, land prices and rents as well as lacking infrastructure provision may adversely affect the well-being of rural-urban migrants (Collier and Venables, 2017). Second, differential effects of urbanization on well-being are found by various authors depending on a country’s level of development. Easterlin et al. (2011) find that rural life satisfaction surpasses urban life satisfaction at low levels of development, while the relationship is reversed with increasing economic development. The authors explain these relationships with initially large differentials in education and income, while adverse factors such as pollution and congestion become more important at later stages and a more general alignment of living standards between rural and urban areas occurs.

While it seems relatively uncontested that cities act as motors of growth for their respective countries, it is also relevant and interesting to assess the impact of urbanization and urban life on the well-being of its inhabitants. Although labor productivity and economic indicators are favorable in urban areas and seem to warrant policies geared towards increasing urbanization, the policy issue of a sustainable process both for the environment and the inhabitants has to be included in the analysis (Collier and Venables, 2017). In addition, new trends in city growth present especially in developing countries will necessitate new ideas and policy prescriptions in order to strike a sustainable balance between goals for economic growth and sufficient living and working standards for the inhabitants. Collier and Venables (2017) assert that cities are policy-intensive if the benefits of increased labor productivity are to be felt by its inhabitants. While nominal wages may be higher in large cities compared to rural regions, these benefits

may be eaten up by high urban costs, due to for example limited space and thus higher living cost.

With the introduction of measures of subjective well-being (SWB)¹, research now entails the ability for a more holistic picture of development. While economic development can be seen as the prime goal of lower income nations, the well-being of the population is becoming an increasingly important topic. The results of various studies seem to vary much with the regional context and the level of economic development the country at hand has attained. Therefore, this study will add to the existing literature by supplying a further analysis of the phenomenon with recent data, enhancing the knowledge of the subject in a low-middle income country in South-East Asia.

This thesis addresses the issue of well-being in large cities and urban areas with a focus on the emerging economy of Indonesia. Acknowledging that urbanization is a phenomenon that will likely not be turned back, and acknowledging that the process has its merit in terms of growth, this paper will aim to incorporate a more holistic perspective to the existing research. Therefore, I will address the following research question:

To what extent does the level of urbanization affect individuals' life satisfaction in the emerging economy of Indonesia, and which domains of life satisfaction most affect life satisfaction differentials between urban and rural dwellers?

Data from the Indonesian Family Life Survey is used to answer this research question (Strauss et al., 2016). Spanning many aspects of individual and household life in Indonesia, the household survey provides high-quality data on subjective well-being. Furthermore, it offers a range of socio-economic and demographic variables that support the robustness of the analysis. The dependent variable of interest, life satisfaction, is measured on a Likert scale and is thus treated as ordinal. Since conventional ordinary least squares estimations require cardinal dependent variables, Ordered Probit Models will instead be used in this thesis. However, the robustness of results will be assessed using other empirical Models, namely OLS and Ordered Logit.

An interesting aspect of the research becomes obvious when looking at the number of general-purpose household surveys in South-East Asia. While some multi-country surveys such as the Demographic and Health Survey Program or the UNICEF Multi-Indicator Cluster Surveys exist, they are usually confined to a specific area of interest, in the aforementioned cases children and women (ICF, 2019). In addition, surveys like the Gallup World Poll collect data on well-being as well as demographic information, but are best used when comparing countries, since the sample sizes in individual countries are relatively small (Gallup Inc., 2019). By using the Indonesian Family Life Survey, it becomes possible to analyze one specific country of South-East Asia, of course at the expense of international comparability, but allowing for a deep scrutiny of country-specific circumstances, thus adding a richer context to the analysis.

¹ The terms subjective well-being and life satisfaction will be used interchangeably for the remainder of this thesis. If remarks on happiness (another component of subjective well-being) are made, this will be clearly mentioned.

Contrary to findings from past literature, results show that urban dwellers in Indonesia are more satisfied with life than those in rural areas. Since the results of most other (control) variables confirmed previous findings, it is likely that the unexpected results are also valid, as has also been shown in the robustness tests. Concerning the differential effect of domain satisfaction between urban and rural individuals, the results were partly confirmed. While significant differentials have been found for (future) economic status and its effect on life satisfaction, this has not been the case for the domains of health, food consumption and family life. The research at hand contributed to the existing literature in multiple ways. First, the empirical validity of the urbanization – life satisfaction relationship is once more confirmed, some aspects of the results offering a new perspective on previous findings. Second, the concept of domain satisfaction and its effect on life satisfaction is applied in the context of urbanization, adding a deeper layer of analysis to previously uncovered relationships. Third, a somewhat novel methodological approach is tested based on the small number of available studies in the field. Finally, the study demonstrates the usefulness of the IFLS household survey for urbanization and well-being research, providing implications for future research in the relatively understudied South-East Asian region, which however is one of the strongholds of worldwide urbanization trends.

The remainder of the paper will proceed as follows. First, the related literature as well as previous studies on similar topics will be assessed. Next, the case of Indonesian urbanization and development will be presented. Third, the data used and the empirical strategy will be explained, followed by the empirical results. Finally, the results will be discussed in a broader context, offering insights into the limitations, contribution of the study and avenues for future research.

2. Related Literature

2.1 Urbanization in developing countries

The first relevant aspect of research is the relationship between urbanization and development, or more precisely, the experiences developing countries face in their urbanization movement. Following Glaeser and Henderson (2017), Urban Economics has focused mainly on the cities of Western type and their developments following World War II. However, the authors state that policy problems are worse in poor urban areas, leading to the necessity of additional research. One primary observation is that growth in urbanization now occurs mainly in poorer countries with especially high growth rates in a few “mega cities” (Glaeser and Henderson, 2017). This development is contrary to the earlier patterns of low-income countries being predominantly rural (UN Economic and Social Affairs 2018). Nowadays, strong urban growth coupled with little policy management seems to be a new mode of economic development.

While it may be true that labor productivity rises through knowledge spillovers, development is defined more broadly as pertaining to incomes, jobs, productivity and livability within a city (Collier and Venables, 2017). The authors outline very differential experiences with

urbanization and ensuing development, stating that a mere increase of productivity must not necessarily be followed by increases in livability, but rather that well-being in cities is very dependent on policy measures such as zoning plans (Collier and Venables, 2017). What, then, is the problem with urbanization in less developed countries? First, it has to be noted that urban growth has always been policy-intensive if successful, but so far urban growth rates have not been as extreme and the states' and cities' financial resources grew with additional inhabitants. Today, metropolises like Jakarta (Indonesia), Manila (Philippines) and Lagos (Nigeria) attract millions of new inhabitants while having extremely limited resources available. Therefore, these cities are unable to offer solutions to address negative externalities for inhabitants, lack a connection between businesses that would stimulate growth, and are unable to attenuate the problem of congestion present especially in cities without public transport (Glaeser and Henderson, 2017). Furthermore, institutions are often weakly developed, especially institutions important in urban environments such as property rights. Without these enforceable rights, actors in unregulated rental markets extract high profits from those with little financial means and block a formalization of land use (Glaeser and Henderson, 2017).

Another strand of literature which is important for an assessment of well-being and urbanization focuses on the possibility that, while beneficial for growth, urbanization may lead to adverse outcomes for urban dwellers in developing nations. In a case study of Jakarta, Indonesia's most populous city, Goldblum and Wang (2000) outline some of the factors that may adversely affect well-being of a city's inhabitants. The first observation lies in the presence of a deregulated financial market within Indonesia, enabling foreign capital to be invested in manufacturing facilities and private real estate development which had previously been underdeveloped. The authors' second observation is the policy goal of metropolitan administrators to exonerate pressure from specific corridors by facilitating development of adjacent areas and providing infrastructure (Goldblum and Wang, 2000). A consequence of the dynamics outlined above is the necessity to attract workers to "fuel" industry projects, and to provide them with housing and access to the city's facilities. However, the interests of industrial and economic development and the well-being of the (new) inhabitants seems difficult to reconcile: Inhabitants of densely populated areas in the city core are pushed out to peripheral areas due to evictions and rising property prices. While suburbanization is by no means a new concept, proper management has to be carried out in order to sustain or even improve life quality for the inhabitants. Jakarta had previously followed the *Kampung Improvement Program*, leading to the upgrading of "urban villages" within the capital city. However, increasing pressure from foreign capital and the real estate market have led to the displacement of long-term inhabitants, and the urban villages have largely been replaced by more formal real estate development targeted at new target groups. In this sense, the case study of Jakarta highlights the problem of equity between the initial inhabitants and new developments that may be conducive to growth. Another factor in Jakarta's urbanization is the extension of developments beyond the urban master plan. In effect, this process leads to worse provision of infrastructure and other public goods such as education. The connection to well-being becomes clear when considering that a relocation process to peripheral zones adversely affects social networks and daily activities, which is found to be an important determinant of happiness and life satisfaction (Diener, 1984). In addition, when administrators are unable to provide specific services to the inhabitants, it would be expected that happiness and possibly life satisfaction deteriorate.

2.2 Well-Being and Urbanization

After reviewing aspects of urbanization and its effects on livability, it is time to scrutinize the existing studies on the combination of both research areas. The relevant findings and methods are presented in Table 1. As a start, one might ask how different levels of development and modern economic growth alter the relationship between urbanization and life satisfaction. Easterlin et al. (2011) analyze this relationship. Their point of departure is that at low levels of development, city life offers more amenities to its inhabitants in terms of material goods like shelter, food and clothing, and that well-being is assumed to be higher in urban areas. Additionally, average SWB may be larger since it can be assumed that those with high incomes live in urban areas, as is the case for the Indonesian sample, and therefore increase average life satisfaction. Using data from the Gallup World Survey, the authors analyze the relationship between development, urbanization and SWB for three groups of countries: Developed (mainly Western Europe and North America), Less Developed (LDC; mainly Africa, Asia and Latin America) and Transition (mainly Eastern European). Easterlin et al. (2011) find that, in the group of developed countries, rural-urban differentials in life satisfaction are small, or even point to higher life satisfaction in rural over urban areas. For the group of LDCs on the other hand, the results point to a sizeable rural-urban differential in life satisfaction, SWB being higher in urban areas. What then can explain the negative relationship between economic development and the rural-urban differential in SWB? Easterlin et al. (2011) hypothesize that with increasing development, rural occupational structures evolve more similarly to those in urban areas with higher incomes and decreasing rural-urban income differentials overall, which they confirm in their findings. Similarly, Requena (2016) finds that urban life satisfaction is larger than rural life satisfaction in less developed countries, while the relationship is reversed with increased economic development. The author concludes that differences between rural and urban living circumstances are more dichotomous in developing economies, meaning that urban environments have more to offer to its inhabitants. On the other hand, in developed countries rural-urban status should be viewed as more of a gradient. To exemplify, rural residents in developed countries are able to access most amenities that cities offer, such as proper health care and employment. Additionally, rural residents may be able to enjoy a calmer environment with less negative externalities such as congestion, in effect leading to higher life satisfaction in rural over urban areas.

Due to superior data availability, much of the research on the connection between subjective well-being and urbanization has been carried out for European and North-American regions. Analyzing European countries, Sørensen (2014) finds that inhabitants of rural municipalities with less than 5000 inhabitants expose a higher life satisfaction than those in cities with more than 100 thousand inhabitants, while the difference between persons in rural areas and those in medium-sized towns (5000 to 100 thousand inhabitants) was found to be insignificant. An interesting approach of the author was to calculate a monetary compensation in the form of additional household income which would equate self-reported life satisfaction between rural and city-urban settings. Sørensen (2014) finds that a “compensation” of 768 € would be necessary, highlighting the relatively large magnitude of the differences in subjective well-being.

