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The Relationship Between HouseRent, Income Inequality and Households Consumption

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Abstract: As house rent consumes large proportion of households expenditure, it probably reduce their ability to consume other commodities, both food and non food. Also, high income inequality potentially reduce household ability to consume commodities. We tried to explore the relationship between house rent, income inequality, and households consumption. This research used Indonesian Family Life Survey (IFLS) data. The results are as house rent rises and income distribution is getting worse, households experienced lower expenditure, both for food and non food. And, worse income distribution drives to lower house rent. As a result, households experienced lower housing quality in term of reduced floor area. It is important to make less dense population in Java Island. Less dense population leads to weaker competition among households to obtain house.

Keywords: House Rent, Income Inequality, Households Consumption, IFLS

INTRODUCTION

Housing expenditure is a dominant proportion for typical household (Campbell and Cocco, 2007). In the U.S., Bertaut and Starr-McCluer (2002) showed that residential property expenses accounted for about one quarter of aggregate household wealth. While Banks and Tanner (2002) reported in UK, that number accounted for 35%. Menteri Perencanaan Pembangunan Nasional (2013) recorded that low income families in Indonesia spend almost 50% of their income on housing.

Housing expenditure is also influenced by income inequality. Poor people cannot afford to provide decent houses for the families. At the same time, rich people, who have higher power parity, will occupy new areas (Soseco, *et.al.*, 2017) This process will replace poorer people with affluent people (Parra-Peña, Ordóñez, and Acosta, 2013). The Institute for Children and Poverty (2009) found that gentrification also

plays important role in making the rise of housing price. Also, Baranoff (2016) found that families tend to chose new neighborhoods where there are other similar households. This further drives up housing prices, which in turn crowds out households with lower incomes.

A condition of low income together with high house rent potentially creates negative consequences. Tunstall, *et al.* (2013) reported that poor housing conditions affect some aspects of child development and elements of adult health. Yap (2015) found that the poor are pushed onto hazardous land or to the urban fringe. Although factories also move to the fringe, they do not offer employment for the poor, as they do not fit the recruitment criteria. In hazardous locations, the poor are exposed to the impacts of natural disasters and climate change. Other studies are also conducted by Dvornak and Kohler (2007) and Campbell and Cocco (2007).

Problems related to less decent house is positively related to poverty (Pop, 2015). For example leaking roof, dark home, not warm in winter, and dissatisfaction with home. Figure 1 shows many housing problems in UK in 2009.

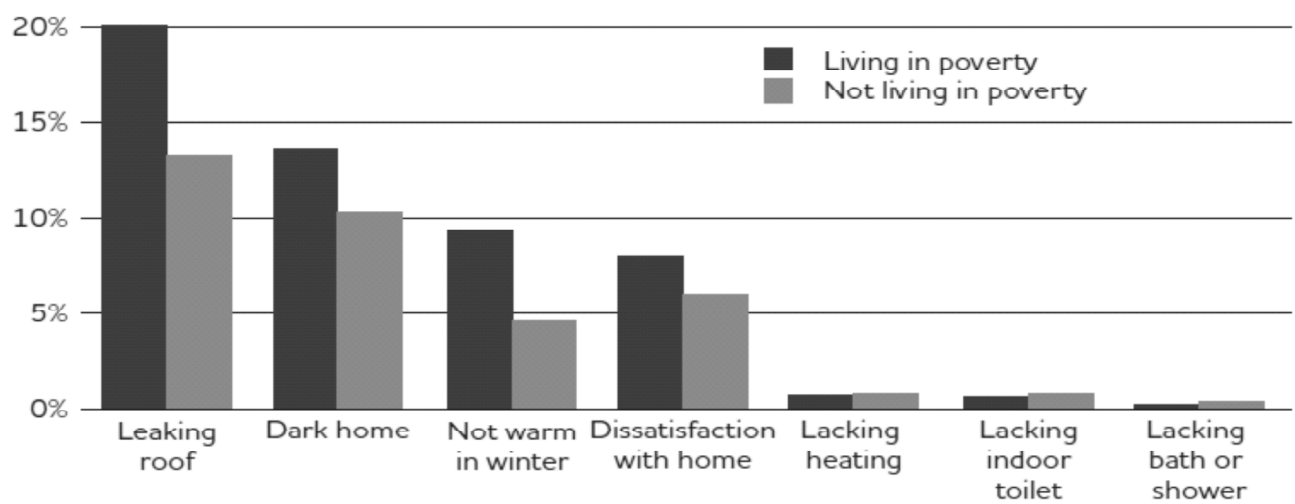


Figure 1: Housing Quality Problems of Those Living in Poverty and Not Living in Poverty, UK, 2009

Source: Lelkes and Zolyomi (2009) in Pop (2015)

Also, poverty prevents households to select appropriate neighbourhood that support their live. Figure 2 expresses neighbourhood quality problems in UK.

