Family Transfers, Coresidency and Elderly Labor Supply : Evidence from Indonesia

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This document represents part of the author's study programme while at the International Institute of Social Studies. The views stated therein are those of the author and not necessarily those of the Institute.

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Abstract

Both developed and developing countries have faced a phenomenon that is difficult to avoid, namely an ageing population. Furthermore, developed countries have strategies and programs that are more structured and mature to deal with this phenomenon than developing countries, including Indonesia. In the absence of adequate and comprehensive formal assistance from the government, elderly people depend on intergenerational support and income from their participation in the labor market. This paper discusses the relationship between intergenerational support (family transfer and coresidency) with elderly labor supply implementing quantitative methods. Utilizing IFLS data, this study found that family transfer and coresidency reduce the decision of elderly people to work during retirement. Moreover, the characteristics of children and parents are essential factors to motivate family transfer and coresidency.

Relevance to Development Studies

The role of intergenerational support, which are family transfer and coresidency, is crucial in the context of social security that has not yet been fully developed, especially in developing countries. Family transfer and coresidency are not only guarantors for the wellbeing of older people but also as a factor influencing whether older people participate in the labor market or not. This research will enrich the ongoing discussion by presenting how the association between family support in the form of family transfer and coresidency with the elderly labor supply and welfare perspective. Besides, there is still very limited literature about this topic by using two-wave IFLS data and fixed-effect method. Thus, this research might become a useful reference for further research on this field. Furthermore, this study will also explore the determinants that influence the behaviour of transfer and coresidency in Indonesia.

Keywords

Intergenerational Support, Family Transfer, Coresidency, Elderly Labor Supply, Welfare Perspective, Indonesia

Chapter 1: Introduction

1.1 Background

Ageing of the population is one of the crucial issues faced by many countries in the world today. The composition of the old society is increasing rapidly both in developed and developing countries. This increasing is due to a decrease in fertility (birth) and mortality (death), as well as an increase in life expectancy, which changes the structure of the population as a whole. Based on United Nations data on World Population Prospects, there were around 962,3 million elderly people in the world in 2017. It is estimated that this number will continue to increase to reach 2 billion elderly people by 2050. Furthermore, the number of elderly's population rises not only in certain parts of the continent or developed countries, but all parts of the world, including developing countries (see table 1).

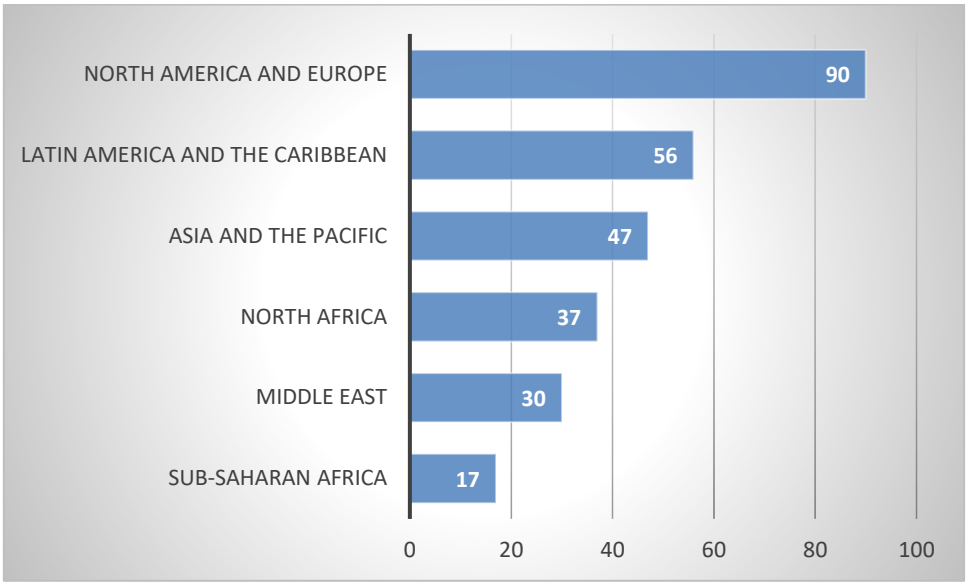
Table 1. The Number and Distribution of Elderly People in The World

	Number of elderly people (millions)		**Percentage change between 2017 and 2050**	**Distribution of eldelry people in 2017**	**Distribution of eldelry people in 2050**
	In 2017	In 2050 (estimation)			
World	962,3	2080	116,2	100	100
Africa	68,7	225,8	228,5	7,1	10,9
Asia	549,2	1273,2	131,8	57,1	61,2
Europe	183	247,2	35,1	19,0	11,9
Northern America	78,4	122,8	56,7	8,1	5,9
Latin America	76	198,2	160,7	7,9	9,5
Oceania	6,9	13,3	92,6	0,7	0,6

Data Source: United Nations (2017). World Population Prospects: The 2017 Revision

An increase in the number of elderly people in all parts of the world has triggered countries to issue policies and programs to prevent potential negative impacts. However, the programs and policies implemented in developed countries are more mature and structured rather than in developing countries. For example, pension plans and social assistance programs in developed countries cover almost all the elderly population. Meanwhile, in developing countries, the same program does not yet include all eligible residents and is still not structured or "small and meager" (Kaushal 2014: 214). The chart below shows the recipient of a pension fund, by region in the world.

Figure 1. Percentage of Older Persons in Receipt of Pension by Region



Data Source: United Nations-International Labour Organization (ILO)(2014)

In Indonesia, the ageing population is also increasing dramatically. Based on population projection data, it is predicted that the number of older people in 2020 (27.08 million), 2025 (33.69 million), 2030 (40.95 million) and 2035 (48.19 million). This increase indicates that Indonesia is a country that will enter the era of the ageing population because of the population aged 60 years and over (population elderly) exceeding 7 per cent.

Nevertheless, the United Nations claimed developing countries like Indonesia are more constraint to prepare and deal with the consequences of ageing than developed countries (as cited in Kaushal 2014: 215). Actually, Indonesia has applied social security programs such as retirement programs as a tool that can support and generate incentives for retirements. However, based on the Indonesian Central Bureau of Statistics (BPS) 2017 report, the number of parents who have social security is only 12.67%. This number shows that the Social Security Program is already prevalent in Indonesia, but the number of Social Security Program recipients is still minimal and generally only aimed at middle-income and high-income groups. Consequently, due to inadequate pension and social assistance systems, the elderly population in developing countries will depend on income in the labor market, family transfer assistance (Cameron, Lisa A. and Cobb-Clark 2002).

Based on the Sakernas survey in August 2017 conducted by BPS, elderly people in Indonesia deciding to work was 47,92 per cent of the total elderly population. There are three reasons why older people enter the labor market. Firstly, they do have still a capability to work physically and mentality, because of that, there is no reason for them to leave the labor market. Secondly, their well-being is still low, so that the condition forced them to keep working to fulfil their basic needs. Thirdly, they work for self-actualizing or emotional motives (Wirakartakusumah and Evi 1994).

In the country reflecting "east culture" like Indonesia, family support in the form of family transfers is one of the factors that can influence the decision of parents to work again or enter the labor market. Family transfers can be seen as a substitute for parents' income so they can enjoy their retirement without having to work, or at least they reduce their working hour. One of the potential determinants that influence the elderly labor supply that has not been widely studied is family transfers (Cameron, Lisa A. and Cobb-Clark 2002). Ravallion and Dearden (1988) stated that the purpose of transfers in Indonesia, especially Java, is generally only aimed at disadvantaged parents such as sickness and unemployment.

Another factor that has an influence on the decision of the elderly to work or not is coresidency. Cameron, Lisa A. and Cobb-Clark (2008) state that coresidency in Indonesia looks like a life cycle. For example, unmarried children will live with their parents, while married children will choose not to live with their parents anymore. Coresidency is very prevalent if the parents are women or widows. In addition to marital status, other components influence coresidency in Indonesia, including the achievement of children's education, children's gender, the condition of parents or the area of residence. According to Cameron, Lisa A. and Cobb-Clark (2002), coresidency has a significant impact on the decisions of the elderly to work or at least reduce the number of hours worked. They explained that for the older men who live with their children, they reduce working hours from 34 hours to 30 hours per week. The same results also occur in elderly women.

Therefore, this research attempts to fill the critical gap in the economic literature by examining how the impact of family transfer and coresidency on the decision of elder people in Indonesia to work again (as a proxy of labor supply). In addition, this paper will contribute to enriching the literature by using the most recent data and a greater number of respondents than previous studies. Moreover, this study also will try to investigate the effect of family transfer and coresidency on the elderly welfare perspective. Although there is no research about the correlation between intergenerational support and elderly welfare perspective in Indonesia, we will refer to research related to this topic in other countries. Lastly, this study will also explore the motivation and determinant factor influencing family transfer and coresidency.

1.2 Research Objective

In Indonesia, as in other developing countries, transfers are commonplace (Park 2003). According to Park, the majority of household in developing countries (around 20% -90%) receive family transfers, while in developed countries like the United States, it is only 15%. It reveals that family support has a potency to complement the social security program issued by the government. Therefore, the main objective of this study is to investigate how the association between family support in the form of family transfer and coresidency with the elderly labor supply and welfare perspective. In addition, we will also evaluate demographic factors as a control variable that plays an essential role in influencing the elderly labor supply and welfare perspective of the elderly.

This study will also explore the factors that influence transfer behaviour and coresidency in exploratory models to conduct a complete and comprehensive research. We divided these factors into two, which are parents' characteristics and children's characteristics.