TABLE 1: RELEVANT ASPECTS OF PREVIOUS RESEARCH

Author(s)	Findings	Method	SWB Measure	Urbanization Measure	Control Variables	Region
Sørensen (2014)	Rural > urban SWB. No significant differences between rural areas and small towns. Differential in SWB exists at more extreme ends of the spectrum	Ordered Logit Model	Life satisfaction, 10-point scale	3-point scale: rural areas with <5k inhabitants, towns with 5-100k inhabitants, cities with >100k inhabitants	3 income groups of European countries, age, health, marital status, employment, income, gender, number of children, education, monthly household income	EU Regions
Lenzi and Perucca (2016)	Large metropolitan areas exhibit lower life satisfaction than second-rank ones	Ordered Probit Model	Life satisfaction, 4-point scale	3 dummy variables: 1) 1 if at least 1.5 mil inhabitants, 2) 1 if between 0.3 and 1.5 mil. inhabitants, 3) 1 if below 0.3 mil. inhabitants	Gender, age, dummy for graduated, occupation, marital status, rural communities (self-perceived rural status), real per capita GDP	EU regions
Winters and Li (2017)	Life satisfaction decreases with increasing population density, life satisfaction is lower in large metropolitan areas compared to smaller ones and non-urban counties	Ordinary Least Squares	Life satisfaction, 4-point scale	Continuous variable: population density experienced by country residents; categorical: six categories of metropolitan statistical areas	Sex, ethnicity, age group, marital status, employment status, highest education, number of adults in household, ratio of minors to adults	United States
Bernini and Tampieri (2017)	Negative effect of life satisfaction on urbanization. Negative effect on satisfaction domains health, friends, spare time, environment. Positive effect on family and job satisfaction	Multilevel analysis	Life satisfaction, 11-point scale	Population size: five categories. Population density	Sex, age, children, marital status, occupational status,	Italian Regions
Chen et al. (2015)	Life satisfaction highest in medium-size city category (200-500k). Non-linear relationship between city size and life satisfaction	Ordinary Least Squares	Life satisfaction, 7-point scale	31 counties coded in 3 categories, urban population < 200k, urban population 200-500k, urban population > 500k	Age, gender, ethnicity, marital status, education, occupation, household wealth, psychological and physiological conditions (health)	China

Rukumnuaykit (2015)	Urban residents less satisfied with life than rural dwellers	Ordered Probit Model	Life satisfaction, 4-point scale	Rural-urban dummy variable, 1 if living in municipal area, 0 otherwise	Age, gender, marital status, religion, region of residence, education, income	Thailand
Easterlin et al. (2011)	Higher urban life satisfaction at low levels of development, higher rural life satisfaction at higher levels of development	Ordinary Least Squares	Life satisfaction, 10-point scale	Dummy variable for urban-rural status based on (differing) functional definitions	Occupational group, education, income	72 countries
Requena (2016)	Life satisfaction is higher in rural areas of high-income countries, while it is higher in urban areas of low-income countries, 20000 \$ cutoff between low and high-income countries	Ordinary Least Squares	Happiness, 11-point scale	5 categories from rural to urban, self-reported	Income, marital status, employment, social capital, health, personal freedom, personal values	29 Countries

A further study on EU regions by Lenzi and Perucca (2016) uses a similar approach to Sørensen (2014) with similar results in some ways. The authors differentiate urbanization first by using the NUTS2 regional classification, and then further by differentiating between rural inhabitants and dwellers within Large Urban Zones (LUZ). Their findings therefore shed light on the phenomenon of indirect urbanization: rural inhabitants are more satisfied with life, but only if they reside within a region with at least 300 thousand dwellers within LUZ, while for regions without LUZ (below 300 thousand), the coefficient of rural life satisfaction becomes negative. The rationale behind these findings is indirect urbanization, where the authors state that those living close to metropolitan areas profit from positive spillovers while not having to cope with adverse effects that city-life seems to bring with it (Lenzi and Perucca, 2016). These findings also resonate with Requena (2016), who offers a similar explanation for higher rural life satisfaction in developed nations.

For US counties, Winters and Li (2017) use a twofold approach. First, they regress population density, measured as a continuous variable, on life satisfaction on a four-point scale. They find that, with increasing population density, life satisfaction decreases. In their second approach, the authors classify counties into six categories of metropolitan or rural type, finding that life satisfaction is lower in small to large metropolitan areas, while it is higher in areas categorized as rural. When adding a set of conventional control variables, the magnitude of the coefficients decreases, but remains significant, pointing to the result that, while individual characteristics are highly influential, rural-urban differences in life satisfaction do persist.

Turning to the rather specific case of Chinese urbanization, Chen et al. (2015) first acknowledge that individual characteristics (age, sex, occupation, health) have a greater impact on subjective well-being than do external factors such as geography or living in an urban environment. Consequently, in their research the authors control for age, marital status, and household wealth to exclude individual characteristics. As their explanatory variables for SWB, Chen et al. (2015)

use characteristics of the surrounding city, city size and the route through which an individual became an urban resident, finding that these variables significantly affect well-being. Interestingly, their findings show that life satisfaction is highest in cities with 200 thousand to 500 thousand inhabitants and lower in smaller or larger cities, yielding a non-linear relationship. Further, since GDP per capita is highest in the largest cities, economic development may not be the only explanation for SWB in urban areas.

For the case of Thailand, Rukumnuaykit (2015) runs a regression analysis with the dependent variable life satisfaction, happiness, mental score and illness in the past month, life satisfaction being the relevant dependent variable for this research. Controlling for age, gender, marital status, religion, region of residence, education and income, the author uses a dummy variable to test for differences in the dependent variables between individuals in urban and in rural areas. Rukumnuaykit (2015) also makes the point that there exists a possible endogeneity bias for some of the variables. For example, while income is assumed to causally explain life satisfaction, there may also exist a feedback from life satisfaction to income. Therefore, an instrumental variables (IV) approach is used with average income for groups of occupations. The results show that those in Thailand living in urban areas are significantly less satisfied with life than those in rural areas, have a lower average mental score and are more prone to illness in the previous month, while happiness scores are not significantly different. The author finds that interpersonal resources, social interaction and support are lower in urban settings (e.g. availability of medical care). For the multivariate estimations with included control variables, the likelihood of being satisfied with life is 16% lower in urban areas (Rukumnuaykit, 2015).

So far, the literature review yields some interesting conclusions. Those studies concerned with only one country all find a negative or non-linear relationship between urbanization and subjective well-being. The country's location does not seem to matter for the empirical relationship. On the other hand, those studies analyzing multiple countries find that life satisfaction is higher in urban areas of low-income countries and higher in rural areas of high-income countries. Since much of the existing research has been concerned with rather high-income countries due to data availability, this study will contribute to solving the aforementioned research puzzle, adding results for one low-middle income country to the existing literature. In particular, this thesis aims at testing the validity of the following hypotheses:

H1: Urbanization negatively affects individuals' subjective well-being as measured by life satisfaction

H2: Individual circumstances as measured by demographic and socio-economic variables will more strongly affect life satisfaction, however the urbanization – life satisfaction relationship will persist

As a final element of this literature review, an interesting approach by Bernini and Tampieri (2017) will be outlined. Rather than just analyzing the relationship between urbanization and life satisfaction, the authors use finer data relating to different domains of subjective well-being which make up life satisfaction as a whole. Using an urbanization measure based on the number

of inhabitants as well as population density, the authors strive to find the effects on the domains of life satisfaction in economic conditions, job, family, friends, spare time, health and environment, which are assumed to be the underlying causes of satisfaction with life. They rely on an additive understanding of satisfaction domains, meaning that, given all possible satisfaction domains are measurable, they are neatly separable without cross-effects. This notion has been challenged by Rojas (2006) who questions their additive nature. However, Rojas (2006) finds no significant differences between additive and other possible relationships such as logarithmic Models. Therefore, an additive approach will be utilized in the present research. Although using a slightly different methodology, van Praag et al.'s (2003) characterization of satisfaction domains likely comes closest to what can be analyzed with data from the fifth IFLS wave. In their research, the authors use six domains, namely job, financial, housing, health, leisure and environmental satisfaction as predictors of general satisfaction with life. They find that finance, health and job satisfaction are the strongest predictors of life satisfaction followed by leisure, while housing and environmental satisfaction do not seem to be important determinants for the German sample van Praag et al. (2003) utilize.

Concerning domain satisfaction, a clear set of domains that fully explain life satisfaction has yet to be found. Cummins (2005) states that "The possible number of domains is large. If each term describing some aspect of the human condition is regarded as separate, then their number is very large indeed" (560). However, common aspects between terms can be found, enabling relatively broad domains to be established. The author suggests seven domains of satisfaction that can explain life satisfaction as a whole: material well-being, health, productivity, intimacy, safety, community, and emotional well-being. In their study on domain satisfaction in Sweden, Fugl-Meyer et al. (1991) characterize three satisfaction domains which are less specific than those in Cummins (2005), namely satisfaction derived from expressive goals, satisfaction with spare-time goals and satisfaction from performance-related goals. Finally, Requena (2016) outlines seven main determinants of subjective well-being based on previous findings, stating that income, family relationships, work, community relations, health, personal freedom and personal values most strongly impact well-being.

In a challenge to the concept of measuring satisfaction with specific domains of life, Kahnemann and Krueger (2006) argue that respondents prompted to evaluate specific domains of life are subject to a bias of feeling pressured to answer according to social norms. Therefore, the authors propose the use of the "Day Reconstruction Method", in which respondents note down their affects during the day. Since the precise tailoring of satisfaction domains is subject to debate, a few domains will be chosen that are relevant to the research question at hand. Although this method does not allow for the calculation of contributions toward life satisfaction in general (since not all domains are analyzed), it will allow to answer the differential contribution of domain satisfaction between urban and rural respondents on life satisfaction. In the data section, more light will be shed on the availability of these domains in the data set at hand. After reviewing the literature on domain satisfaction, the following hypotheses will be tested for their empirical validity:

H3: All satisfaction domains will significantly positively affect life satisfaction

H4: For urban inhabitants, the satisfaction domain concerning economic conditions will be most important, while the health domain will dominate for rural dwellers

3. Urbanization and Economic Development: The Case of Indonesia

The present research is motivated by the choice of the Asian region and the specific case of Indonesia, since worldwide trends in urbanization are exposed at this location. Indonesia clearly follows the trend of increasing urbanization, and enormous metropolitan areas such as the capital Jakarta are becoming increasingly important in global economic dynamics and will therefore continue to rise (OECD 2015). In addition, the status of Indonesia as a low-middle income country according to the World Bank Classification allows for a truly open-ended analysis following Easterlin et al. (2011): Is urbanization positively or negatively associated with subjective well-being? When viewing Figure 1 it becomes clear that Indonesia is around 15 % more urbanized than other low-middle income countries, which makes inferences for this country group as a whole difficult. However, Indonesia quite closely tracks the development of urbanization in the group of East-Asian and Pacific countries. Therefore, interesting inferences may be made from the case study of Indonesia.