From figure 2 we can see more than a quarter of households complaining about crime and violence in their neighbourhood. Noise and pollution significantly higher in those who living in poverty comparing to those who are not living in poverty.

It is tempting to attribute the correlation between house rent and income inequality to household consumption: increasing rent especially in high income inequality areas will reduce household consumption. As rapid population growth in Java Island, it potentially provides worse living condition for its population. We use household level data to distinguish the correlation between house rent, income inequality, and household consumption.

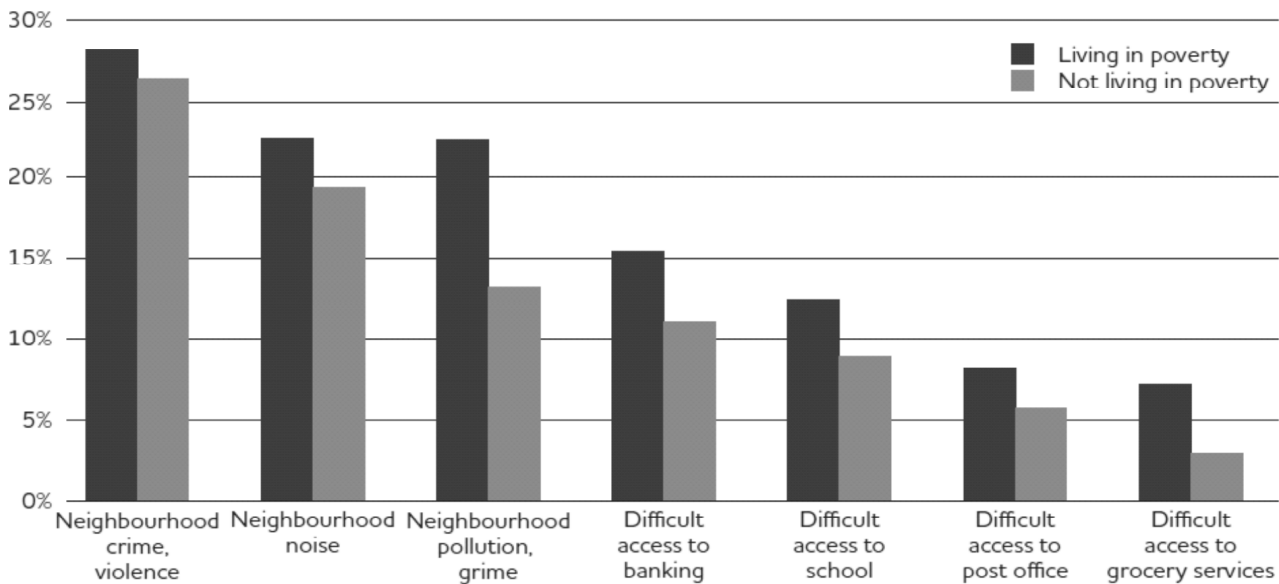


Figure 2: Neighbourhood Quality Problems of Those Living in Poverty and Not Living in Poverty, UK, 2007

Source: Lelkes and Zolyomi (2009) in Pop (2015)

METHOD

The main data source of this research is Indonesia Family Life Survey (IFLS) which published by RAND Corporation. The IFLS is a longitudinal survey in Indonesia, in which the sample represent 83% of Indonesian population and contains over 30.000 individuals in 13 of the 34 provinces. The first wave of the IFLS (IFLS1) was conducted in 1993/1994. We will use data from the latest IFLS (IFLS5) that was fielded in 2014-2015.

The data provide rent paid by households as well as consumption expenses. All data are in monthly period. We separate food and non food expenditure to see how families adjust their living standard following an increase in rent. The data are divided into provinces, make us possible to analyze in regional focus.

This research will focus on Indonesia. There are, however, several reasons why Indonesia is an interesting study area. First, there is unequal population distribution in Indonesia. In 2015, more than 145 million population (56,7% of Indonesian population) occupy Java Island. The area itself only 6% of Indonesian total area. It makes Java Island as the most populous island in the world with 1.121 per square kilometer population density (Badan Pusat Statistik, 2009). With dense population, there will be high competition to afford house. As a result, people will face high rent, which potentially affect other consumption allocation.

Second, as most populated cities located in western side of Indonesia (including Jakarta, a home for more than 10 million population, and additional 7,5 million population who live in its satellite cities) they actively attract capital, wealth, and human capital. Thus, they experience higher economic growth than other areas in Indonesia. This potentially creates huge economic gap between western side of Indonesia (Sumatera, Java, and Kalimantan Islands) and eastern side of Indonesia (Sulawesi, Maluku, Papua, and Nusa Tenggara Islands) (Soseco, 2010).