1.3 Research Question

This research aims to examine the impact of the Family transfer and coresidency on elderly employment supply and their welfare in Indonesia.
In addition, this research also attempts to answer several related questions:

a. To what extent do the characteristics of parents and children motivate the behaviour of transfer and coresidency in Indonesia?
b. To what extent do a family transfer and coresidency affect the decision of elderly people to work and welfare perspective in Indonesia?
c. To what extent do demographic variables such as age, gender, education and health affect the decision of older people to work and the welfare perspective of elderly people in Indonesia?

1.4 Contribution to the Literature

There is still a very limited number of literature that investigates the correlation between elderly labor supply and welfare perspective as the dependent variable and family transfer and coresidency as independent variables in Indonesia. Cameron, Lisa A. and Cobb-Clark (2008) examined the effect of family transfer families on labor supply using one wave of Indonesian Family Life Survey (IFLS) 1997 data. Meanwhile, this study will try to use two waves of IFLS data on which IFLS 2007 and 2015. This strategy is carried out to get a more evident change results related to the impact of family transfers and coresidency on the decisions of the elderly to work. Moreover, this study will also analyze the effect of family transfer and coresidency on the perspective of elderly welfare where no previous research investigated this topic in Indonesia.

Thus, by using two waves of IFLS data and more broad observations, this study will try to investigate more comprehensive related to Elderly Labor Supply. Furthermore, this study will provide new literature related to the relationship between financial transfer and coresidency with the Welfare Perspective of the elderly.

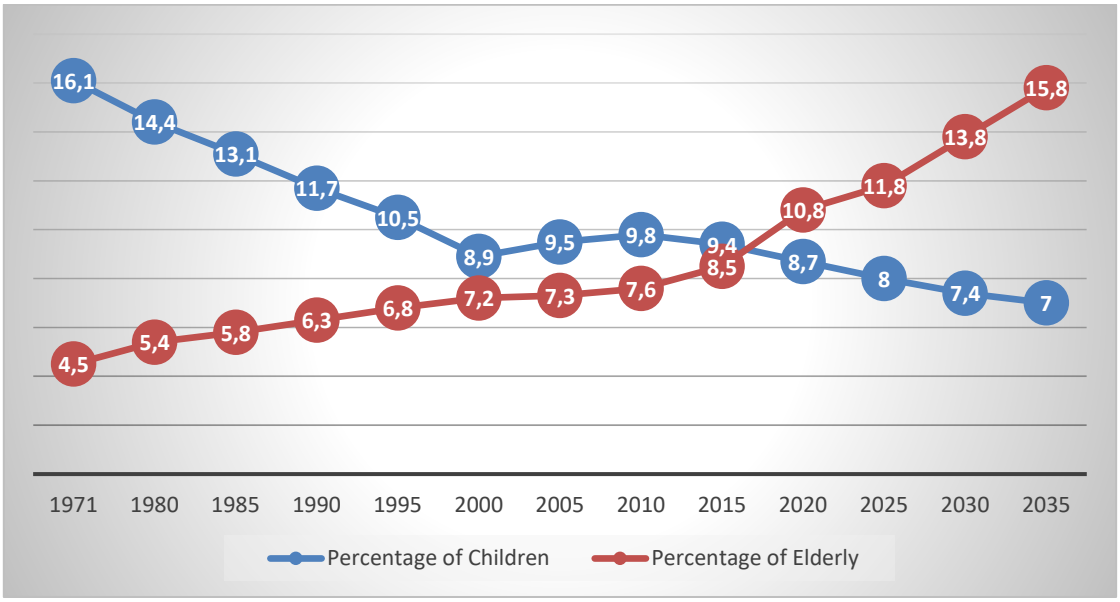
1.5 Chapter Scheme of Research Paper

This research presents five chapters. The first chapter will provide an introduction that contains background, research problems, research questions and contribution to literature. The second chapter will talk about the Indonesian context. The third section presents the theoretical framework and literature from previous studies. The Fourth chapter focus on the data and methodology used in this study to answer research objections and research questions. The next chapter will reveal the result and its analysis. Finally, the conclusion will be presented in the last section.

Chapter 2: Overview/Context in Indonesia

In the 1970s, the role of government programs such as family planning had contributed positively to the decline in fertility levels that were too high in Indonesia. On the other hand, the government program in the form of improving the quality of people's health through social security and health insurance has created an increase in individual life expectancy for the elderly. Thus, the decline in fertility and improvement in life expectancy has changed the demographic structure in Indonesia. The following figure explains the change in population structure in Indonesia from 1971 to estimation in 2035 based on the BPS Population Statistics 2017.

Figure 2. The Changing of Demographic Structure in Indonesia



Data Source: Statistic Indonesia 2017

Even though it has not covered all the old residents, the Indonesian Government has issued policies and programs for the welfare of the elderly. The Government's attention to the well-being of the Indonesian elderly has been carried out since the Old Order period through Law No. 4 of 1965 concerning the Providing of Assistance for the Elderly People's Livelihoods (as cited in Statistics 2017). Now, in the reign of the Work Cabinet (2015-2019) there is a National mid-term development plan (RPJMN) concerning two main things, which are increasing the fulfilment of fundamental rights and inclusiveness and strengthening social protection schemes for the elderly. The Government and Ministries/Institutions related to humanity are also preparing a draft National Strategy for National Humanity 2018-2025. One of the contains of that draft is increasing the health status of the elderly, and protect fulfilment and respect for the right of the elderly.

Because the primary respondent in this study is elderly people, the author needs to illustrate the characteristics of older people in Indonesia. The fifth decade, the percentage of elderly Indonesians has doubled (from 1971 to 2017), which is 8.97 per cent (23 million people) where the elderly woman is about one per cent more than the elderly man (9.47 per cent compared to 8.48 per cent). In addition, the elderly are dominated by the age group of

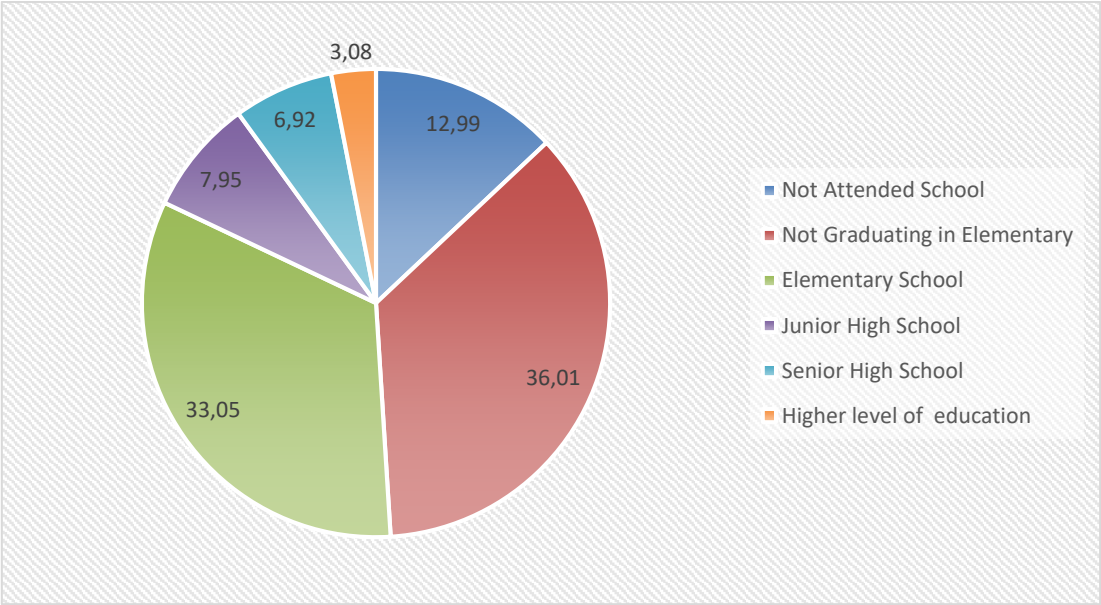
60-69 (young elderly) whose percentage reaches 5.65 per cent of the population of Indonesia, and the rest is filled with age groups 70-79 years (middle-aged) and 80 + (older elderly).

Based on Susenas, the Literacy Rate (LR) of the elderly has increased by 15 per cent over the past ten years. This increase is motivated by the existence of elderly regeneration and literacy programs for the elderly population held by the Government. Consequently, in 2017, 78.19 per cent of the elderly were able to read and write. Viewed from the aspect of gender, in the last fifth decades where education was still limited to several groups, men were prioritized for education compared to women. This has an impact on LR of older women who are smaller than older men. However, the LR gap between men and women is relatively narrow from year to year. The opening of opportunities for women to receive education led to an increase in the LR of women from 50 per cent to 70 per cent.

In general, majority of elderly people have a low education level. The most significant percentage is at the elementary school level and below (not graduating from elementary school). This is because, in the colonial era, there was little opportunity for the Indonesian population to continue their education. People who can reach higher education are only from the class of nobles, officials or rich people. That is why the number of independent people who can achieve a higher level of education is only 3.08% of the total level of elderly people.

If elderly are associated with the level of education, there is a pattern where the percentage of working elderly increases with the increase in education level to elementary/equivalent. However, at a higher level of education, the percentage of elderly working is declining. This decline can be caused by the elderly who are highly educated who have good jobs so that they have gained enough accumulated wealth to support their old days compared to those with low education. Low-educated elderly people tend to continue working in their retirement due to not having savings from work in their youth.