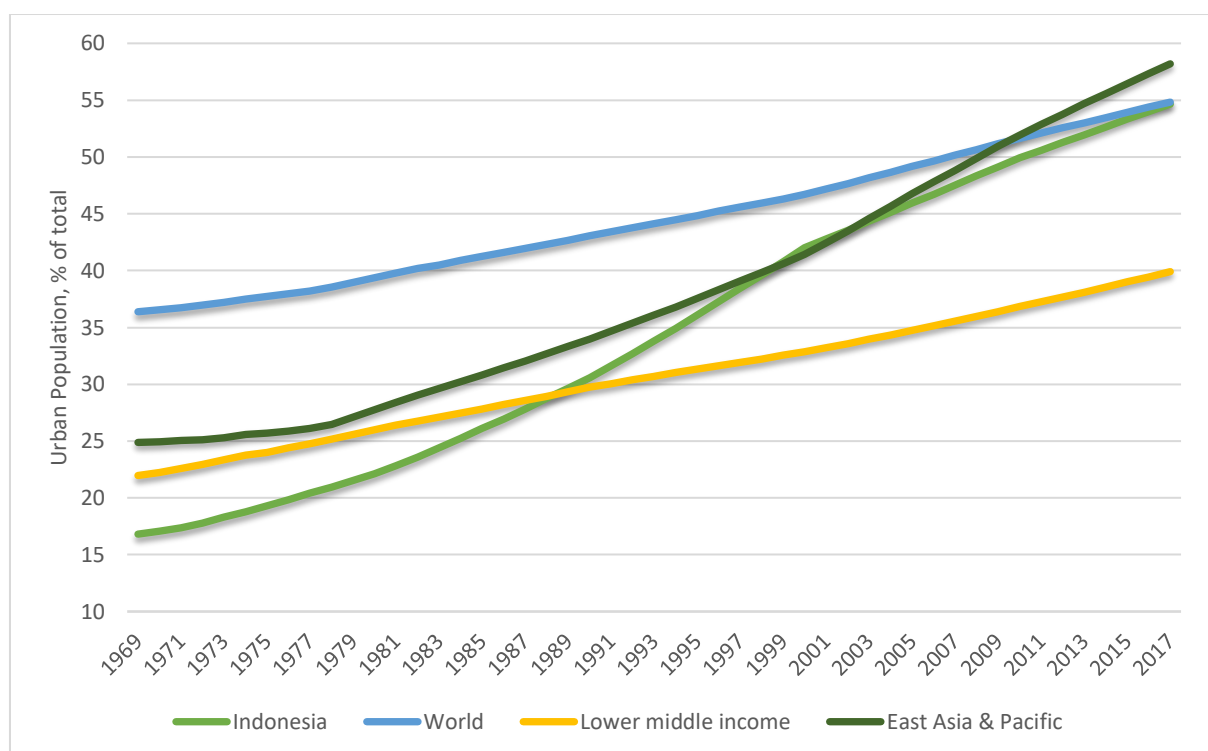


FIGURE 1: DEVELOPMENT OF URBAN POPULATION SHARE, 1969-2017 (WORLD BANK, 2018)

3.1 Economic Development

Over the past decades, South-East Asia has been one of the areas with the most dynamic economic growth of all regions worldwide, fueled particularly by the economic development of the “East Asian Tigers”, Korea, Taiwan, Singapore and Hong Kong (Nelson and Pack, 1999). While the development policies of North-East Asian states relied more on government intervention and local capital to finance their catching-up, the South-East Asian economies, among them Indonesia, adopted policies of export-led growth with a high volume of foreign capital (foreign direct investments) (Rasia and Yun, 2009).

Adopting a long-term perspective on Indonesian economic development, van der Eng (2010) emphasizes that the country may be subject to the Solow Productivity Paradox. In the paradox, as is the case for Indonesia, gains in total factor productivity (TFP) are moderate even though technological change would suggest higher growth rates. For example, Indonesia has experienced drastic developments in the transport and communications sector during high growth phases. Nonetheless, between 1880 and 2008, TFP growth only accounted for 6-12 percent of the yearly average GDP growth of 3.6 percent, leading to the conclusion that growth occurred due to an increased factor mobilization of labor and capital as well as improvements in the quality of labor (van der Eng, 2010). However, for the most recent period analyzed, TFP growth did become increasingly important in its contribution to GDP growth, which can be seen as a reaction of the Indonesian economy to the Asian Crisis of 1997-98 (van der Eng, 2010). After briefly outlining Indonesia’s economic development, the following section will trace Indonesia’s urbanization pattern over the past decades.

3.2 Urbanization

Taking a long-term perspective, Indonesia was considered as relatively less urbanized compared to other South-East Asian countries in the 1950s with figures ranging from roughly 9 to 15 percent of the population living in urban areas, depending on the definition of what constitutes an urban area (Milone, 1964). The author however emphasizes that urbanization in Indonesia might have been somewhat understated when using a purely numerical value as a definition compared to a functional definition. Due to its history of smaller administrative units, urbanization in Indonesia has occurred within multiple smaller centers rather than developing large metropolitan regions in the mid-20th century, as has been the case for other South-East Asian nations (Milone, 1964). Interestingly, the overall economic development plan of the country in the 1960s included the creation of a relatively decentralized economy with industries being settled in underdeveloped regions where agriculture alone was not able to provide the inhabitants sufficient incomes (Milone, 1964). Consequently, the highest urban growth rates in the 1960s have been recorded in cities with medium-high populations. A special facet of Indonesian economic development becomes visible in the somewhat differential development of the Java Island compared to the other islands making up the nation state. While the sparsely populated other regions had not been colonized, Java has been exploited since the 16th century with most of the large agglomerations located in this part of the country, although with a reducing share of the total urban population (Milone, 1964). Finally, even in the mid-20th

century, Jakarta has held the title of the most populous city with close to three million inhabitants, while Surabaya and Bandung hovered around the mark of one million inhabitants. Milone (1964) did not consider Jakarta as the country's primate city, since Surabaya houses a major port, leading to an important position in the import-export sector, while Bandung functioned as a major education, communication and transport center for the country. The predictions of the time seemed to predict a more balanced urban growth in Indonesia when compared to other countries in the region due to historical and policy-related reasons.

Turning now to the more recent developments in Indonesian urbanization, the decade-long high urban growth rates become apparent. Acknowledging first the rapid overall population growth in the Java Island from 58.9 million in 2000 to 80 million in 2010, Firman (2017) uses the term "mega-urban regions" to describe the urbanization pattern in the Java Island, focusing less on the rest of the country. Quite clearly, this is in contradiction to Milone's (1964) predictions of decentralized urban growth of smaller centers. With roughly 30 million inhabitants, the Greater Jakarta metropolitan region is now the second most populous in the world, showing the rapid urban growth occurring in only five decades. However, some qualifying observations about mega-urbanization are in order. Firman (2017) explains a trend in Indonesia, peri-urbanization, as the conversion of land previously utilized in agriculture towards urban land uses with high population growth in these adjacent areas. However, population growth in the urban centers of mega-urban regions decreases, leading to more homogenous population densities in the long-run.

4. Data and Methodology

4.1 Data

The data used in this analysis stems from the fourth and fifth wave of the Indonesia Family Life Survey, carried out by RAND corporation in 2014/2015. The extensive household survey contains over 30 thousand individuals representative of about 83% of the Indonesian population (Strauss et al., 2016). Although not all provinces of Indonesia are surveyed, those that are contain the 10 largest urban agglomerations present especially on the Java Island. One merit of the household survey at hand is the traceability of respondents from one wave to the next. For example, if household members leave their community, they are not simply lost, but efforts are taken to track the respondents in their new surroundings. As a result, of the initial households contacted in the first wave, 87.8 percent were interviewed in all five iterations of the survey.

4.2 Empirical Strategy

As an empirical start to the analysis, the variables of interest are simply life satisfaction, measured on a 5-point scale, and an indicator variable coding for whether an individual lives in a rural or urban setting (adapted from Easterlin et al., 2011). Equation 1 therefore consists of the dependent variable, L_i , representing life satisfaction of the individual i , the term $\beta_1 U_i$ representing the rural/urban indicator and its coefficient as well as an error term, ε_i , which

captures individual differences that may affect life satisfaction. In Ordered Probit Models, the intercept term α is not constant for all estimations. Rather, it represents so-called cut points, or thresholds of the latent variable which is approximated by the model terms. Since the ordinal dependent variable can take values ranging from 1 to 5, each model will exhibit 4 cut points or intercepts:

$$L_i = \alpha + \beta_1 U_i + \varepsilon_i \quad (1)$$

Since a wide variety of individual characteristics are also found to affect life satisfaction, these will be included in the regression analysis as a vector Z_i , resulting in Equation 2, which is otherwise identical to Equation 1. Since the vector of control variables contains both demographic information (e.g. age) and socio-economic information (e.g. education), these will be differentiated in the estimations. The Second Model will include demographic information, while socio-economic control variables will be added in Model 3.

$$L_i = \alpha + \beta_1 U_i + \beta_2 Z_i + \varepsilon_i \quad (2)$$

Concerning the additional aspect of the effect of urbanization on the different happiness domains, I first contend that the life satisfaction an individual enjoys is the result of the satisfaction she enjoys in various subcomponents, or satisfaction domains, SD_i (Bernini and Tampieri 2017; Rojas 2006, van Praag et al. 2003):

$$L_i = f_1(SD_1) + \dots + f_i(SD_i) \quad (3)$$

Although ideally the satisfaction in the different domains would accurately depict life satisfaction overall, this is very unlikely due to differential importance and thus weights individuals assign to a specific happiness domain as well as the data limitation that not all possible subcomponents of life satisfaction can be gathered in a household survey. Therefore, the effect and importance of a specific subcomponent of life satisfaction will be scrutinized according to the set-up from Bernini and Tampieri (2017):

$$L_i = \alpha + \beta_1 SD_i + \beta_2 Z_i + \varepsilon_i \quad (4)$$

Equation four represents an extension of Equation three, now including the term SD_i , standing for one of the happiness domains at hand. By comparing their coefficients, it will become possible to assess the magnitude of the effect each subcomponent of life satisfaction has on life satisfaction as a whole, considering a vector of individual characteristics (Bernini and Tampieri, 2017). Finally, Equation 5 presents the full specification of the Model:

$$L_i = \alpha + \beta_1 SD_i + \beta_2 U_i + \beta_3 SD_i U_i + \beta_4 Z_i + \varepsilon_i \quad (5)$$

In addition to the previous terms, an interaction effect between satisfaction in a specific domain, HD_i , and the urbanization variable, U_i , is included into the estimation. This set-up allows for possibly different effects of domain satisfaction on life satisfaction, differentiated between urban and rural respondents.

While Equations 1 to 4 represent an application of previous approaches to the case of Indonesia, Equation 5 aims to answer a novel question using a slight extension of Bernini and Tampieri's (2017) approach to domain satisfaction, urbanization and life satisfaction. Although the assumption of cardinality is a requirement for the use of Ordinary-Least Squares Regressions, Ferrer-i-Carbonell and Frijters (2004) find that the results of OLS and Ordered Probit Models (which are applicable when only the ordinality assumption is fulfilled), do not differ significantly. The weaker assumption of ordinality here refers to the assumption that a given score or response refers to the same level of subjective well-being. That is, respondents answering identically to the survey item should exhibit the same or a similar utility function (Diener et al., 2013; Daykin and Moffat, 2002). The assumption of cardinality is somewhat stronger, requiring that the distances between the responses is equal, that is the difference between (2) "not very satisfied" and (3) "somewhat satisfied" is equal to the distance between (3) and (4) (Diener et al., 2013). Other authors argue that welfare as the underlying construct to life satisfaction is immeasurable, and that therefore cardinality of the response items can never be assumed (Kristoffersen, 2017). Since a clear consensus in the literature seemingly is not yet achieved, the analysis at hand will first be conducted using an Ordered Probit Model as has been the case for various studies outlined in the literature review (Sørensen, 2014; Lenzi and Perucca, 2016; Rukumnuaykit, 2015). However, the robustness of the estimates will be scrutinized by also applying Ordinary Least Squares Models as well as Ordered Logit Models at a later stage.

4. 3 Dependent Variable

Turning now to the variable of interest of this thesis, a brief review of the subjective well-being literature will be offered. The literature on subjective well-being is rooted in the 1970s, when social science research on the determinants of happiness and life satisfaction began on a larger scale. Although taking a broader stance, an interesting question for this research is what leads people to evaluate their lives in positive terms, condensed into the term "life satisfaction" (Diener, 1984). According to Diener (1984), subjective well-being has three salient characteristics. First, it is subjective, meaning that every individual has diverging experiences which lead to varied assessments of life. Second, subjective well-being depends on positive factors rather than being defined by a mere absence of negative factors. Third, as it is difficult to clearly distinguish subjective well-being in only one domain, the unit of analysis will typically "include a global assessment of all aspects of a person's life" (Diener, 1984).

One important assumption of life satisfaction survey questions is the intrinsic ability of the construct to measure the underlying variable of interest, namely welfare (Ferrer-i-Carbonell and Frijters, 2004). Is it really possible to use self-reported measures of life satisfaction as

trustworthy indicators for policy? This assumption does not seem very problematic, as life satisfaction has been found to correlate with objectively measurable aspects of welfare such as physiological and medical criteria (Kahnemann and Krueger, 2006). Further, brain activity measurements of the right and left prefrontal cortex suggest a correlation between life satisfaction and brain activity in areas connected to happiness and aversion (Kahnemann and Krueger, 2006). According to Layard (2010) measurability does not seem an issue: Self-reported happiness is correlated with five distinct relevant variables: friends’ judgment of the individual’s happiness, plausible causes and effects of well-being, physical functioning, and brain activity. Further, hundreds of studies have found causal effects between life satisfaction and physical health, family status, employment, income and age (Layard, 2010). Another interesting factor in SWB research is policy recommendations. So far, cost-benefit analyses of different policy measures are often undertaken to identify the “best” policy. However, it is feasible that for specific areas of policy, measures of net SWB may lead to better results for the individuals affected. Thus, an improvement in the measurement of well-being should be incorporated into more research projects to further its empirical validity. It therefore seems warranted to test for living conditions (rural-urban) as causal explanation for subjective well-being.