RESULTS AND DISCUSSION

On average, housing rent paid by households in Indonesia is Rp. 1.246.448,63 per month. People in Province of Kalimantan Selatan pay highest rent per month: Rp. 2.285.000,00 while those who live in Jakarta pay lowest (Rp. 678.245,61). In general, households who live in provinces in outside of Java Island pay higher rent than those who live in Java Island (Rp. 1.441.531,00 comparing to Rp. 934.316,85).

Households in Java Island have a relatively high proportion of house rent from their monthly expenditure. Households in Jakarta, for example, have to budget almost 50 percent (44,31%) of their monthly expenditure to pay house rent. The similar condition exists in Yogyakarta (45,18%) and Jawa Tengah (30,03%). On average, households in provinces in Java Islands have to allocate 35,35% of their monthly expenses to pay house rent. Contrastly, people in provinces outside of Java Island only have to spare a 23,90% from their expenses to pay house rent.

Money spent on food and nonfood varied from Rp. 846.680.76 per month in Province of Nusa Tenggara Barat to Rp. 7.245.845,00 per month in Bali. Households in Jakarta spend the least amount for food and non food in Indonesia (Rp. 220.086,80 and Rp. 1.310.326,12 respectively) per month. On the other hand, highest food expenditure (Rp. 471.305) are spent by households in Sumatera Barat and highest non food expenditure (Rp 6.837.276,52) are spent by households in Bali.

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From inequality perspective, Indonesia has medium income inequality (Gini Ratio 0,41). Provinces who have relatively high income inequality are Jakarta (0,44), Jawa Barat (0,41), Yogyakarta (0,40), Bali (0,41), and Sulawesi Selatan (0,41).

Table 1
Gini Ratio Indonesia, 2015

<i>Province</i>	<i>Gini ratio</i>
Nanggroe Aceh Darussalam	0.33
Sumatera Utara	0.35
Sumatera Barat	0.35
Riau	0.36
Jambi	0.34
Sumatera Selatan	0.34
Bengkulu	0.36
Lampung	0.37
Kepulauan Bangka dan Belitung	0.30

contd. table 1

<i>Province</i>	<i>Gini ratio</i>
Kepulauan Riau	0.32
DKI Jakarta	0.44
Jawa Barat	0.41
Jawa Tengah	0.38
DI Yogyakarta	0.40
Jawa Timur	0.37
Banten	0.40
Bali	0.41
Nusa Tenggara Barat	0.36
Nusa Tenggara Timur	0.36
Kalimantan Barat	0.40
Kalimantan Tengah	0.34
Kalimantan Selatan	0.37
Kalimantan Timur	0.38
Sulawesi Utara	0.39
Sulawesi Tengah	0.38
Sulawesi Selatan	0.41
Sulawesi Tenggara	0.41
Gorontalo	0.46
Sulawesi Barat	0.34
Maluku	0.41
Maluku Utara	0.33
Papua Barat	0.40
Papua	0.42
Indonesia	0.41

Source: Badan Pusat Statistik (2016)

From table 2, higher rent drives to lower household expenditure, both for food and non food expenditure. From regression analysis, we found that a Rp. 1 increase of rent will reduce total expenditure by Rp. 1,4. On the other hand, an increase of Rp. 1 in housing rent will reduce Rp. 0,01 in food expenditure and Rp. 1,46 in non food expenditure.

Higher income inequality leads to lower households expenditure. A rise of Gini Coefficient of 0,01 point will reduce total expenditure Rp. 343.903,62. Also, a rise of Gini Coefficient of 0,01 point will will reduce food expenditure Rp. 10.911,90 and non food expenditure of Rp. 333.683,64.

In the previous part of this section we have estimated the effect of house rent and income inequality to household consumption. House rent has negative effect to household consumption. Provinces with highest house rent are Kalimantan Selatan, Sumatera Selatan, and Sulawesi Selatan. All of them are located outside of Java Island. In contrary, provinces in Java Island experience low house rent.

Table 2
Housing Expenditure, Income Inequality, and Household Consumption

<i>Independent Variables</i>	<i>Dependent Variables</i>			
	<i>Total Expenditure</i>	<i>Food Expenditure</i>	<i>Non Food Expenditure</i>	<i>House Rent</i>
C	18427855 (0,0806)	738749.9 (0,0358)	1772137 (0,0835)	3522375 (0,0589)
House rent	-1,478532 (0,3298)	-0.012564 (0,7920)	-1,469119 (0,3199)	-
Gini coefficient	-34390362 (0,1594)	-1091190 (0,1642)	-33368364 (0,1602)	-5965130 (0,1994)
R-squared	0,202799	0,190926	0,203765	0,14932