Figure 3. Education Attainment of Elderly in Indonesia



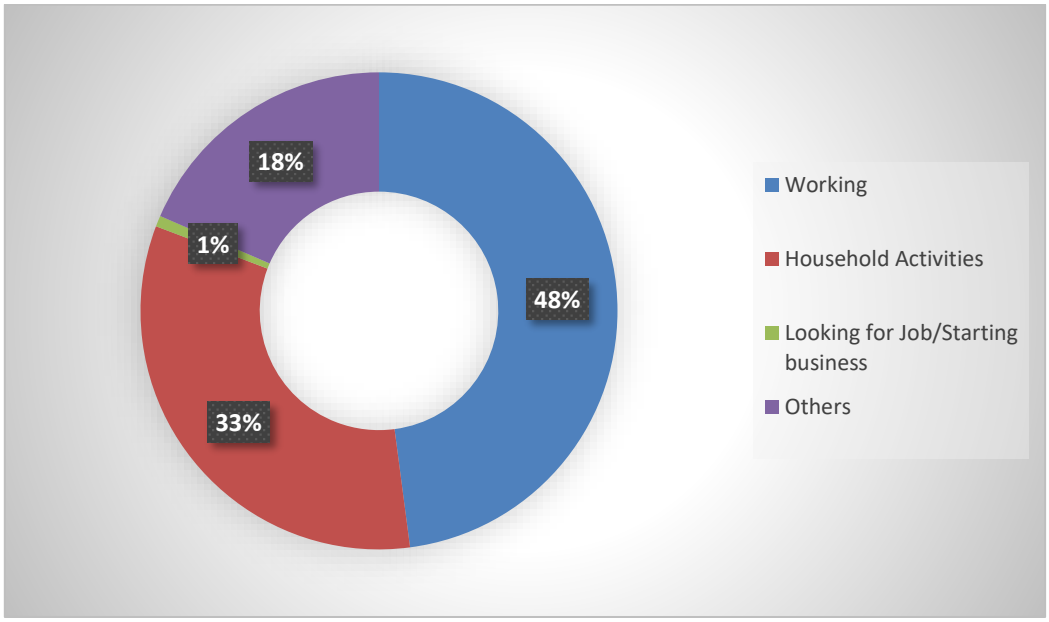
Data Source: Statistic Indonesia 2017

In 2017, the percentage of working elderly reached 47.92 per cent. This means that almost half of the elderly are still actively working to meet their basic needs or as a form of self-actualization. The high percentage of working elderly can show that elderly people still

have the same opportunity to work and remain active in their old days even though their physical condition has declined.

Based on statistics 2017, viewed by type of region, the percentage of elderly in rural areas who work is higher than the elderly in urban areas (55.34 per cent compared to 40.93 per cent). The high percentage of rural elderly who work can be caused by various factors. In rural areas, more informal employment is available, especially in the agricultural sector, which does not require special skills. Thus, older people in rural areas are absorbed in employment. In addition, the elderly in rural areas tend to continue working in old age due to lower accumulation of wealth compared to the elderly in urban areas. Meanwhile, when viewed by sex, the percentage of elderly men who work is almost twice higher than for older women (63.29 per cent versus 33.79 per cent).

Figure 4. Activities of Elderly People in Their Retirement Period



Data Source: Statistic Indonesia 2017

Chapter 3: Theoretical Framework and Literature Review

In this chapter, we will divide into two sub-chapters, which are the theoretical framework of this research, and the empirical evidence related to this paper. In the theoretical framework, we will focus on the motivation of family transfer and coresidency, and also the impact of these two independent variables on the elderly labor supply and the elderly welfare perspective. In the literature review, we will provide empirical evidence of correlation of explanatory variables and dependent variables.

3.1 Theoretical Framework

The number of old population in the world is increasing significantly and surely. This increase is because fertility and mortality rates decrease, while life expectancy increases. This condition occurs in the majority in developing countries, including Indonesia. In contrast to developed countries, developing countries pay less attention to the phenomenon of the increasing number of elderly people (Cameron, Lisa A. and Cobb-Clark 2008). For example, social assistance programs for the elderly, such as pension programs, are not widely implemented or only the middle to upper classes receive assistance. As a result, older people rely on fulfilling their daily needs with the wages they receive when entering the labor market. Moreover, the elderly must depend on the stock of assets they collect during productive age, family transfers from their children, or the decision to live with their children (Cameron, Lisa A. and Cobb-Clark 2008).

3.1.1 Motivations and Determinants of Family Transfer and Coresidency

According to Frankenberg et al. (2002), family transfers are systematically beneficial for supporting and helping within families. In Indonesia, the function of family transfer can be seen when government programs such as social security cannot be felt by everyone, especially for the elderly. Various forms of family transfer benefits include supporting the lives of parents in retirement, helping parents or among family members in difficult times, paying off debts and others. The existence of family transfer in the social life in Indonesia helps or at least gives time for the government to prepare appropriate social security and to reach all people, especially the elderly in their retirement period.

In his research, Park (2003) divided the motivation of children's transfer into several types. First, the reason children give financial transfers to their parents is to maintain the opportunity that children will obtain bequest from their parents. This motive is called the "self-interest" motivation. Second, "repayment motive", financial transfers from children to parents are due to the results of human resource investments made by parents to their children in the form of providing high education. Thus, the provision of education by parents is a debt for children and children return the debt in the form of transfers when they are adults. The last motivation is "pure-altruism" motive. Children give transfers to parents because they want to help fulfil their consumption and serve their parents during their retirement. Parents who teach their children when they are young to help others and serve their parents will have a higher chance to receive help from their children in their old age (Lee et al. 1994).

Frankenberg et al. (2002) explained in journal article entitled Pattern of Intergenerational Transfer in Southeast Asia that the characteristics of children as transfer providers and

characteristics of parents as recipients of transfers are factors that motivate transfer behaviour from children to parents or vice versa. In line with Frankenberg et al. (2002), Sun (2002) states that the quality and quantity of family support is influenced by the resources of the giver and the needs or conditions of the recipient. Some of the characteristics of the child are level of education of the child, status of marriage, and gender of the child. Meanwhile, the characteristics of parents include age and health conditions. Another supporter, Park (2003: 942) claimed that there is no single factor that determines family transfers in Indonesia. For transfers from children to parents, widowed mothers receive a larger family transfer than other parents. He also mentioned that age is an essential factor in influencing transfer behaviour.

Besides, transfers from children, coresidency is another way to support parents in their retirement period. As explained earlier, the increase in the number of elderly people in the world, including Indonesia, raises essential questions. When government programs are not optimal in resolving these issues, the critical question is how and who will take care of the old population. A very fundamental tool to guarantee the basic needs of the elderly population because social security is un-developed is coresidency (Chaudhuri and Roy 2009). Even some researchers claim that because of the power of "this conventional wisdom" or the childcare for parents, the government pays less attention to policies that focus on the welfare of the elderly (Hugo 1992 as cited in Frankenberg et al. 1999: 65).

According to Beard and Kunharibowo (2001), the majority of elderly Javanese, the most dominant tribe in Indonesia, prefer to live with their children rather than reside alone. The reason parents want to live with their children is that they will obtain material and immaterial support (Johar and Maruyama 2011). Research in Japan and United Stated conducted by Johar et al. (2010) and Dostie and Léger (2005) show that there is a positive correlation between the needs of parents and the decision of parents to live with their children.

Lee et al. (1994: 1011) argue that there is no single motivation that influences coresidency. Parents face the choice of whether they will choose to live with their child or not. Some researchers combine the characteristics of children and parents as important factors that influence coresidency such as gender, marital status, education level and a number of children's wealth, parent's health, and age in Indonesia (Frankenberg et al. 1999, Cameron, Lisa A. and Cobb-Clark 2008). Chaudhuri and Roy (2009) also used variables of age, health status and property ownership as characteristics of parents that influence coresidency in India. Although they did not utilize children's features because of limited data, Chaudhuri and Roy also acknowledged that children's characteristics such as marital status, location and income are also factors that play an important role in determining coresidency decisions. Other studies focus more on the parent's income and housing prices as a determinant factor of coresidence (DaVanzo and Chan 1994).

3.1.2 Impact of Transfer and Coresidency

After we discuss the motivation and determinants of transfer and coresidency, we will now discuss the effects of transfer and coresidency on the elderly labor supply and the welfare perspective of elderly people. Research that connects family transfers and coresidency and the elderly labor supply and welfare perspective are very limited.

Bengtson (2001) argues that the relationship between families in the future will be significant. This condition is because first, the demographic structure in the world has changed with the increase in the old age population. Second and third are the increasing role of grandparents in family function and a sense of solidarity among family members who are getting stronger.

In line with Bengtson's idea, Cameron, Lisa A. and Cobb-Clark (2008: 1008) stated that the elderly population in Indonesia maintains their standard of living in retirement through three important mechanisms, namely family transfer, coresidency and labor supply. Transfers are not only as a guarantor of living standards for the elderly but also as a determining factor for the elderly either to participate into the labor market or not at their retirement age (Cameron, Lisa A. and Cobb-Clark 2008). Their results indicate that family support in the form of financial transfers and coresidency in developing countries has significantly reduced government policies aimed at improving the living standards of the elderly.

Some research results explain that there is a negative relationship between the number of working hours of parents and family support in the form of transfers. Cameron, Lisa A. and Cobb-Clark (2002: 650) provide some research results that transfer is a common practice that takes place in Indonesia and has a significant impact on decreasing working hours. Even though the amount of money transferred is not too large, the amount is still higher than the average income per person. They also claimed that family transfers as Rp 100,000 would reduce the number of working hours by 1.6 hours for elderly women who do not live with their children.