The dependent variable used in this analysis corresponds to the concept of life satisfaction. As outlined by Diener et al. (2013), respondents are usually asked to “evaluate their lives as a whole, ranging from very satisfying to very dissatisfying”, as was the case for the IFLS survey at hand. Table 2A below shows the exact wording of the survey item, the number of observations per chosen response and the distribution of respondents in the sample, while Table 2B presents summary statistics differentiated between rural and urban respondents. In its original form, the life satisfaction variable had used a reverse scale, assigning the highest life satisfaction the value of 1, and assigning the lowest life satisfaction a value of 5. However, the variable at hand has been recoded in order to enable a more intuitive interpretation of regression results and uncovered relationships.

TABLE 2: FREQUENCY STATISTICS OF THE DEPENDENT VARIABLE

Please think about your life as a whole. How satisfied are you with it?	Frequency	Cumulative Percentage
1: Not at all satisfied	506	1.60
2: Not very satisfied	3923	13.99
3: Somewhat satisfied	13433	56.43
4: Very satisfied	12442	95.74
5: Completely satisfied	1349	100.00
Total	31653	

TABLE 2B: SUMMARY STATISTICS OF THE DEPENDENT VARIABLE

Life Satisfaction	Observations	Mean	Std. Dev.	Min.	Max.
Rural	18701	3.352388	0.7919976	1	5
Urban	12952	3.279107	0.8207423	1	5
Total	31653	3.322402	0.8046781	1	5

Since the survey item on life satisfaction as a whole has only been introduced in the fifth wave of the IFLS, a time component can unfortunately not be included. A panel-nature of the data at

hand would be helpful, as simultaneity issues may arise when analyzing only cross-sectional data. For example, while income may affect life satisfaction positively, more satisfied individuals may be better able to earn higher incomes. Panel data has the advantage of discerning these effects, as individual characteristics are held constant. In addition, unobserved individual characteristics may be correlated with exogenous characteristics accounted for in the Model, leading to imprecise conclusions. However, the issue of reverse causality does not seem pressing in this analysis, since the main relationships between urbanization and domain satisfaction and their effect on life satisfaction is unlikely to be simultaneously determined.

4.4 Explanatory Variables

The decisive explanatory variable in the analysis is an indicator, expressing whether a survey respondent lives in a rural or urban setting. In the IFLS survey, the status of rural or urban living is determined by the interviewer according to the definition from the Indonesian Bureau of Statistics (RAND Corporation, 2019). In the censuses carried out in Indonesia in 2000 and 2010, a functional definition of rural or urban status was applied to the smallest administrative units (*desa*), defining the status according to population density, percent of households engaged in the agricultural sector and urban facilities and the distance to reach them (Firman, 2017). For each category, scores are awarded, and if a threshold is crossed the *desa* is considered urban.² Although the variable at hand does not allow for a regression of city size on life satisfaction, its merits are quite evident, as a functional definition rather than a purely numerical one allows for a proper scrutiny of the question at hand: How do urban living environments affect subjective well-being? The approach used in this analysis is similar to Easterlin et al. (2011) who analyze within-country determinants of rural-urban differences in subjective well-being by using two dummy variables for living in a large city or in a rural area.

In addition to the urban-rural variable, the variables concerned with domain satisfaction will be used in the analysis. Similar to overall life satisfaction, these variables use Likert scales. The variables concerned with economic perceptions (“Please imagine a six-step ladder where on the bottom stand the poorest people, and on the highest step stand the richest people. On which step are you today?” and the same questions about future perceptions) range from 1 to 6. On the other hand, domain satisfaction questions concerning family life, food consumption and health status range from 1 to 3, where 1 stands for “less than adequate (for my needs)” and 3 represents “more than adequate (for my needs). It is important to note that the domain satisfaction variables do not represent objective assessments, but are rather the result of respondents’ perceptions. Summary statistics for the domain satisfaction survey items are presented in Appendices A and B. The domains chosen for analysis correspond to a part of the possible domains outlined in the literature review. Current and future economic position correspond to income and material well-being (Requena, 2006; Cummins, 2005). Health can quite obviously be categorized in the domain of health, while family life would correspond to family relationships or intimacy (Requena, 2006; Cummins, 2005). Finally, food consumption is more difficult to categorize, as

² Population Density: 1 point for less than 500 inhabitants per km² up to 8 points for more than 8500 inhabitants per km²; Engaged in agriculture: 1 point for percentages above 70 up to 8 points for percentages below 5; Access to urban facilities: either 0 points or 1 points above a certain distance. *Desa* scoring above 10 points are considered urban (Firman, 2017).

it could belong both to material well-being but also indirectly to health. The satisfaction domains chosen for analysis correspond to some important domains according to the literature, but data availability does not allow for a full analysis of all hypothesized domains.

4.5 Control Variables

Individual characteristics strongly influence subjective well-being and life satisfaction, which is why a vector of personal demographic and economic circumstances is included in the regression analysis. Layard (2010) concludes that personal health, family status, employment, income and age are always found to significantly affect life satisfaction. Using existing research on urbanization and life satisfaction, various similar control measures for individual characteristics can be extracted: age, gender, marital/civil status, education, some form of measure for occupation and some measure of income are common to all studies consulted, and will therefore be used in this analysis (Chen et al., 2015; Lenzi and Perucca, 2016; Rukumnuaykit, 2015; Winters and Li, 2017; Easterlin et al., 2011). Kahnemann and Krueger (2006) argue that income itself is only a weak predictor of life satisfaction. Rather, a respondent's relative economic position more directly affects her life satisfaction. Since objective relative income measures are unavailable in the data at hand, the perceived relative economic position and its effect on life satisfaction will later be analyzed to account for the relationship outlined by Kahnemann and Krueger (2006). Since various studies have found a non-monotonic relationship between life satisfaction and age, a term consisting of age squared will be introduced into the Model (van Praag et al. 2003; Sørensen 2014).

5. Empirical Results

5.1 Differences in Rural-Urban Life Satisfaction

The regression results of the urbanization effect on life satisfaction were surprising. Table 3 shows the basic estimation including only the dependent variable life satisfaction and the dummy-variable for urbanization in column 1 (corresponding to Equation 1). Contrary to the hypothesized relationship, urban dwellers in Indonesia are actually more satisfied with life than those living in rural areas, as is implied by the positive coefficient, which is significant at the level of 1 percent, suggesting a robust relationship.

As the interpretation of the coefficients in Ordered Probit Models is less straight forward than in Ordinary Least Squares, additional calculations to obtain marginal effects are presented below as outlined in Hill et al. (2011). Table 4 shows the differences between urban and rural respondents (rural as base category) in their probability of choosing a specific answer in the life-satisfaction survey item. The results corroborate the initial Ordered Probit Regression. It can be seen that urban dwellers are more likely to report that they are very satisfied or somewhat satisfied with life, while their probability of reporting a medium to low life satisfaction is lower than for rural respondents. Displayed graphically in Figure 2, the margins plot exemplifies the lower probability of rural respondents of having a high life satisfaction.

TABLE 3: RELATIONSHIP BETWEEN URBANIZATION AND LIFE SATISFACTION

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Rural-Urban Status			
Base: Rural			
Urban	0.0963*** (0.012)	0.107*** (0.012)	0.0654*** (0.023)
Age		-0.0247*** (0.003)	-0.0309*** (0.006)
Age²		0.000187*** (0.000)	0.000269*** (0.000)
Marital Status			
Base: Unmarried			
Married		0.0649*** (0.023)	0.0949*** (0.034)
Separated		-0.409*** (0.090)	-0.354*** (0.137)
Divorced		-0.188*** (0.048)	-0.0697 (0.073)
Widowed		0.00161 (0.039)	-0.0722 (0.078)
Cohabitate		-0.162 (0.407)	0.399 (0.627)
Sex			
Base: Male			
Female		0.0905*** (0.014)	0.101*** (0.023)
Religiosity			
Base: Very religious			
Somewhat religious		-0.204*** (0.017)	-0.230*** (0.031)
Rather religious		-0.470*** (0.021)	-0.501*** (0.036)
Not religious		-0.629*** (0.040)	-0.643*** (0.063)
Religion			
Base: Catholic			
Islam		0.0888* (0.053)	0.101 (0.092)
Protestant		-0.188*** (0.061)	-0.135 (0.107)
Hindu		-0.0125 (0.060)	-0.0879 (0.102)
Buddhist		-0.154 (0.165)	-0.420 (0.276)
Konghucu		0.674* (0.351)	0.963 (0.792)
Occupational Status			
Base: Working			
Searching for Job		-0.167*** (0.056)	-0.253** (0.106)
Attending school		0.0398 (0.030)	0.138 (0.091)
Housekeeping		-0.00879 (0.017)	-0.00175 (0.041)
Retired		0.163*** (0.050)	-0.209 (0.344)
Sick/disabled		-0.387*** (0.063)	-0.269* (0.161)
Education			
Base: Primary Education			
Early Childhood			-0.310 (1.324)
Secondary Education			0.0547*

			(0.029)
Tertiary Education			0.215***
			(0.034)
Post-Tertiary Education			0.415
			(0.416)
Religious Education			0.0169
			(0.047)
Ln(Yearly Salary)			0.0774***
			(0.008)
cut1	-2.091***	-2.832***	-1.691***
	(0.019)	(0.077)	(0.184)
cut2	-1.025***	-1.745***	-0.561***
	(0.011)	(0.076)	(0.182)
cut3	0.219***	-0.468***	0.747***
	(0.010)	(0.075)	(0.182)
cut4	1.780***	1.125***	2.328***
	(0.015)	(0.075)	(0.183)
Observations	31653	31586	11178

Standard errors in parentheses
^{*} $p < 0.10$, ^{**} $p < 0.05$, ^{***} $p < 0.01$

Table 4: Probability of Responses to Life Satisfaction, Base category = Rural respondents

Life Satisfaction when Urban = 1	dy/dx	Standard Error	z	P> z	95 % Confidence Interval	
1 (unsatisfied)	-0.0028568	0.0008784	-3.25	0.001	-0.0045785	-0.0011352
2	-0.013891	0.004118	-3.37	0.001	-0.0219621	-0.0058199
3	-0.0122512	0.0035046	-3.5	0.000	-0.0191201	-0.0053822
4	0.0224059	0.0065837	3.4	0.001	0.0095021	0.0353098
5 (satisfied)	0.0065931	0.0018958	3.48	0.001	0.0028773	0.0103088

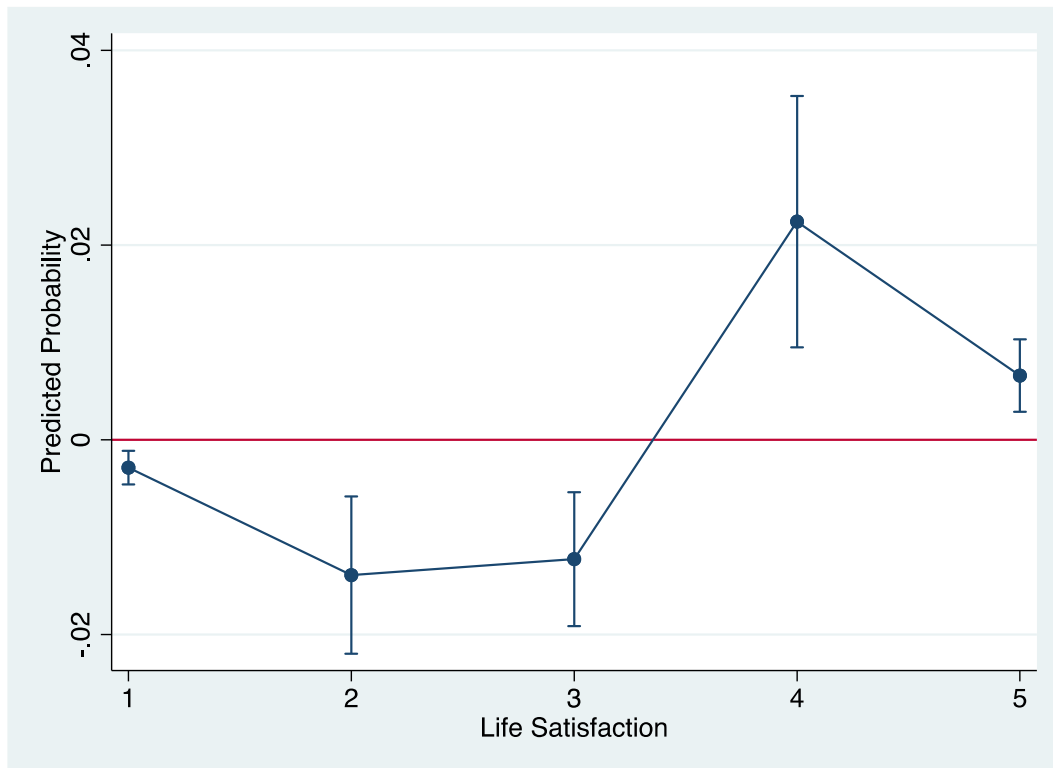


Figure 2: Margins Plot of the differential in life satisfaction between rural and urban respondents

The results for Model 2, corresponding to Equation 2, further strengthen the discovered positive relationship between urbanization and life satisfaction. Now including various demographic

factors, the urbanization coefficient's magnitude is slightly larger than in the first Model. However, the coefficient remains significant at the 1 percent level.