Source: Data Processed

Low house rent related to low house price. That findings is related to Bank Indonesia (2015). Using *Survei Harga Properti Residensial* (Residential Property Price Survey) conducted by Bank Indonesia (2015), the highest house price exists in Makassar (Province of Sulawesi Selatan) while the lowest house price exists in Balikpapan (Province of Kalimantan Timur). Bank Indonesia (2015) stated that high house price is influenced by price of building material and wage. In general, house price in provinces in Java Island is lower than those in outside of Java Island (Bank Indonesia, 2015). Our conjecture is eventhough Java Island experiences population density, it still afford to provide affordable house. The population density also an indicator of high economic activity (Natalia and Wunas, 2015)

Our analysis went through the quality of housing in Java Island. From income inequality perspective, provinces in Java Island have poor income distribution. Jakarta and Yogyakarta are two areas that have worst income distribution in Indonesia. Our findings show that higher income inequality will leads to lower house rent. This is contrast with Zhang (2015); Zhang, Jia, and Yang(2016); Dewilde and Lancee (2013) who stated that higher income inequality related to higher housing cost. We consider the initiatives of landlords. As income inequality rises, more people experiencing lower expenditure. Landlords split their properties into smaller rooms to accomodate lower power parity. Sometimes, they create ultra-small-house (which is more suitable if we call it as a room). This commonly exist in slump areas in big cities, for example in Jakarta. Poor people, for example a family of four, live in just a 4 square meter. The rent is relatively cheap. This is why in our findings, people in Jakarta pay the lowest rent rate in Indonesia.

In our opinion, the low rent rate cannot automatically positively related to better welfare. Low house rent means people usually sacrifice their comfort or even their health concern to afford house. This relevant to Zhang (2015); Zhang, etal. (2016) who stated that higher income inequality may results smaller per capita living space and lower housing quality for low-income households.

This is also relevant with Badan Pusat Statistik (2014). They found that in 2013, almost a quarter of population in Jakarta (22,24%)—the highest in Indonesia—live in a less than 20-square-meter-house. It is more appropriate if we call it a room, where bed room, altogether with living room and dining room. The toilet is usually not attached with the room and shared used with other households. The second and third highest are Yogyakarta (12,23%) and Bali (10,80%).

United Nations (2000) defined floor area as a separate and independent place of abode intended for habitation by one household at the time of the time of the census of other inquiry. Altogether with other 9 key indicators used by United Nations Centre for Human Settlements (UNCHS) to measure progress towards meeting the objectives of the Global Strategy for Shelter to the Year 2000. United Nations (2000) stated that floor area per person is a considerable degree the outcome of market forces, which shaped by a variety of housing policies. Those policies greatly affect living conditions especially in urban areas. Furthermore, United Nations (2000) stated that reduced space per person can be associated with certain health risks. It means that health risks is more likely to exist in a house where the occupants have a relatively small amount floor area per capita.

United Nations (2000) found that in period of 1990-1995, the floor area per person in Indonesia is 14,4 square meter. This is the similar condition that exist in Nepal and Chile. Indonesia is slightly better than some African countries like Cameroon (9,6 square meter), Congo (12,6), and Djibouti (13,1 square meter). It far beyond those in Denmark (51 square meter), Sweden (50 square meter), and Germany (36 square meter).

It will need a big effort to enhance quality of living among households in Java Island. Eventhough they faces low house rent, but the proportion of house rent is almost half of their monthly expenditure. At the same time, they live in less decent house—in term of floor area—comparing to people who live in outside of Java Island.

It is suggested that government gives intervention to housing sector especially in providing adequate minimum floor area available for households. One solution is government have to provide government-planned-housing projects. Facing limited land banks in Java, it will be more appropriate to build vertical housing program. Government have to provide decent houses and at the same time prevent households from pay large enough from their monthly budget.

Another major problem is to solve uncontrollable population density in Java Island. As those density has negative consequences, the government have to redistribute population throughout Indonesia. To support that idea, Indonesia must reactivate transmigration programme which currently stopped. The transmigration is aimed to move people from dense populated areas to less dense populated area.

CONCLUSIONS

Based on our findings, we found that population density in Java Island leads to high income inequality. Population pressure in Java Island create higher competition to earn high income and at the same time they face high expenditure. This condition leads to high income inequality, which is higher than outside of Java Island. The high income inequality will drive to a condition where poor people live in less decent houses. Less decent houses means poor living condition that have to be tackled. Thus, this will allow relatively low income available for their daily needs. Landlords react by adjust their properties so that people with lower budget can afford them by reducing floor area. As a result, households in Java Island face low house rent but they have to live in a shrunkedhouse.

It is recommended for government to create an appropriate living condition for population in Java Island. We suggest control population through planned family, which later create additional per capita available for their needs. Also, less population leads to weaker competition among households to obtain houses.

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