Other studies in other countries show that increasing the amount of child income will cause a decrease in the number of hours of father's work in Pakistan (Kochar 2000). The father does not need to expenditure ceremonial and durable goods consumptions because the child has covered all these costs by increasing his income. Reducing the cost of consuming these items affects the father's decision to reduce the number of hours worked. Moreover, Nguyen et al. (2012) investigated the effect of child transfers on elderly labor supply in Vietnam. They divide family transfers into two, namely transfers from coresiding child and non-coresiding child. The former has an insignificant relationship with the elderly labor supply, whereas the latter has a significant negative correlation to the reduction in the number of working hours of parents. Another result is that family transfers are an effective means of alleviating the risk of an elderly population which is vulnerable in age, health conditions and natural disasters in Vietnam when the pension scheme has not been appropriately developed by the Government (Nguyen et al. 2012).

Traditionally, the decision of parents to live together with their adult children called coresidency is widespread in Asia included Indonesia. In Southeast Asia, the majority of the elderly population lives with their children, but others choose otherwise because of the factor of demographic patterns (Frankenberg et al. 1999). Furthermore, Cameron, Lisa A. and Cobb-Clark (2008) claimed that more than 60% of the elderly population in Indonesia lived with their adult children. While the remaining 40% decide to live alone, live only with their partners or live with others (not children and partners).

Cameron and Cob Clark (2008: 1018) found that coresidency had a more significant impact than family transfer toward elderly labor supply. Coresidency and education factors are important determinants of older residents in reducing the number of hours worked. Non-Coresidency-elderly who have low education will tend to work longer than the coresidency elderly who have higher education. They also added the characteristics of parents such as age, marital status, education level and children's characteristics such as children's education and marital status would have a different impact on coresidency and non-coresidency elderly.

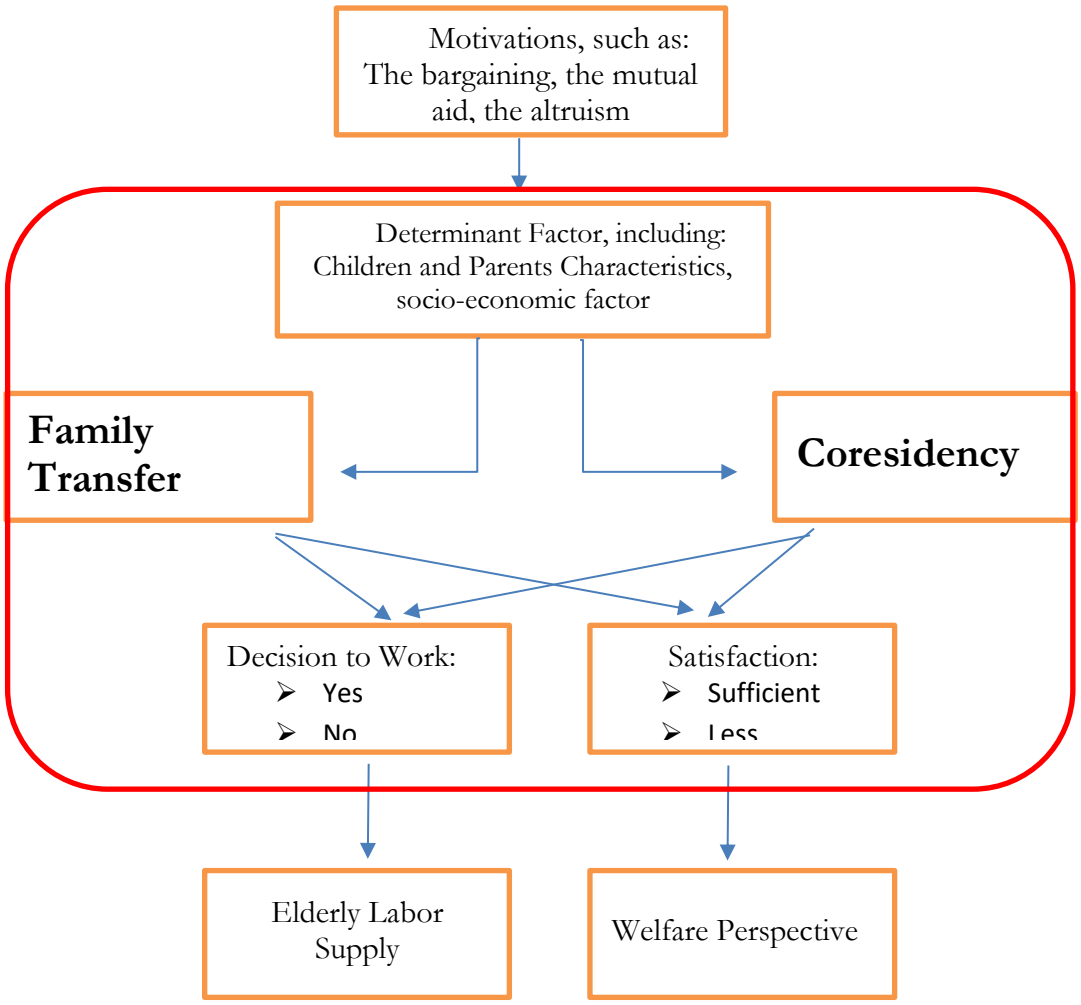
Furthermore, Frankenberg et al. (1999) argue that coresidency benefits are not only accepted by older residents but also the productive population. For example, the elderly population gets the provision of living expenses, and young residents get services to care for their children. Other evidence comes from Schwarz et al. (2010); they state that the benefits of coresidency are also accepted by parents and children. For instance, children who are poor and do not have the resources to meet their standard of living receive assistance from parents

who are coresidency. Conversely, because of the altruistic factor, children choose to live with their parents and provide support to parents, especially for mothers who are old widows.

The second dependent variable to be discussed is the impact of family transfer and coresidency on elderly well-being perspective. Although there is no research that connects intergenerational support such as transfer and coresidency and welfare perspective in Indonesia, there have been several studies related to this topic in another country such as China. Silverstein et al. (2006) examined how internal structure and support from adult children affected the psychology of elderly people in rural China. Similar research was conducted by Chen and Silverstein (2000: 44), they investigated the impact of "structural, functional, emotional and appraisal social support" on the well-being of the psychology of parents in China.

Even though economic development is increasing rapidly and causing changes in social life in China, but because they embrace Confucianism, China has established a robust family support system to guarantee old residents. Thus, overall, the results of Silverstein et al. (2006) is that parents who live with their adult children have a better welfare perspective than those who do not. In addition, parents who receive the family transfer and "stronger emotional cohesion" from their children will improve their welfare psychology Silverstein et al. (2006).

Figure 5. Summary of The Motivations and The Impact of Intergenerational Support (Family Transfer and Coresidency)



Source: Constructed from Literature Review mentioned above.

3.2 Literature Review

3.2.1 Family transfer

Family is an entity that has a vital role in carrying out functions to provide support among family members. The support can be in the form of financial assistance or taking time to help family members who need help. In some developing countries, no exception to Indonesia, family support is the primary means of ensuring the survival of elderly family members (Frankenberg et al. 2002). This phenomenon implies that Family transfer is a dominant mechanism and has a significant influence to support the elderly compared to government social security which is indeed very limited in developing countries (Cameron, Lisa A. and Cobb-Clark 2008, Frankenberg et al. 2002).

Research that explores family transfers is quite a lot in both developing and developed countries. For example, Frankenberg and Kuhn (2004) have compared family transfer behaviour between Bangladesh and Indonesia, Schwarz et al. (2010) investigated the relationship between intergenerational support and subjective wellbeing of transfer provider. Another study, Frankenberg et al. (2002) examined deeper the motivation of family transfers between parents and children. However, research about the influence of family transfers on the elderly labor supply and life satisfaction of elderly people is still minimal, especially analysis using two waves of IFLS data in Indonesia.

Cameron, Lisa A. and Cobb-Clark (2008) analyze the effect of intergenerational transfer and coresidency on the elderly labor supply. They used the IFLS 1 data with a sample size of 1,429 parents. In this study, they used measurements in the form of working hours of the elderly to reflect on the elderly labor supply. Furthermore, they established a control variable consisting of coresidency in gender, marital status, and education status. Overall, the result is that social family transfer has an insignificant relationship to parents' decisions to reduce working hours, while significant effects only occur where family transfers are addressed to non-coresiding women. They argue that the reason why family transfer does not affect the decision of the elderly to reduce their working hour is because the number of transfer is too small and unpredictable. Another study, Utomo et al. (2018) using a sample of 2,750 respondents in 10 villages claimed that although the effect was little, there was a significant negative relationship between the decisions of the elderly people to work with remittances.

Nguyen et al. (2012) examined the impact of family transfers on elderly labor supply in Vietnam. Using national survey data containing 6000 households, they utilized 2,843 samples of older people in Vietnam. Considering the endogeneity problem between family transfer and elderly labor supply, they implemented two equations by using Full Information Maximum Likelihood strategy. The results show that although financial transfers from children cannot replace the income received from participation in the labor market, they are seen as effective tools in reducing the risk of vulnerable parents at age, health conditions and natural disasters in Vietnam. Additionally, as older people advance in age, and they have poor health, they tend to decide not to work again in their retirement. Overall, family transfers are a fundamental means of ensuring the wellbeing of the elderly population when facing the risk of illness and ageing (Nguyen et al. 2012).

Because research that links family transfers and coresidency and wellbeing perspectives do not yet exist in Indonesia, we use study conducted in other countries. Silverstein (2006) investigated the effects of intergenerational transfer and household arrangements on elderly psychological wellbeing in rural China. They used old residents as respondents in six villages in the Chaohu region, and they identified 1,800 individuals as accurately respondents. Overall, the result is that older people who receive more massive family transfers and feel

emotional support from their children will be more satisfied with their lives than parents who receive little family transfer or who don't.