Concerning the control variables, most of the results are in line with previous research. Regarding age, the variable's coefficient suggests that, with increasing age, life satisfaction decreases. However, previous literature such as Sørensen (2014) and Lenzi and Perucca (2016) have found a "U-shaped" relationship, therefore rendering the coefficient alone uninformative. The authors find that life satisfaction reaches a minimum in middle-aged years while at younger and older ages respondents tend to be more satisfied with life. In the case of Indonesia, this observation is only somewhat confirmed, as can be seen in Figure 3: While mean life satisfaction does definitely decrease during middle-aged years, the relationship becomes fuzzy at older ages, with a much higher variance in mean life satisfaction. Including a quadratic age term hints at the existence of a nonlinear relationship, as the quadratic term is positive and highly significant. The unclear results at older ages are likely caused by the low number of respondents in these age groups, leading to more extreme values of reported life satisfaction. This observation points to a dilemma when analyzing household surveys. On one hand, surveys targeted for representativeness would necessarily contain fewer observations in high age groups, leading to observations further from the mean. When considering Indonesia's life expectancy of 69.355 in 2011, it can be seen that 95% of respondents of the survey are below this age (World Bank, 2018). On the other hand, for empirical purposes it would be helpful if all age brackets contained equally many observations. Restricting the sample to ages below 75, a non-linear fit becomes clear, although it remains debatable whether this can truly be described as U-shaped. Overall, it can be concluded that life satisfaction decreases up to a certain age, after which a slight upward trend becomes visible again.

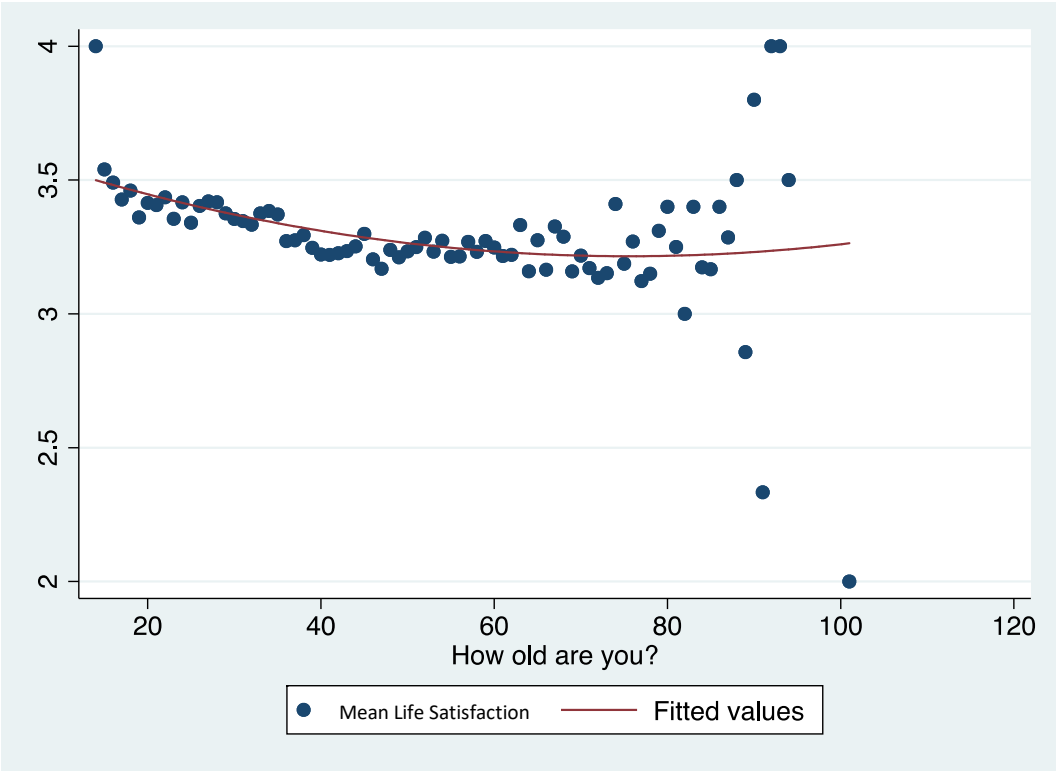


FIGURE 3: RELATIONSHIP BETWEEN AGE AND LIFE SATISFACTION

The next control variable was concerned with marital status, using “not yet married” individuals as the base level. Unmarried individuals were the only significantly large group other than married persons, both groups making up 90.74 % of all individuals. Unsurprisingly, being married affects life satisfaction positively, the coefficient being significant at 1%, except for Model 3, where the coefficient turned insignificant. A possible explanation is offered by Ngoo et al. (2015) who state that marriage provides rewarding moments and that married individuals exhibit increased physical and mental health. Being separated or divorced also decreased life satisfaction significantly, while being widowed did not affect satisfaction. The findings of a positive effect of marriage and negative effects of divorce and separation have also been confirmed by Sørensen (2014), Lenzi and Perucca (2016) and Knight and Gunatilaka (2010), lending the results credibility.

Turning to sex as a predictor of life satisfaction, results of previous research are largely confirmed. Compared to the male base group, females are more satisfied with life, the statistical difference being significant at 1 percent. These results are in line with previous research: Lenzi and Perucca (2016) also find a higher life satisfaction among females in European regions, as does Sørensen (2014) who is also concerned with European regions. Bernini and Tampieri (2017) also provide evidence for higher life satisfaction among females.

Previous literature has also led to the inclusion of occupational status into the regression analysis. Compared to the base group of working respondents and those helping to earn household income, the effects of other occupational groups are in line with theory. Those looking for a job exhibit a lower life satisfaction which can be explained by decreased stability and a perceived pressure of earning a livelihood. Retired individuals exhibit a higher life satisfaction than working individuals. The individuals who are sick or disabled and thus cannot take up work are significantly less satisfied with life.

An important aspect of life satisfaction can also be found in religion. First, a survey item on the religiosity of respondents has been included. The results are surprising in that the magnitude of the coefficients are among the highest of all variables, suggesting that the extent to which persons are religious strongly determines life satisfaction. Compared to the base group of very religious individuals, a clear negative relationship between religiosity and life satisfaction becomes visible. While those that are somewhat religious are only slightly less satisfied, the coefficient for those not at all religious is roughly three times as high. It is expected that religion provides guidance in life and may add to perceived stability, but the extent to which religion determines life satisfaction was surprising.

In addition to religiosity, the actual religion of respondents was evaluated against life satisfaction. The results show that, compared to the Catholic base group, Muslims are more satisfied with life, the relationship being strongly significant. On the other hand, Protestants were less satisfied with life. The few Konghucu (Indonesian Confucians) in the sample were more satisfied with life compared to Catholics, while Buddhists and Hindus did not differ significantly from Catholics. However, it has to be stressed that the absolute majority of

respondents were Muslim, reflecting the notion of Indonesia being the “largest Muslim country” world-wide.

Another important factor in determining life satisfaction among IFLS respondents can be found when looking at education, which was first included in Model 3, corresponding to Equation 2. The reasoning of this step is to differentiate between more demographic variables and those concerned more with socio-economic status (education and income). Using primary education as the base level (since the early childhood group has only one respondent, see summary statistics in Appendix C), it can be seen that life satisfaction increases with additional education. Both secondary and tertiary education positively affect life satisfaction and are both significant, although the significance level for secondary education was relatively low. As would be expected, the magnitude and significance of the tertiary education coefficient is larger than that of secondary education, suggesting that more years of education lead to higher life satisfaction. Religious education is a special category within the Indonesian education system, and here includes various forms of religious schooling from primary up to tertiary education. Although different kinds of religious education are present within the data, they have been unified in a single group, since the question of interest here has been the difference between religious education at large and other forms of education. The regression results show that religious education has a slightly positive and statistically significant effect on life satisfaction. The results are in line with Rukumnuaykit (2015), Lenzi and Perucca (2016) and Sørensen (2014), who find that graduated respondents and those with higher educational attainment are more satisfied with life.

Finally, income is also found to significantly affect life satisfaction in most of the previous literature. Therefore, it is included in the analysis at hand, entering the regression Equation as a logarithmic transformation to avoid non-normality issues. The results are of a smaller magnitude than had been expected beforehand. A possible explanation for this can be found in Kahnemann and Krueger (2006), who state that income matters less than relative economic position. When including the income measure in Model 3, the coefficients on the occupational status item become weaker or even insignificant, likely since income itself is a better predictor of life satisfaction than only occupational status.

After analyzing the coefficients of all control variables, it is time to mention the so-called “cuts”, reported at the bottom of the results tables (Table 3). The goal of the Ordered Probit Model used is to estimate the latent, underlying variable which affects our ordinal dependent variable. Because the values of the dependent variable are ordered, it can be assumed that, as the latent variable is increasing, so will the observed outcome. Therefore, the cut points in the model represent threshold values of the latent variable, at which the outcome variable changes. Since the Ordered Probit Model is estimated without an intercept, the cut points represent the intercept. When inserting all relevant parameters of the model, the result will lie within one of the defined cut points, predicting an individual’s response to the survey item of life satisfaction.

To conclude, the first hypothesis has to be rejected. Where the expectation was to find a significantly negative effect of living in urban areas on life satisfaction, this relationship was actually positive and highly significant. The hypothesis had been based on previous research

which has almost universally found a negative relationship. However, the results seem to behave more in line with Easterlin et al. (2011) as well as Requena (2016) who found that the relationship differs based on a nation's developmental status. It could be said that Indonesia has been wrongly categorized as more developed than it actually is (where rural life satisfaction is found to be higher). Although the relationship found has been different than expected, the results are still considered credible, since almost all relationships between the control variables and life satisfaction have been corroborated by previous research.

Further, the second hypothesis can be confirmed. Adding various control variables did indeed lower the coefficient of rural-urban status, although not to a severe extent. The control variables themselves overwhelmingly resulted in expected relationships, the coefficients often being of larger magnitude compared to the coefficient of rural-urban status. Therefore, it can be concluded that variables that directly affect one's life (e.g. occupational status) are a stronger predictor of life satisfaction than a rather distant variable on rural-urban status. Nonetheless, the uncovered relationship remained robust even when adding the whole set of control variables.

5.2 Effect of Happiness Domains

After concluding that a significant differential exists in life satisfaction between rural and urban inhabitants, I analyze possible factors contributing to the differential. To do so, I employ a three-stage procedure, first regressing life satisfaction domains on life satisfaction as a whole, and then by adding the demographic and socio-economic control variables as well as an interaction term between the happiness domain and the rural-urban indicator variable to assess the differential effect of the domains on life satisfaction between rural and urban individuals.