Finally, this study will use the concept in Cameron, Lisa A. and Cobb-Clark (2008) and Utomo et al. (2018) to examine the social impact of family transfers on the elderly labor supply. Interestingly, this study will use two waves of IFLS, which makes it different from previous studies. The reason for utilizing two waves is because to reduce the potential for endogeneity problems where the variable Family transfer and the elderly labor supply indicate influencing each other. By using two waves, this study will also focus more on changing the behaviour of parents to work, which is reflected by changes in decision to working due to the influence of Family transfer.

3.2.2 Coresidency

Government strategies to provide programs focused on the welfare of the elderly community such as pension schemes, health insurance and social institutions are still very limited in developing countries, including Indonesia (Schwarz et al. 2010). This condition results that the majority of the elderly population in Indonesia depend on their participation in the labor market. However, according to Kreager (2006), families have a crucial role in providing informal support for the elderly, especially those who are sick and weak. The informal support is coresidency, a condition where parents live with adult children.

The factors determining the coresidency vary in several regions. Hamoudi and Thomas (2014) claim that in South Africa, parents who receive pension funds tend to live with less-educated adult children. In Japan, the reason for parents to live with children is simple to provide care for children (Johar et al. 2010). Chaudhuri and Roy (2009) underline that the demographic variables of the characteristics of children and parents have an essential role in coresidency behaviour in India. Other research suggests that coresidency provides benefits not only to parents but also to their children.

Then, we will focus on correlation relations with the elderly labor supply in Indonesia. Because research linking coresidency with elderly labor supply is very limited, we will focus on some of the literature. Cameron, Lisa A. and Cobb-Clark (2008: 1018) provide the result that non-coresiding elderly man who has a lower education level will decide to work longer rather than a non-coresiding man who has higher education. A more significant difference also occurs in a non-coresiding woman. Another result said that the coresiding-man (woman) who before retirement worked in the public sector chose fewer working hours than the coresiding-man (woman) who previously worked in the private sector. Those results show that the coresidency factor has an important role in determining whether or not to work for the elderly in Indonesia. Furthermore, Cameron, Lisa A. and Cobb-Clark (2002) concluded that in the recent period, due to modernization and industrialization in urban areas, many Indonesian younger have moved towards the city thereby reducing the opportunity to live with their parents. Consequently, it could affect the decision of parents to enter the labor market at their retirement age.

The results of other studies came from Pakistan. Kochar (2000) examined the impact of increasing child income on the number of working hours of the coresiding father. The results of the study are that the benefits obtained by the father come from joint consumption in the family. Children finance expenses related to ceremonial expenditure and durable goods, then this causes a reduction in father's working hours. In line with Kochar (2000), using independent survey data samples, Utomo et al. (2018) found that parents live with their adult children, then the parents will reduce the number of hours worked.

Because there is no research in Indonesia that investigates the coresidency relationship with the welfare perspective, we refer to research in other countries. Silverstein et al. (2006)

examined the effect of coresidency or household composition on the level of depression of parents and well-being psychology parents. They found that parents who live with their children and grandchildren have lower levels of depression than parents who live alone. In addition, the coresidency of elderly people has higher life satisfaction than non-coresidency-elderly people. Chen and Silverstein (2000) argue that intergenerational support such as coresidency increases the morale of parents because through coresidency parents have a greater opportunity to accept emotional and financial support from their children. Lastly, another result came from Teerawichitchainan et al. (2015), they explained that coresidency has a significant positive correlation with the emotional health of the elderly population in Vietnam and Thailand. Furthermore, living with a daughter increases parents' psychological well-being rather than living with a son in Thailand.

3.2.3 Demographics Variables (Age, Education, Health)

Kaushal (2014) using Indian statistics utilized age and education as a control variable in his research to examine the impact of program pension schemes in India on elderly employment and family expenditure. He found that older men who had an education under secondary education would tend to continue working when they were older. Different conditions when older men have higher education, they will reduce working hours when they are older. He also found relatively similar results in elderly women. As older women get older, they will reduce the number of hours they work even more than the reduction in the elderly man. The most logical explanation is that educated people usually have a higher income so that their savings are enough when they have entered retirement age. Moreover, they are entering retirement age due to mandatory retirement.

Another result Utomo et al. (2018), which uses approximately 1500 respondents from independent surveys in 10 villages in Indonesia, divides the age of respondents into six groups which are 60-64, 65-69, 70-74, 75-79, 80-84 and above 85. The result is that the older man who is getting older will reduce their working hours, and a similar result also reflects the characteristics of elderly women. Combining with the level of education, both elderly man and woman who is older and has a high level of education will tend to decide not to work. Conversely, the elderly people who have a low level of education will tend to continue working at their retirement age. Hence, based on previous studies, education level factors have a significantly negative relationship with the intensity of the elderly entering the labor market.

Some research also states that good health conditions have a positive correlation with the activity of the elderly in deciding to work in retirement. French (2005) states that health is one of the main factors influencing labor participation in the United States. Using the Panel Study of Income Dynamics (PSID) method and US population data, He illustrates that the number of working hours owned by workers who have good health status is higher than workers who have poor health status. Furthermore, these results apply to every age of the workforce from the age of 30 to 70 years. Other results report that good health influences the level of participation in the labor force.

Chapter 4: Data and Methodology

4.1 Data

4.1.1 Preliminary Information

In this research, sources of primary data are taken Indonesian Family Life Survey (IFLS), and the data used is from community facility survey from IFLS 4 and 5. IFLS is "the only large-scale longitudinal survey" exist in Indonesia (Strauss et al. 2016: 1). It provides data for investigating behaviours and outcomes. It also represented 83% of Indonesia's population and was conducted in 13 provinces in Indonesia.

Then, we will divide the chapters into two major sub-chapters, namely an explanation of the data and methodology used in this study. Moreover, each major sub-chapter will include first, the impact of family transfer and coresidency on the labor supply and welfare perspective (main model) and second, the determinant factor influencing family transfer and coresidency (exploratory model).

For the main model in this research, the primary respondent is people who are fifty years old or more (namely elderly people). Moreover, the study will also focus on their economics behaviour. Thus, the data used in this study is the individual level. Furthermore, we will apply multiple regression and use two variables as a dependent variable and several variables as independent variables. The dependent variable in this study is older people who decide either to work or not in their retirement period and their welfare perspective. Meanwhile, the independents variable are classified into two categories which are family transfer from elderly people's children and coresidency with their children as a primary independent variable and as control variables are demographic variables such as age, gender, education, and health.

For the exploratory models, we will put family transfer and coresidency as dependent variables. Moreover, for independent variables, this study will use children's characteristics and characteristics of parents. Characteristics of children include marital status, gender and educational achievements of children who have income. While the features of the parents used are age, health conditions, gender and marital status. Research for exploratory models will use IFLS 5 data.

4.1.2 Summary of the data (Main Model)

As mentioned before, the whole data is taken from IFLS 4 and 5, especially in book 3A within the RE section (retirement period), and another information is utilized from book 3B. For more detail presentation, we provide a table below that summarizes the entire data that we will use.

Table 2. Dummy Variable Data of Main Model

No	Variable	Description (Dummy Variable)	Frequency (after combining IFLS 4 and 5 data)	Additional Information
1	Elderly Labor Supply	Decide to not working (0)	1,080	Dependent Variables
		Decide to working (1)	4,718	
2	Welfare Perspective	Less Sufficient (0)	1,388	
		Sufficient (1)	4,407	

3	Family transfer from Children	Receive (1)	3,841	Independent Variables
		Not Receive (0)	1,957	
4	Corecidency	Live with the children (1)	3,858	
		Not live with the adult children (0)	1,940	
5	Education	Up to Elementary school=1	3,202	
		Up to Senior high school=2	1,204	
		Up to higher education=3	395	
		Not attend school=0	997	
6	Health	Good (1)	4,271	
		Poor (0)	1,527	

Data Source: STATA output from elaborating IFLS 4 and 5 data

The Dependent Variables

This Research will implement two variables dependents which are elderly labor supply and welfare perspective of elderly people. In addition, these two variable dependents are classified as categorical variables.

Elderly Labor Supply

We will place decision of elderly people to working or not as a proxy of labor supply. The data of dependent variables is taken from combining IFLS 4 and 5 data and involves 5798 elderly people who is as respondent within IFLS 4 and 5. This study applies the binomial variable for the dependent variable where decision of elderly people to work is 1, while the value of 0 is for those who decide to not work again in their retirement period.

Welfare perspective of elderly people

The decription of welfare perspective in this study is elderly people's satisfying on their family life condition. Based on the data in IFLS 4 and 5, elderly people who feel adequate with their family condition are 4,407 people. While, those who feel less satisfying with their family life condition are 1,388.

The Independent Variables

This study will employ six independent variables where all variables are classified as categorical variables. They are family transfer, coresidency, age, gender, health, and education. The detail description of the independent variables can be seen as follow:

Family transfer

In this study, we will put social tranfer as a binomial variable. The value of 0 is for elderly people who do not receive fund of family transfer from their children, while for those who receive that social transfer, we set as 1. The sample reveals that there are 3,841 elderly people who receive family transfer, while 41,6% of elderly people which is approximately 1,957 people did not receive family transfer from their children.

Coresidency

Coresidency is explained as condition where elderly people live together with their mature children. Furthermore, this paper applies dummy variables to describe elderly people

who live together with their children or not. The value 1 is for those who live together, while 0 is elderly people who live alone. The sample says that there are 3,858 elderly people who live together with their children and 1,940 people who live alone.

Age

This research classifies age as continuous variable. In addition, the maximum age of respondent is 94 years old, while the minimum age of elderly people is 50 years old. On average, age of respondent in the entire sample is 61 years old from 5798.

Education

We divide education variable into four categories. Description of each category is where 0 is for respondent who did not attend school, 1 is for those who achieve school up to elementary school, 2 is for those attended school from elementary to secondary school, 3 is for those who have higher education rather than secondary level. Based on the data summary the number of category 0, 1, 2, 3 are 997; 3.202; 1.204; 396 resepectively.

Health

This study divides health condition of respondent into two categories which are good and poor condition. We set value 1 as elderly people who has a good health and 0 is for those who has a poor health condition. The data reports that the number of healthy elderly people are 4,271. While, un-healthy elderly people are 1,527.

4.1.3 Summary of the data (Exploratory model)

For this sub-chapter, we will provide a data summary from exploratory models to support the story of the main model. Specifically, the author takes the data set from the control book and covariant book 3A from IFLS 5. To clarify the dependent and independent variables of this exploratory model, we provide the table below:

Table 3. Dummy Variable Data of Exploratory Model

No	Variable	Description (Dummy Variable)	Frequency (IFLS 5)	Additional Information
1	Family Transfer	Not Receive (0)	1,625	Dependent Variables
		Receive (1)	2,850	
2	Coresidency	Not Living together (0)	1,075	
		Living together (1)	3,400	
	Parents Characteristics			
3	Health	Bad (0)	1,503	Independent Variables
		Good (1)	2,972	
4	Gender	Female (0)	2,008	
		Male (1)	2,467	
5	Marital Status	Unmarried (0)	1,032	
		Married (1)	3,443	
	Children Characteristics			

6	Marital Status	Unmarried (0)	1,751	Independent Variables
		Married (1)	2,724	
7	Gender	Female (0)	1,668	
		Male (1)	2,807	
8	Education Level	Not attended school (0)	31	
		Up to Elementary (1)	884	
		Up to Secondary School (2)	2,638	
		Higher education (3)	922	

Data Source: STATA output from elaborating IFLS 5 data

Dependent Variables

This Research will implement two variables that are family transfers and coresidency as dependent variables. In addition, these two variable dependents are classified as categorical variables. In this exploratory model, we use data sets from IFLS 5 with total observations of 4,475 respondents. We will examine the factors that influence family transfer and coresidency in the household.

Independent Variables

In this exploratory model, the author divides independent variables into two categories. The first category is parental characteristics, which include health, gender, marital status and age. Meanwhile, the second category is the characteristics of children, which include marital status, gender and education level of children who work and have income. The data was taken from IFLS 5, with a total of 4,475 respondents.

4.2 Methodology

This Research paper will apply a quantitative method that compares three statistical methods in which the Linear Probability Model (LPM), Logit Method and Fixed Effect. First, we will examine the use of the LPM method and Logit Method to investigate the effects of family transfers and coresidency on the elderly labor supply and the elderly welfare perspective. The reason behind the use of these both methods is that the dependent variable in this study is the categorical variable, and this requires specific treatment in estimating the results. So, if we only use the Ordinary Least Square (OLS) method, estimation results and assumptions may be interrupted. Therefore, this paper proposes to compare the estimation result of implementing these methods. Finally, if the estimation results look identical, then the two models are feasible to be used as estimators.

Next, we will compare the estimation results using LPM and Fixed Effect method. The reason why this study does not use OLS/LPM only in investigating the effects of financial family transfers and coresidency on the elderly labor supply and welfare perspective is the potential for endogeneity problems. The potential for endogeneity problems arises because there is a correlation between independent variables with residuals or Cov (x, u) = 0. There are two main reasons why violations of this assumption occur, namely, first Omitted Variable, which occurs if we do not enter a variable into the model (and it should exist). As a result, when y and x vary, u also varies in a predictable direction (Wooldridge 2015: 463). Secondly, Simultaneity, It occurs due to the existence of explanatory variables that are supposed to be shared with dependent variables and the value is determined through a system (Wooldridge 2015: 499). This happens when regresses, and one/several regresan is influenced by one/more variables which are not in the regression model (outside the model).

According to Wooldridge (2015: 461-462), there are several popular approaches used to solve the problem of endogeneity, namely the Instrument variable method. Instrument Variables (IV) can be used to get consistent estimators even though there are cases of omitted

variables. However, this study cannot apply IV method because the previous literature related to this topic is so limited that we have not found the use of IV to solve endogeneity problems in the same topic. Finally, this paper implements individual fixed effect to obtain a consistent estimator and unbiased result.

4.2.1 Comparing LPM, Logit Method, Fixed Effect

First of all, we will estimate the main model by using both the LPM and Logit method. On the one hand, Wooldridge (2015: 265) claimed that "when the dependent variable *y* is a binary variable, the model must contain heteroskedasticity, unless all of the slope parameters are zero". In addition, he also proposed that "OLS estimation of the LPM is simple and often produces a satisfactory result". On the other hand, multinomial logit is the right method for measuring dependent variables is categorical (Wooldridge 2015). Therefore, this study will use these two methods and compare the results.

Secondly, after processing and merging IFLS data 4 and 5, we will compare the use of the LPM only method to the LPM with Fixed effect. This is important to do because the use of fixed effects is to cover endogeneity problems, as mentioned earlier. Although the best solution is to use instruments variable, the use of fixed effects is expected to produce unbiased and consistent estimators.

In the previous study, Cameron, Lisa A. and Cobb-Clark (2008) implemented the maximum likelihood estimation (MLE) of Probit and Logit Models to examine impact intergenerational transfer and coresidency. The use of MLE is fundamental for estimating limited dependent variable models. This is because"the dependent variable is given x (independent variable), the heteroscedasticity in Var (y / x) is automatically accounted for" (Wooldridge 2015: 528). He also said, "under very general conditions, the MLE is consistent, asymptotically normal, and asymptotically efficient".

Thus, this research proposes and modify the model used in the previous study by Cameron, Lisa A. and Cobb-Clark (2008). The main model is as follow:

$$Ls_{i,t} = \alpha_1 + \alpha_2 Transf_{i,t} + \alpha_3 Cores_{i,t} + \alpha_4 X_{i,t} + \delta_i + \varepsilon_{i,t}$$

$$Welf_{i,t} = \alpha_1 + \alpha_2 Transf_{i,t} + \alpha_3 Cores_{i,t} + \alpha_4 X_{i,t} + \delta_i + \varepsilon_{i,t}$$

Where:

Ls	:	Labor supply (proxy:decision to working) of elderly people
$Welf$	:	Welfare perspective (satisfying of family life) of elderly people
$Transf$	:	Family transfer
$Cores$	:	Coresidency
X	:	Demographic Variables, such as: Age, Education and Health
α_1	:	Intercept
$\alpha_2, \alpha_3, \alpha_4$	:	The coefficient of variables
δ_i	:	Individual Fixed Effect
ε	:	Error term
i	:	Individual of respondent
t	:	Waves of IFLS (IFLS 4 and 5)

4.2.2 Treatment for Exploratory model

To make the study more comprehensive and complete, the author needs to present exploratory models to complement the main model. As mentioned above, the use of

exploratory models is to examine the determinants that affect family transfer and coresidency. The data used in this model is IFLS 5 data, with a total of 4475 respondents. The reason why we only use IFLS 5 data (one wave) is because in the exploratory model, there is no potential endogeneity problem and the purpose of the exploratory model is only to support and complement the exposure of the main model to be more comprehensive. Thus, the use of one-wave IFLS data is sufficient to reflect the determinants of family transfer and correlation. Exploratory models are as follows:

$$Transf_{i,} = \alpha_1 + \alpha_2 X_i + \alpha_4 Y_i + \varepsilon_i$$

$$Cores_i = \alpha_1 + \alpha_2 X_i + \alpha_3 Y_i + \varepsilon_i$$

Where:

$Transf$	:	Family transfer
$Cores$	:	Coresidency
X	:	Children Characteristics which are marital status, gender and educational achievements of children who have income.
Y	:	Parent Characteristics which are age, health conditions, gender and marital status of eldelry who is 50 years old or more.
α_1	:	Intercept
α_2, α_3	:	The coefficient of variables
ε	:	Error term
i	:	Individual of respondent

4.3 Hypothesis

Based on the literature review and methodology in previous studies, this study will propose several hypotheses as follows:

H1: *Family transfer and coresidency have no relationship with the decision of elderly people to work during retirement and elderly welfare perspective.*

H2: *Family transfer and coresidency have a relationship with the elderly labor supply and the elderly welfare perspective as follow:*

No.	Independent Variables	Depeendent Variables	Expected Signs
1.	Family Transfer	Elderly Labor Supply	Negative
2.	Coresidency		Negative
3.	Family Transfer	Welfare Perspective	Positive
4.	Coresidency		Positive

Chapter 5: Empirical Result and Analysis

In this chapter, we will provide answers to the research questions by analyzing empirical results related to family transfer, coresidency and elderly labor supply. First, we will provide a descriptive analysis of each model. Secondly, this section will also discuss how the correlation, interpretation and analysis between independent and dependent variables in the primary model using three methods, namely Linear Probability Model, Logit and Fixed Effect. Furthermore, we will also present results from exploratory models, which are factors that affect transfer and coresidency using the LPM method.

5.1 Descriptive Analysis

This session will describe the descriptive statistics (see table below) of the data panel of the main model and also descriptive statistics of the exploratory model. The table will provide some information covering the number of observation, the average, a minimum and maximum value of each variable. Based on the theoretical framework and the methodology in the previous chapter, the author will investigate four outcomes from 4 models, two from the main model and the others from the exploratory models. The number of observations for the first model was 5.798 respondents after the authors combined and processed the data from IFLS 4 and 5. Meanwhile, the number of observations for the exploratory models was 4.475 from IFLS 5.