5.2.1 Current Relative Economic Position

The first life satisfaction domain was concerned with the current relative economic position of an individual, measured on a scale ranging from "poorest" to "richest" in their respective community. The results of the basic estimation with only the domain as explanatory variable show that the perceived relative economic position is a strong predictor of life satisfaction as a whole, which corresponds well with Kahneman and Krueger's (2006) findings on income versus relative economic position as predictors of life satisfaction. Compared to the base level "poorest", a higher position on the economic ladder significantly positively affected life satisfaction. The coefficient was largest for those individuals that perceive themselves as being among the richest. When adding the control variables, the results remain similar overall. However, those who considered themselves on the second step of ladder did not differ significantly from the poorest on the base level. This can be explained by the additional variables which account for the majority of the variation between the lowest steps of the ladder. Nonetheless, for the rest of the economic positions, the results are as expected, namely that life satisfaction increases with a higher perceived relative economic position.

Finally, the inclusion of the interaction term between relative economic position and rural-urban status with the rural poorest being the base level led to the following results. While the relationship between economic satisfaction and life satisfaction remained constant, the urban-rural coefficient became insignificant, as did the interaction terms except for one. This suggests that there are no significant differences in the effect of being on a certain level of economic satisfaction between urban and rural respondents. However, the coefficient of the richest urban respondents was positive and significant at 5%. These results signify that urban respondents exhibit an additional positive effect of a high relative economic position compared to rural respondents. A possible interpretation could be that a perceived high economic rank is perceived as reassuring in urban areas when confronted with the higher variation in economic fortunes visible in cities. The margins plot reproduced in Figure X shows that the probability of being very satisfied with life is much higher for urban respondents that perceive themselves as the “richest” compared to the “richest” rural respondents. Interestingly, rural respondents that classified themselves in the “richest” bracket exhibited a lower probability of responding to life satisfaction as being completely satisfied.

TABLE 5: RELATIONSHIP BETWEEN RELATIVE ECONOMIC POSITION AND LIFE SATISFACTION

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Relative Economic Position	0	0	0
Base: 1 (Poorest), Rural	(.)	(.)	(.)
2	0.132*** (0.027)	0.0466 (0.047)	0.0527 (0.073)
3	0.479*** (0.025)	0.356*** (0.044)	0.384*** (0.068)
4	0.801*** (0.026)	0.651*** (0.048)	0.637*** (0.075)
5	0.948*** (0.044)	0.850*** (0.085)	0.855*** (0.145)
6 (Richest)	1.032*** (0.068)	0.977*** (0.132)	0.576*** (0.215)
Rural-Urban Status			0
Base: Rural			(.)
Urban			0.0735 (0.081)
Urban * Economic Position			0
Base: 1 (Poorest), Urban			(.)
Urban * 2			-0.0124 (0.095)
Urban * 3			-0.0463 (0.087)
Urban * 4			0.0131 (0.094)
Urban * 5			-0.0108 (0.178)
Urban * 6 (Richest)			0.638** (0.272)
Control Variables	No	Yes	Yes
cut1	-1.753*** (0.028)	-1.735*** (0.186)	-1.739*** (0.193)
cut2	-0.640*** (0.024)	-0.577*** (0.185)	-0.581*** (0.191)
cut3	0.654*** (0.024)	0.765*** (0.185)	0.762*** (0.191)
cut4	2.255*** (0.026)	2.376*** (0.186)	2.375*** (0.192)
Observations	31479	11149	11149

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

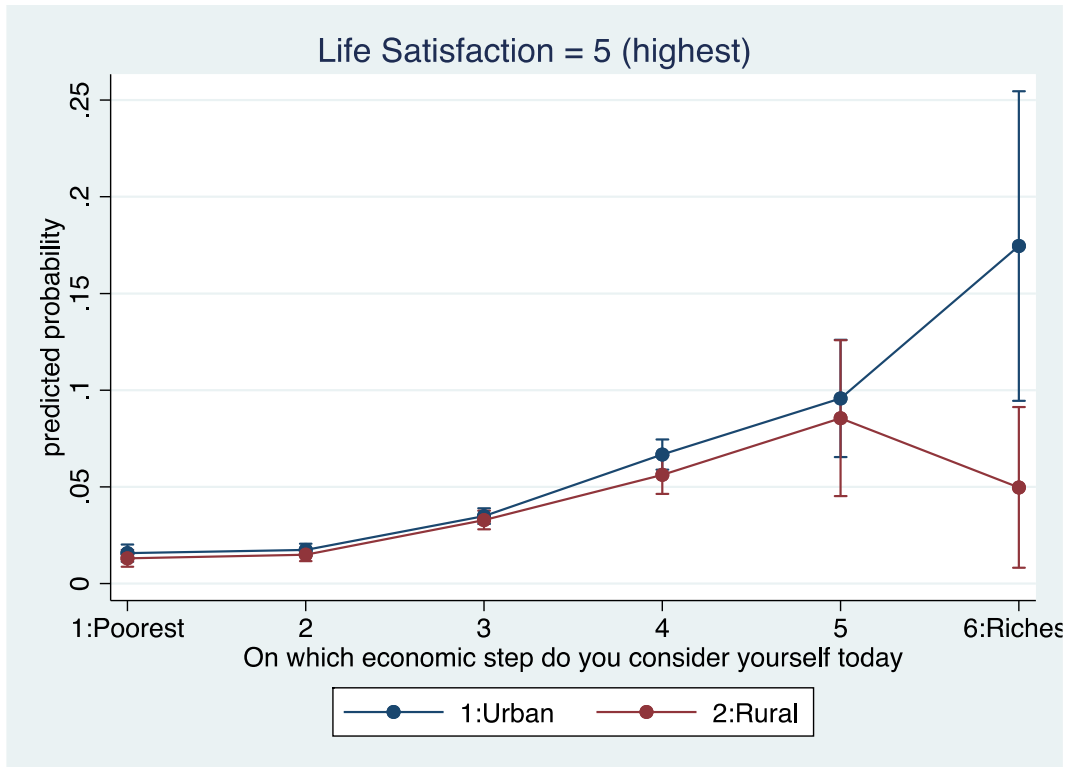


FIGURE 4: RELATIONSHIP BETWEEN URBAN-RURAL STATUS AND ECONOMIC SATISFACTION WHEN LIFE SATISFACTION IS HIGH

5.2.2 Future Relative Economic Position

Future aspirations may also affect life satisfaction, since a positive or negative outlook on the future may respectively affect current life satisfaction. To this end, the relationship between perceived future relative economic position has been analyzed and the results are presented in Table 6. The results of the basic estimation are qualitatively similar to the previous estimation, namely that the richer individuals envision themselves in 5 years, the higher current life satisfaction is. The coefficients for each position on the ladder are positive and highly significant compared to the “poorest” base level. However, future economic outlook seems to affect current life satisfaction less than current economic position does. This would be expected, since a better or worse current economic position more directly influences life satisfaction. For the estimation with included control variables the outlined results are also confirmed, although the coefficients are slightly smaller and less significant for one coefficient.

Finally, adding an interaction variable between future economic outlook and urban-rural status produces interesting results with regard to the estimations in the previous sections. While significant differentials between rural and urban respondents were sparse when concerned with current economic outlook, the differences are more pronounced for future economic outlook. While the coefficients’ significance levels vary between 1% and 10%, the resulting relationship is very clear: Compared to the base group of rural individuals, future economic outlook has a weaker impact on current life satisfaction at all levels of the variable. That is, future economic outlook seems to matter less for urban respondents. Again, a plot of the margins is presented in

Figure 5, however this time for the lowest level of life satisfaction. The figure shows that, even when urban respondents judge their future economic outlook very negatively, they have a much lower probability of judging their current life satisfaction as dissatisfied. The interpretation here is that the economic outlook matters less for urban respondents, which is somewhat contrary to the results for current economic position. Knight and Gunatilaka (2010) state that for the case of China, rural inhabitants seemed to worry less about the future. However, one has to consider the very different policy context between China and Indonesia, making it difficult to transfer their results to the case at hand.

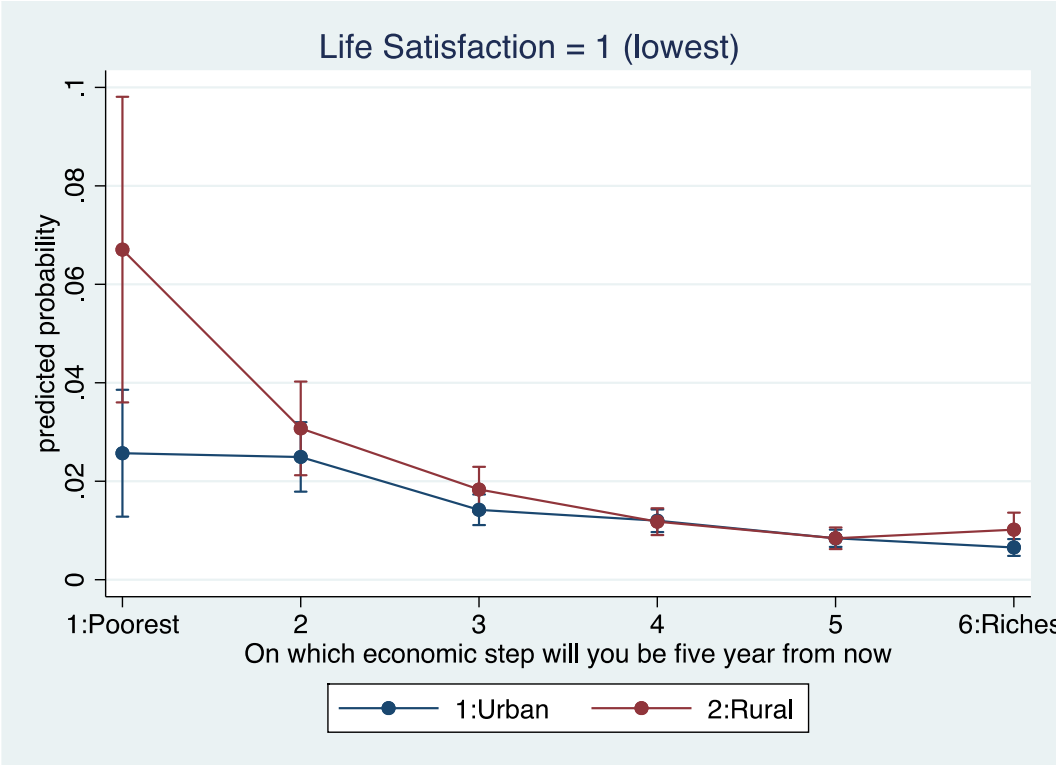


FIGURE 5: RELATIONSHIP BETWEEN URBAN-RURAL STATUS AND FUTURE ECONOMIC SATISFACTION WHEN LIFE SATISFACTION IS LOW

TABLE 6: RELATIONSHIP BETWEEN FUTURE RELATIVE ECONOMIC POSITION AND LIFE SATISFACTION

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Relative Future Economic Position	0	0	0
Base: 1 (Poorest), Rural	(.)	(.)	(.)
2	0.168*** (0.046)	0.172* (0.089)	0.372*** (0.135)
3	0.391*** (0.042)	0.403*** (0.083)	0.591*** (0.126)
4	0.577*** (0.041)	0.507*** (0.082)	0.766*** (0.124)
5	0.735*** (0.041)	0.637*** (0.083)	0.891*** (0.126)
6 (Richest)	0.803*** (0.043)	0.682*** (0.086)	0.822*** (0.133)
Rural-Urban Status			0
Base: Rural			(.)
Urban			0.450*** (0.159)
Urban * Future Economic Position			0
Base: 1 (Poorest), Urban			(.)
Urban * 2			-0.359** (0.179)
Urban * 3			-0.348** (0.167)
Urban * 4			-0.456*** (0.164)
Urban * 5			-0.449*** (0.165)
Urban * 6 (Richest)			-0.289* (0.173)
Control Variables	No	Yes	Yes
cut1	-1.616*** (0.042)	-1.274*** (0.201)	-1.060*** (0.220)
cut2	-0.546*** (0.040)	-0.140 (0.199)	0.0765 (0.219)
cut3	0.727*** (0.040)	1.176*** (0.200)	1.394*** (0.219)
cut4	2.318*** (0.042)	2.771*** (0.201)	2.990*** (0.220)
Observations	29770	10695	10695

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2.3 Evaluation of Current Family Life

The next set of estimations was concerned with the happiness domain of family life and its effect on life satisfaction as a whole, the estimations being presented in Table 7. The basic estimation only includes the explanatory variable of whether the current family is less or very satisfying. The results are in line with expectations, exhibiting that a better perceived family life positively affects life satisfaction. The base level of the estimations was those individuals that perceived themselves as having a less than adequate family life. Accordingly, the coefficients for more satisfied individuals were positive and highly significant. When including control variables, the results remained equal, although the magnitude of the coefficients slightly decreased.