From the table, we can see the behaviour and characteristic of dependent and independent variables. Based on IFLS data, the elderly people who are 50 years old and above who decide to work in their old age are 81% of the total respondents. This shows that work is still the main activity for elderly people in their retirement period. For the welfare perspective, more than 70% of the total respondents said that they felt adequate with their household conditions. For independent variables, according to IFLS data, the older people who get family transfers from their children are around 66% of the total respondents. Besides, the figure is almost the same as the percentage of Family Transfer, the elderly people who live with their children are 66% as well. Lastly, for demographic variables, the respondent's age range is from 50 to 94 years. The majority of respondents claimed that their health conditions were in the excellent condition, with a percentage of 73, 66%. Moreover, as mentioned in the introduction and background in this study, the level of education of parents in Indonesia is relatively low, that is, on average, they only finish school until elementary school.

Table 4. Descriptive Statistics of Main Model

No.	Additional Inform.	Obserrvation	Mean	Min	Max
1	Elderly Labor Supply	5,798	0.813729	0	1
2	Eldelry Welfare Perspective	5,798	0.760607	0	1
3	Family Transfer	5,798	0.66247	0	1
4	Coresidency	5,798	0.665402	0	1
5	Eldelry age	5,798	61.42446	50	94
6	Elderly Education Level				

	Elementary School	5,798	0.552259	0	1
	Secondary School	5,798	0.207658	0	1
	Higher education	5,798	0.068127	0	1
7	Eldelry Health Condition	5,798	0.736633	0	1
8	IFLS 2007 and 2014	5,798	0.5	0	1

Data Source: STATA output

Based on data from IFLS 5, of 4,475 respondents, elderly people who received transfers from their children and lived with their children were 63% and 75% respectively. This shows that in the updated survey in 2014, family ties between parents and children in Indonesia were still robust. For independent variables, we divide into two parts, namely the characteristics of parents and characteristics of children. The age of the respondent's parents is between 50 and 94 years. More than half of the total parent respondents admitted that they were in good health. The data also said that 76% of the total respondents were married. The characteristics of children as other independent variables are marital status, gender and education level of children who have income. A total of 2,685 respondents were children who had income and were married. Moreover, 62% of respondents were male who already had income. For education variables, we divide into four levels, and the average respondent has reached secondary school.

Table 5. Descriptive Statistics of Exploratory Model

No	Variable	Observation	Mean	Min	Max
1	Family Transfer	4,475	0.636872	0	1
2	Coresidency	4,475	0.759777	0	1
	Parent Characteristics				
3	Elderly Health Condition	4,475	0.664134	0	1
4	Elderly Age	4,475	59.32693	50	94
5	Eldelry Gender	4,475	0.551285	0	1
6	Eldelry Marital Status	4,475	0.769386	0	1
	Children Characteristics				
7	Child Marital Status	4,475	0.608715	0	1
8	Child Gender	4,475	0.627263	0	1
9	Child Edudation Level				
	Elementary School	4,475	0.197542	0	1
	Secondary School	4,475	0.589497	0	1
	Higher education	4,475	0.206034	0	1

Data Source: STATA output

The next step, we will present a table that contains tabulation information for each variable categorized by gender. As mentioned earlier, the total respondent for the first model is 5798 people, which is divided into 2591 for female and 3207 for male. From the table, we can see that the elderly male who decided to work in his retirement period was more than the female elderly (2701 versus 2017). This statistics is probably because the head of household factors and male elderly still have more abilities than female elderly. For the welfare perspective, the number of male elderly who feel sufficient in their households is also higher than the number of female elderly.

In contrast, for variable family transfers, the number of female elderly who received transfers from their children was more than that of the male elderly. But overall, the majority of elderly people receive transfers from their children by 66%. Both male elderly and elderly women prefer to live with their children in their old age. For health conditions, 73% of the total male and female claim to have good health conditions. Next, from all levels of education, the number of male elderly is always more than the female elderly.

Table 6. Characteristics of Respondent in the Main Model

Characteristics	Total		Male		Female	
	N	%	N	%	N	%
Sex	5798	100	3207	55.31	2591	44.69
Labor Supply						
1. Working	4718	81.37	2701	84.22	2017	77.85
2. Not Working	1080	18.63	506	15.78	574	22.15
Welfare Perspective						
1. Sufficient	4410	76.06	2462	76.77	1948	75.18
2. Not Sufficient	1388	23.94	745	23.23	643	24.82
Transfer						
1. Receive	3841	66.25	1872	58.37	1969	75.99
2. Not Receive	1957	33.75	1335	41.63	622	24.01
Coresidency						
1. LivingTogether	3858	66.54	2215	69.07	1643	63.41
2. Not Living together	1940	33.46	992	30.93	948	36.59
Health						
1. Good	4271	73.66	2446	76.27	1825	70.44
2. Bad	1527	26.34	761	23.73	766	29.56
Education						
1. Not Attend	997	17.20	296	9.23	701	27.06
2. Up to Elementary School	3202	55.23	1816	56.63	1386	53.49
3. Up to Secondary School	1204	20.77	820	25.57	384	14.82
4. Higher Education	395	6.81	275	8.57	120	4.63
Age						
1. from 50 to 59	2615	45.10	1399	43.62	1216	46.93
2. from 60 to 69	2302	39.70	1302	40.60	1000	38.60
3. from 70 to 79	770	13.28	437	13.63	333	12.85
4. from 80 to 89	102	1.76	61	1.90	41	1.58
5. from 90 to 94	9	0.16	8	0.25	1	0.04

Data Source: STATA output

In the following table, we divide the older people into four age range categories and connect with the elderly labor supply and their welfare perspective. The table shows us that

as the elderly get older, fewer elderly people decide to enter the labor market. The reason behind this condition might be because the labor market considers it is not efficient to employ elderly workers, the elderly people have not been able to compete with young people when they get older, or because their health conditions have dropped dramatically. This shows the same conclusion too, and the elderly people will feel a shortage in their household life when they get older. The diminishing source of income or the increasing cost needs due to covering health problems in old age can cause a decrease in the welfare perspective

Table 7. Dependent Variables and Age

	Elderly Labor Supply		**Eldelry Welfare Perspective**	
Age	Working (%)	Not Working (%)	Sufficient (%)	Less Sufficient (%)
1. from 50 to 59	90.13	9.87	77.78	22.22
2. from 60 to 69	79.06	20.94	75.41	24.59
3. from 70 to 79	61.43	38.57	73.12	26.88
4. from 80 to 94	61.26	38.74	69.37	30.63

Data Source: STATA output

Graphs 1 and 2 explain the relationship of the dependent variable with the age of the respondent (see appendix I). The first graph shows that the number of elderly labor supply decreases gradually as they get older. We can identify that when elderly people were 50 years old, almost all respondents still worked, but when they are between 60-70 years old, there is a decrease in the number of respondents working significantly. From the second graph, we can see that there are no significant changes related to the elderly welfare perspective and increasing age. There is only a rather substantial decrease in the welfare perspective when the respondent is more than 90 years old.

Graphs 3 and 4 describe the relationship of the main independent variables with the age of the respondent (see appendix II). Figure 3 tells us that the possibility of elderly people receiving transfers from their children tends to increase when they are getting older. This also shows that transfer is one of the main tools to support elderly people in continuing their survival. The coresidency relationship and age of the respondent are reflected in graph 4. The graph resembles a U-shape. We can conclude that when parents are from 50-70, children have entered adulthood and are married, so the child decides to live with his new family. However, when the parents get older, the child has the responsibility to care for the parents and decide to stay together. Therefore, this situation is in line with the literature mentioned earlier that coresidency is like a household cycle in Indonesia.

Moving to an exploratory model, we will focus more on the independent variables which are characteristics of the child and the characteristics of the parents. Since the explanation of dependent variables which are family transfer and coresidency in term of the arrangement of variables and the interpretation of the data is almost the same as the main model. First, the table says that the majority of parents claim to have good health and married status. The largest number of elderly residents is in the age range of 50-59 years. Second, we collect data on adult children who have worked and earned income for less than five years or more. Then we chose the gender, marital status and education level as the characteristics of the child. So, based on IFLS 5 data, a respondent male child was more than a female child, and the majority of respondents were married. For the level of "higher than secondary school" education, there are more women than men, but for other levels of education, male are always more than female.

Table 8. Characteristics of Respondent in The Exploratory Model

Characteristics	Total		Male		Female	
	N	%	N	%	N	%
Sex	44.87	100.00	2467	2008	2008	44.87
Family Transfer						
1. Receive	75.55	63.69	1333	54.03	1517	75.55
2. Not Receive	24.45	36.31	1134	45.97	491	24.45
Coresidency						
1. Living Together	75.25	75.98	1889	76.57	1511	75.25
2. Not Living Together	24.75	24.02	578	23.43	497	24.75
Parent Characteristics						
Health						
1. Good	2972	66.41	1713	69.44	1259	62.70
2. Bad	1503	33.59	754	30.56	749	37.30
Marital Status						
1. Married	3443	76.94	2250	91.20	1193	59.41
2. Others	1032	23.06	217	8.80	815	40.59
Age						
1. from 50 to 59	2590	57.88	1328	53.83	1262	62.85
2. from 60 to 69	1391	31.08	831	33.68	560	27.89
3. from 70 to 79	449	10.03	271	10.99	178	8.86
4. from 80 to 94	45	1.01	37	1.50	8	0.40
Children Characteristics						
Sex	4475	100.00	2807	62.73	1668	37.27
Marital Status						
1. Married	2724	60.87	1679	59.81	1045	62.65
2. Others	1751	39.13	1128	40.19	623	37.35
Education						
1. Not Attend	31	0.69	16	0.57	15	0.90
2. Up to Elementary School	884	19.75	589	20.98	295	17.69
3. Up to Secondary School	2638	58.95	1751	62.38	887	53.18
4. Higher Education	922	20.60	451	16.07	471	28.24

Data Source: STATA output

5.2 Empirical Result

In this chapter, first of all, we will provide the regression results from exploratory models using LPM to make this research more complete and comprehensive. The next step, we will also present the interpretation of the exploratory models' result, namely the characteristic of parent and children motivating family transfer and coresidency. The data that will be used is IFLS 5.