In the final estimation including an interaction term between rural-urban status and satisfaction with family life, the basic relationship also remained visible. Contrary to the estimations concerned with economic position, there is no distinct differential relationship between rural and urban dwellers, signified by an insignificant coefficient both for rural-urban status as well as the interaction terms. This unsurprisingly suggests that family life matters for persons in every location. Although it may have been expected that a reliance on family ties in rural areas would be stronger, this does not seem to be the case.

TABLE 7: RELATIONSHIP BETWEEN FAMILY LIFE AND LIFE SATISFACTION

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Family Life	0	0	0
Base: Less than adequate	(.)	(.)	(.)
2 (Adequate)	0.623*** (0.016)	0.588*** (0.029)	0.573*** (0.046)
3 (More than adequate)	1.107*** (0.020)	0.996*** (0.037)	0.945*** (0.061)
Rural-Urban Status			0
Base: Rural			(.)
Urban			0.0189 (0.050)
Urban * Family Life			0
Base: Urban * Less adequate			(.)
Urban * Adequate			0.0225 (0.057)
Urban * More than adequate			0.0721 (0.072)
Control Variables	No	Yes	Yes
cut1	-1.693*** (0.021)	-1.581*** (0.185)	-1.614*** (0.188)
cut2	-0.548*** (0.015)	-0.389** (0.183)	-0.422** (0.186)
cut3	0.778*** (0.015)	0.979*** (0.183)	0.946*** (0.186)
cut4	2.405*** (0.019)	2.607*** (0.185)	2.575*** (0.187)
Observations	31630	11177	11177

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2.4 Current Food Consumption

Turning to another domain of life satisfaction, satisfaction with current food consumption has been regressed on life satisfaction as a whole in an identical way to the previous estimations. The basic estimation produced unsurprising results shown in Table 8: Those respondents that were more satisfied with their food consumption were more satisfied with their whole life. With the set of control variables included, the relationship remained robust, although the coefficients decreased slightly as with previous estimations.

Finally, the introduction of an interaction term between urban-rural status and food consumption produced similar results to the estimation concerned with family life. As both the rural-urban indicator and the interaction terms were statistically insignificant, it can be concluded that urban and rural dwellers do not differ in their judgement of the importance of

food consumption on life satisfaction as a whole. As food consumption is a basic necessity for basic human functionings, this result would be expected.

TABLE 8: RELATIONSHIP BETWEEN FOOD CONSUMPTION AND LIFE SATISFACTION

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Food Consumption	0	0	0
Base: Less than adequate	(.)	(.)	(.)
2 (Adequate)	0.485*** (0.019)	0.471*** (0.034)	0.517*** (0.054)
3 (More than adequate)	0.890*** (0.021)	0.788*** (0.038)	0.784*** (0.062)
Rural-Urban Status			0
Base: Rural			(.)
Urban			0.0976 (0.062)
Urban * Food Consumption			0
Base: Urban * Less adequate			(.)
Urban * Adequate			-0.0742 (0.068)
Urban * More than adequate			-0.00640 (0.075)
Control Variables	No	Yes	Yes
cut1	-1.699*** (0.023)	-1.498*** (0.185)	-1.485*** (0.189)
cut2	-0.585*** (0.018)	-0.333** (0.184)	-0.319* (0.187)
cut3	0.709*** (0.018)	1.008*** (0.184)	1.023*** (0.187)
cut4	2.311*** (0.021)	2.616*** (0.185)	2.631*** (0.188)
Observations	31636	11176	11176

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

5.2.5 Health Status

Finally, the satisfaction domain of health status has been scrutinized identically to the previous estimations. The results are reported in Table 9. First, compared to the base level of a less-than-adequate health status, the basic estimation exhibits that life satisfaction increases with increasing perceived health status. Introducing all control variables, the relationship remains robust. However, contrary to previous estimations, the coefficients' magnitude decreases more markedly. This could be explained by the fact that the control variables are more closely related to health status than to other satisfaction domains such as family life. For example, occupational status allows for a response of being sick or disabled, which correlates quite highly with health status and therefore decreases its coefficients in the estimation.

Including the interaction term between urban-rural status and health status produces inconclusive results. While for a medium health status a significant difference between rural and urban respondents seems to exist, this relationship becomes insignificant for respondents who are very satisfied with their current health status.

**TABLE 9: RELATIONSHIP BETWEEN HEALTH STATUS
AND LIFE SATISFACTION**

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Health Status	0	0	0
Base: Less than adequate	(.)	(.)	(.)
2 (Adequate)	0.429*** (0.016)	0.348*** (0.028)	0.415*** (0.046)
3 (More than adequate)	0.805*** (0.019)	0.661*** (0.033)	0.675*** (0.056)
Rural-Urban Status			0
Base: Rural			(.)
Urban			0.123** (0.049)
Urban * Health Status			0
Base: Urban * Less adequate			(.)
Urban * Adequate			-0.106* (0.057)
Urban * More than adequate			-0.0313 (0.067)
Control Variables	No	Yes	Yes
cut1	-1.796*** (0.021)	-1.666*** (0.185)	-1.638*** (0.187)
cut2	-0.688*** (0.014)	-0.508*** (0.183)	-0.480*** (0.185)
cut3	0.605*** (0.014)	0.829*** (0.183)	0.858*** (0.186)
cut4	2.208*** (0.018)	2.437*** (0.184)	2.467*** (0.187)
Observations	31601	11162	11162

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

To conclude the empirical analysis of satisfaction domains, it can be noted that Hypothesis 3 has been confirmed. All satisfaction domains had a significant effect on life satisfaction as a whole. The relationship is clearly positive for all domains, meaning that as satisfaction in a specific domain rises, so does life satisfaction at large. However, Hypothesis 4 cannot be confirmed. First, only in future economic aspirations has a significant differential effect of domain on life satisfaction between rural and urban dwellers been found. The prediction had been that economic circumstances matter less to urban inhabitants. This was not the case, as the results have shown that future relative economic position seems to matter less for those in urban areas.

5.3 Robustness

As a first step in assessing the previously analyzed Models' robustness, other regression Models will be tested. Although theory stipulates the use of Ordered Probit Models for ordinal dependent variables such as life satisfaction, the analysis has been re-run using both Ordered Logit Models and Ordinary Least Squares. The results of the robustness check are presented below in Tables 10 and 11, showing the coefficients and their significance for all three Models. Overall, the results, especially those concerned with the urbanization-life satisfaction relationship remain qualitatively the same compared to Ordered Probit, although the coefficients differ slightly. In fact, for the Ordered Logit specifications, the effect of rural-urban status was larger in magnitude than for the Ordered Probit Models.

For the set of demographic variables, the results are also similar overall, the significance of some variables changing slightly. The direction of the uncovered relationships remains equal. The robustness checks endorse Ferrer-i-Carbonell and Frijters (2004) in their assertion that, in practice, the use of Ordered Probit Models does not differ significantly from Ordered Logit and Ordinary Least Squares Estimations.

TABLE 10: RELATIONSHIP BETWEEN URBANIZATION AND LIFE SATISFACTION USING ORDERED LOGIT

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Rural-Urban Status	0	0	0
Base: Rural	(.)	(.)	(.)
Urban	0.156*** (0.021)	0.181*** (0.022)	0.123*** (0.040)
Age		-0.0440*** (0.005)	-0.0529*** (0.010)
Age²		0.000333*** (0.000)	0.000448*** (0.000)
Marital Status		0	0
Base: Unmarried		(.)	(.)
Married		0.138*** (0.041)	0.184*** (0.059)
Separated		-0.705*** (0.159)	-0.620** (0.241)
Divorced		-0.289*** (0.084)	-0.0938 (0.128)
Widowed		0.0337 (0.068)	-0.0840 (0.137)
Cohabitate		-0.267 (0.637)	0.675 (1.011)
Sex		0	0
Base: Male		(.)	(.)
Female		0.153*** (0.025)	0.158*** (0.040)
Religiosity		0	0
Base: Very religious		(.)	(.)
Somewhat religious		-0.412*** (0.031)	-0.465*** (0.054)
Rather religious		-0.906*** (0.037)	-0.966*** (0.063)
Not religious		-1.211*** (0.073)	-1.241*** (0.114)
Religion		0	0
Base: Catholic		(.)	(.)
Islam		0.168* (0.093)	0.173 (0.157)
Protestant		-0.355*** (0.107)	-0.270 (0.185)
Hindu		-0.0493 (0.104)	-0.178 (0.175)
Buddhist		-0.256 (0.289)	-0.752 (0.460)
Konghucu		1.222** (0.583)	1.729 (1.282)
Occupational Status		0	0
Base: Working		(.)	(.)
Job searching		-0.272*** (0.101)	-0.404** (0.197)
Attending school		0.0797 (0.052)	0.271* (0.163)
Housekeeping		-0.00942 (0.029)	0.00397 (0.071)
Retired		0.301*** (0.087)	-0.429 (0.605)
Sick/disable		-0.696*** (0.109)	-0.504* (0.273)
Education			0
Base: Primary Education			(.)
Early Childhood			-0.648 (2.027)
Secondary Education			0.0691 (0.050)
Tertiary Education			0.341*** (0.060)
Post-Tertiary Education			0.723 (0.691)

Religious Education			-0.000708 (0.081)
Other			0.0744 (0.151)
Yearly Salary			0.133*** (0.014)
Observations	31653	31586	11178

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

TABLE 11: RELATIONSHIP BETWEEN URBANIZATION AND LIFE SATISFACTION USING OLS

	(1)	(2)	(3)
	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction	Dependent Variable: Life Satisfaction
Rural-Urban Status	0	0	0
Base: Rural	(.)	(.)	(.)
Urban	0.0733*** (0.009)	0.0795*** (0.009)	0.0468*** (0.016)
Age		-0.0179*** (0.002)	-0.0222*** (0.004)
Age²		0.000135*** (0.000)	0.000193*** (0.000)
Marital Status		0	0
Base: Unmarried		(.)	(.)
Married		0.0460*** (0.017)	0.0678*** (0.024)
Separated		-0.313*** (0.066)	-0.266*** (0.100)
Divorced		-0.145*** (0.035)	-0.0509 (0.053)
Widowed		-0.00423 (0.028)	-0.0546 (0.056)
Cohabitate		-0.0978 (0.298)	0.308 (0.451)
Sex		0	0
Base: Male		(.)	(.)
Female		0.0681*** (0.011)	0.0748*** (0.017)
Religiosity		0	0
Base: Very religious		(.)	(.)
Somewhat religious		-0.140*** (0.012)	-0.159*** (0.022)
Rather religious		-0.336*** (0.015)	-0.355*** (0.026)
Not religious		-0.468*** (0.029)	-0.472*** (0.045)
Religion		0	0
Base: Catholic		(.)	(.)
Islam		0.0644* (0.039)	0.0693 (0.066)
Protestant		-0.145*** (0.045)	-0.106 (0.077)
Hindu		-0.0101 (0.044)	-0.0659 (0.074)
Buddhist		-0.121 (0.121)	-0.303 (0.200)
Konghucu		0.494* (0.252)	0.667 (0.556)
Occupational Status		0	0
Base: Working		(.)	(.)
Job searching		-0.131*** (0.041)	-0.193*** (0.077)
Attending school		0.0276 (0.022)	0.0965 (0.066)
Housekeeping		-0.00657 (0.012)	-0.000119 (0.030)
Retired		0.125*** (0.037)	-0.152 (0.250)
Sick/disable		-0.292*** (0.046)	-0.192* (0.117)
Education			0
Base: Primary Education			(.)
Early Childhood			-0.230 (0.961)
Secondary Education			0.0413** (0.021)
Tertiary Education			0.158*** (0.025)
Post-Tertiary Education			0.302 (0.296)
Religious Education			0.0144 (0.034)

Other			0.0377
			(0.062)
Yearly Salary			0.0565***
			(0.006)
Observations	31653	31586	11178

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

6. Discussion and Concluding Remarks

After outlining the empirical results and testing their robustness using alternative methodology, it is helpful to analyze them in a broader context of urbanization. After all, contrary to expectations, urban respondents of the Indonesian Family Life Survey were more satisfied with life than their rural counterparts, answering the first aspect of the posed research question. Following Easterlin et al. (2011) in their cross-country study on urban-rural life satisfaction differentials, a note has to be made that the relationship uncovered is by no means guaranteed to persist indefinitely. If the Indonesian economy continues to develop and grow, it seems likely that the excess of urban over rural life satisfaction will decrease. In their study, Easterlin et al. (2011) hypothesize that countries at low levels of development will exhibit strong differences in urban and rural occupational and income structure due to a centralization of mechanized production in urban areas and agricultural specialization in rural areas. With increasing development, these differentials are hypothesized to become smaller, leading to a long-term equalization of urban and rural life satisfaction. For the case of Indonesia, it seems reasonable to expect persistent urban-rural differences in occupational and income structure at least for a while. This can be exemplified by the markedly higher average salaries in urban compared to rural areas of Indonesia. In the data set at hand, urban yearly salaries are almost 1.5 times larger than their rural counterparts.

However, economic variables are not the only decisive ones when it comes to life satisfaction, as has been shown by the empirical results. One reason for the lower rural life satisfaction may be seen in the worse access to public services, stores, public transport and medical care, as outlined by Sørensen (2014) for Europe. These effects are expected to be even stronger in low-income countries, as the state is less able to provide equal living standards in all areas of the country. On the other hand, the trend toward peri-urbanization as outlined by Firman (2017) entails larger population growth in adjacent areas compared to the urban centers. This development may lead to the creation of areas which cannot be dichotomously categorized as either urban or rural spaces. Similar to Lenzi and Perucca (2016) and Requena's (2016) assertions, inhabitants of these areas could on the one hand profit from the amenities that urban areas have to offer, while also being able to enjoy a life with less adverse effects than city life brings with it. Depending on the definition of urban and rural areas, peri-urbanization may change the uncovered relationship between urbanization and life satisfaction. Assuming for the sake of the argument that life satisfaction in peri-urban zones is relatively higher than in rural areas, the categorization of these zones as rural would raise average life satisfaction, thus decreasing the empirical difference in life satisfaction between rural and urban areas. These deliberations point to a policy recommendation. While the Indonesian urban-rural measure is quite extensive, relying on various facets such as population density and employment in agriculture, a dichotomous categorization of only urban and rural may not accurately depict the realities of urban development. Therefore, the measure could be extended to a peri-urban

category that would also be calculated using points allocated in various measures of urbanization.

After analyzing various sub-domains of life satisfaction at large, some interesting results have been found. While for most satisfaction domains the differential effect on life satisfaction between rural and urban respondents was statistically insignificant, this was not the case for future economic perceptions, where significant differences have been found. The results exhibit that future economic aspirations have a lower impact on urban dwellers' general life satisfaction. One possible explanation for this phenomenon could lie in the notion that individuals in urban areas have access to a larger employment market. relating to the second aspect of the research question, although some questions remain. These findings relate to the second aspect of the research question, although some questions remain. While employers can change, city dwellers may believe that they are able to find a new employment in a short time. On the other hand, rural inhabitants may be subject to more self-employment in the agricultural sector which may make it hard to change occupations, thus increasing the positive or negative effect of future economic aspirations. However, Knight and Gunatilaka (2010) find rural life satisfaction to be higher in rural areas of China than in urban areas, citing a similar reasoning of rural residents worrying less about future insecurities. While their results and those found for Indonesia contradict, this may well be due to the very different context of life between China and Indonesia.

One significant limitation of the present analysis is the lacking time-component of the data. Ideally, panel data methods would have been utilized in order to better understand the dynamics of changing differences between rural and urban life satisfaction. As stated by Easterlin et al. (2011), the relationship may change with increasing development. That is, if Indonesia's economy grows further, at some point rural life satisfaction may surpass that in urban areas. While the Indonesian Family Life Survey has been conducted five times so far, the life satisfaction survey item has been included only in the most recent edition, making the use of a time-component impossible. Nonetheless, the empirical results of this analysis confirm the notion that, for less developed countries, rural surpasses urban life satisfaction. This provides a strong implication for future research: with more successive waves of the IFLS, it will become to trace the possibly changing relationship, where previous evidence would suggest that with increasing development, the differential decreases. Therefore, the work at hand may be viewed as a starting point for future analyses.

Another limitation of the analysis can be found in the urban/rural measure. While the statistical definition of urban and rural areas by the Indonesian Statistical Office is theoretically sound and includes quite many factors, it would have been helpful to have access to specific locational data such as city size or population density as well as the exact location of respondents. This would have provided more finely grained results, for example enabling statements about city sizes in which life satisfaction is maximized, such as done in, e.g., Chen et al. (2015). However, the results at hand are still useful and in line with the methodology utilized in previous research.

This thesis has contributed to the existing literature in multiple ways. First, a robust statistical relationship has been found between urbanization and life satisfaction. While not a cross-

country exploration, the results lend credibility to the work of Easterlin et al. (2011) and Requena (2016), who have found that, at lower levels of economic development, urban life satisfaction exceeds life satisfaction in rural areas. For the case of Indonesia in 2014, the uncovered relationship supports these conclusions. Furthermore, the existing research regarding satisfaction domains has been partly confirmed, but also extended. First, it has been shown that various satisfaction domains are strong predictors of overall life satisfaction. It was not possible to calculate the share of a domain's contribution to overall satisfaction. However, it can be concluded that economic satisfaction domains seem most important, health being another important predictor. Second, the differential effect of domain satisfaction has been added as a novel element in the research on urban-rural life satisfaction differences. By including an interaction term between life satisfaction and satisfaction in a domain, it became possible to better understand if differences exist between rural and urban individuals regarding the effect of domain satisfaction on life satisfaction as a whole. The results provide an interesting impetus for future research. While significant differences between rural and urban dwellers have not been found in all domains, especially future economic outlook provided evidence for a difference in attitudes.

Overall, the research presented in this thesis has added to the understanding of urban-rural differences in life satisfaction, an aspect of well-being that is increasingly targeted as a policy goal rather than simply relying on economic indicators. Returning back to the mega-trend of urbanization outlined in the introduction, the case study of Indonesia has shown that, at least at the current state of development and with regard to life satisfaction, urbanization is not a detrimental policy goal for the country. Nonetheless, some implications for policy can be drawn. First, it is important not simply to target for urbanization as a motor of economic growth, but also to think proactively about sustainable and human-centered methods of bringing economic growth. After all, previous research has shown that the rural-urban life satisfaction differential may well turn around with increasing development (Easterlin et al. 2011, Requena, 2016). Congestion and other negative externalities may increase in cities, while living standards and access to public goods increases in rural areas. Life satisfaction measures could help policy makers' understanding of where to allocate funds to, and it should become standard practice to include the measure in future assessments.

As for domain satisfaction, the results of the present research were not as striking and simple, and the only safe conclusion that can be made is that future research should delve deeper into possibly different determinants of life satisfaction between rural and urban areas. While at present, future economic aspirations seem to be the only strong difference found for the case of Indonesia, it is no unreasonable prediction that other differences exist. In a larger context, should more significant differences in domain satisfaction be found, these analyses could become valuable for policy making. For example, if research shows that economic aspects are more decisive for well-being in rural contexts while community-related satisfaction domains are more lacking in urban areas, policy could more exactly target problem areas. Programs to enhance economic security could be implemented in villages, while more community centers could be established in cities. Although an overall sense of rural-urban differences in domain and life satisfaction seem tacit, research into the exact relationships is necessary in order to underpin policy making with factual information.

To conclude, Indonesia can be viewed as a test piece for future urbanization policies. Containing one of the largest metropolitan areas worldwide (Jakarta), but also housing more than 100 million people in rural areas, it is of utmost importance for regulators to spark balanced urbanization policies, targeting both economic growth and the well-being of the inhabitants. While thus far, urbanization and life satisfaction seem to go hand in hand, evidence from other countries predicts a possible reversal of the relationship. The research at hand also provides the impetus for rural development policies. After all, the issue is not to uphold differentials in rural-urban well-being, but to provide equivalent living conditions for all inhabitants of the country.

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Appendix

APPENDIX A: SUMMARY STATISTICS OF DOMAIN SATISFACTION VARIABLES

Variable	Obs	Mean	Std. Dev.	Min	Max
Current Economic Position	29,694	3.031623	0.9428006	1	6
Future Economic Position	29,694	4.127063	1.207242	1	6
Family Life	29,693	2.015795	0.620054	1	3
Food Consumption	29,693	2.164551	0.6229913	1	3
Health Status	29,693	2.053918	0.6703502	1	3

APPENDIX B: TAB STATISTICS OF DOMAIN SATISFACTION VARIABLES

		Frequency	Percentage	Cumulative Percentage
Current Relative Economic Position	1: Poorest	2,174	6.91	6.91
	2	5,574	17.71	24.61
	3	14,706	46.72	71.33
	4	7,862	24.98	96.31
	5	869	2.76	99.07
	6: Richest	294	0.93	100
	Total	31,479	100	
Future Relative Economic Position	1: Poorest	730	2.45	2.45
	2	2,153	7.23	9.68
	3	5,452	18.31	28
	4	9,467	31.8	59.8
	5	8,193	27.52	87.32
	6: Richest	3,775	12.68	100
	Total	29,770	100	
Current Family Life	1: Less than adequate	6,008	18.99	18.99
	2: Adequate	19,455	61.51	80.5
	3: More than adequate	6,167	19.5	100
	Total	31,630	100	
Food Consumption	1: Less than adequate	4,035	12.75	12.75
	2: Adequate	18,688	59.07	71.83
	3: More than adequate	8,913	28.17	100
	Total	31,636	100	
Health Status	1: Less than adequate	6,431	20.35	20.35
	2: Adequate	17,401	55.06	75.42
	3: More than adequate	7,769	24.58	100
	Total	31,601	100	

APPENDIX C: TAB STATISTICS OF CATEGORICAL CONTROL VARIABLES

		Frequency	Percentage	Cumulative Percentage
Marital Status	1: Not yet married	7,215	19.83	19.83
	2: Married	25,795	70.91	90.74
	3: Separated	178	0.49	91.23
	4: Divorced	819	2.25	93.48
	5: Widowed	2,365	6.5	99.98
	6: Cohabitate	7	0.02	100
	Total	36,379	100	
Religiosity	1: Very religious	5,162	16.34	16.34
	2: Somewhat religious	19,040	60.26	76.6
	3: Rather religious	6,480	20.51	97.11
	4: Not religious	854	2.7	99.82
	7: Refuse	58	0.18	100
	Total	31,594	100	
Religion	1: Islam	28,402	89.9	89.9
	2: Catholic	414	1.31	91.21
	3: Protestant	1,197	3.79	95
	4: Hindu	1,515	4.8	99.79
	5: Buddhist	47	0.15	99.94
	6: Konghucu	10	0.03	99.97
	96: NA	9	0.03	100
Total	31,594	100		
Occupational Status	1: Working/ trying to get work	19,983	58.04	58.04
	2: Job Searching	408	1.19	59.22
	3: Attending School	2,687	7.8	67.03
	4: Housekeeping	8,843	25.68	92.71
	5: Retired	1,070	3.11	95.82
	7: Sick/disabled	697	2.02	97.84
	95: Other	742	2.16	100
Total	34,430	100		
Education	Early Childhood Education	1	0	0
	Primary Education	9,896	30.29	30.29
	Secondary Education	15,216	46.57	76.86
	Tertiary Education	4,648	14.22	91.08
	Post-Tertiary	13	0.04	91.12
	Religious	2,490	7.62	98.74
	Other	411	1.26	100
Total	32,675	100		