Secondly, we will discuss the regression results and the interpretations of the impacts of family transfer and coresidency on the elderly labor supply and their welfare perspective. We will also explain correlations between each demographic variable such as age, health and education level and dependent variable. We use three statistical methods to accommodate all possible outcomes. First, we will compare the regression results from the Linear Probability Model (LPM) and Logit to estimate the primary model. The data used are IFLS 4 and 5 separately (before merging). Second, we will combine and clean the IFLS 4 and 5 data then compare the regression results between the use of LPM and Fixed Effect Method.

5.2.1 Exploratory model using IFLS 5 Data

In this subsection, we will present the regression results from exploratory models using IFLS 5 data. Because there is no potency of the endogeneity problem in this model, we consider to use only one wave of IFLS data to investigate the output. As mentioned earlier, this exploratory model estimation aims to estimate the factors that influence the main independent variables in the first model. In addition, this research divides these factors into two, which are the characteristics of parents and characteristics of children. The regression results are as follows:

Table 9. Regression Result using LPM (IFLS 5 data)

	(1)	(2)
VARIABLES	Family Transfer	Coresidency
1. Parents Characteristics		
Health	-0.0504***	-0.0203
	(0.0148)	(0.0132)
Age	0.0064***	-0.0087***
	(0.0010)	(0.0009)
Gender	-0.2162***	0.0364***
	(0.0154)	(0.0137)
Marital status	-0.0200	-0.0485***
	(0.0182)	(0.0163)
2. Children Characteristics		
Marital Status	-0.0257*	-0.1516***
	(0.0145)	(0.0130)
Gender	0.0025	-0.0307**
	(0.0145)	(0.0130)
Education Level		
a. Elementary	0.0232	0.1253*
	(0.0851)	(0.0760)
b. Secondary	0.0338	0.1265*
	(0.0843)	(0.0753)
c. Higher	-0.0783	0.1166
	(0.0852)	(0.0760)
Constant	0.4318***	1.2933***
	(0.1087)	(0.0971)
Observations	4,475	4,475
R-squared	0.0718	0.0625
Standard errors in parentheses		
*** p<0.01, ** p<0.05, * p<0.1		

Data Source: STATA output

Based on the regression results above, parents and children characteristics have a critical role in influencing the behaviour of transfer and coresidency. It can be seen in column 1, from the parents' characteristics, which are health, age and gender of elderly people have a significant relationship with the family transfer at the 1% level of significance. Moreover, the result said when the health condition of older people decreases as one percentage point, the family transfer they receive will increase by 5.04 percentage points. Although the health

variable has a significant negative relationship with family transfer, the coefficient of the regression results shows insignificant magnitude. Regarding to Indonesia context, this result confirms that because social security does not cover the entire population of parents, children have a reason that their parents need financial support to cover their medical or health care needs.

As seen in the result table, although the age variable has a significant positive relationship, this variable has a non-strong magnitude. In addition, we can also identify that children tend to give transfers to older and female parents. This is due to the fact that elderly people who are getting older and female elderly are also a strong reason to accept transfers because they may no longer have the ability to generate income from the labor market. In terms of children's characteristics, only the variable marital status of the child has a significant negative relationship with the family transfer at the 10% level of significance but the coefficient indicates insignificant impact at 2,57 percentage point. Further, if the child who has income is married, then the family transfer given to parents will decrease.

Now, we discuss coresidency as a dependent variable. Factors of parental characteristics that influence coresidency are age, gender and marital status of parents. All these variables have a significant correlation with coresidency at 1% level of significance. However, the coefficients of regression result reveal that the magnitude of those variables in influencing dependent variable is insignificant which is only below 5 percentage point. Regarding to Indonesia context, elderly people who are getting older, male and have a married status tend to not coreside with their children.

For children's characteristics, the level of significance of the variables varies, but almost all have a significant correlation except children education for the highest level of education. It could be seen that female child who already have income, are not married and have elementary or secondary school education tend to live with their parents. Overall, the magnitude of children characteristics is greater than parents characteristic in influencing behaviour of coresidency.

Key Findings

From table 9, we can indicate that the majority of the characteristics of parents and children play a very important role in influencing transfer and coresidency behaviour in Indonesia. We can see that parental characteristics have a significant effect on two dependent variables with a confidence level of 99 per cent. While for the characteristics of children have a significant impact with a variety of confidence levels on dependent variables. Lastly, considering the magnitude of the coefficient on the regression results, we can reveal that the characteristics of parents and children do have an economically significant effect on family transfer and coresidency behaviour in Indonesia.

5.2.2 Main Model Using IFLS 4(Before Combining IFLS 4 and 5)

In this regression, we compare the estimation results from the LPM and Logit methods by using IFLS 4 data. The regression results can be seen below.

Table 10. Regression Result using LPM and Logit Method (IFLS 4 data)

	LPM	Logit	LPM	Logit
	(1)	(2)	(3)	(4)
VARIABLES	Elderly Labor Supply	Elderly Labor Supply	Welfare Perspective	Welfare Perspective
Family transfer	-0.0635***	-0.5174***	-0.0041	-0.0353
	(0.0126)	(0.0939)	(0.0134)	(0.0815)
Coresidency	-0.0482***	-0.2803***	0.0013	0.0129
	(0.0119)	(0.0800)	(0.0127)	(0.0745)
Gender	0.1039***	0.7168***	-0.0078	-0.0439
	(0.0114)	(0.0776)	(0.0121)	(0.0713)
Health	0.1554***	0.9073***	0.1302***	0.6900***
	(0.0129)	(0.0785)	(0.0137)	(0.0745)
Education Level				
1. Elementary	-0.0078	-0.0589	0.0261*	0.1391
	(0.0142)	(0.0937)	(0.0151)	(0.0849)
2. Secondary	-0.1433***	-0.9850***	0.1129***	0.6967***
	(0.0176)	(0.1148)	(0.0187)	(0.1155)
3. Higher Educ.	-0.1366***	-0.9954***	0.1823***	1.4695***
	(0.0266)	(0.1782)	(0.0283)	(0.2416)
Age	-0.0187***	-0.1110***	0.0000	0.0571
	(0.0008)	(0.0053)	(0.0008)	(0.0443)
age2	0.0000***	0.0001***	-0.0000	-0.0004
	(0.0000)	(0.0000)	(0.0000)	(0.0003)
Constant	1.7857***	7.6086***	0.6365***	-1.2908
	(0.0507)	(0.3518)	(0.0538)	(1.4355)
Observations	5,246	5,246	5,246	5,246
R-squared	0.1730		0.0349	
Standard errors in parentheses				
***** p<0.01, ** p<0.05, * p<0.1**				

Data Source: STATA output

The table above shows the regression results by using LPM and Logit Method for IFS4 data. There are differences between the LPM and Logit methods in analyzing and interpreting the magnitude of the impact of independent variables. First, for LPM, we can analyze and interpret directly from the variable coefficients. As for the Logit Method, we can analyze coefficients through odds ratios and marginal effects. We can see from the table above that the P-values of almost all independent variables in the LPM and Logit methods are statistically significant in explaining dependent variables. The regression results from using the LPM and Logit methods in the table above are not too different. This result indicates that both LPM and Logit methods can be appropriately used in estimating outcomes in the main model.

Elderly Labor Supply as Dependent Variable

In this session, we will discuss the regression results for the elderly labor supply as a dependent variable using the LPM method. Specifically, the regression results using LPM indicate that family transfer and coresidency have a significant negative relationship to the elderly labor supply. Parents who get transfers from their children have 6.35 more likely to decide not to work than parents who do not receive transfers. If we compare to the

regression result of Logit method, family transfer and coresidency also have a statistically negative significant marginal effect. The possibility of parents receiving transfers from their children to work at retirement is 51 percentage points less likely than those who do not get transfers. For coresidency variable, implementing LPM method, parents who live with their children have 4.82 percentage points more likely not to participate in the labor market than parents who do living alone. Compared to the result of using the Logit method, the probability of parents coresiding with their children to work at retirement is 28 percentage points less likely than those who do not live with their children.

For demographic variables, by using LPM method, the result reveals first, the probability of male elderly to work is 10.39 percentage points more than female elderly. Second, elderly people who claim to have good health conditions will tend to work 15, 54 percentage points more likely than unhealthy elderly people. Third, the level of education has a negative correlation with the elderly labor supply. Parents who have a higher level of education tend to decide not to work again than parents who do not attend school. Finally, the result shows that when elderly people who are getting older, then they will decide not to work in his retirement.

We turn to discuss the regression results using the logit method for demographic variables. The results show that health and gender of older people have a statistically positive significant marginal effect. In contrast, education and age variables have a statistically negative significant marginal impact. It can be seen that the magnitude of the probability of male elderly and having good health to work is 71.68 and 90.73 percentage points respectively than female elderly and elderly who have health problems. Moreover, highly educated parents have a reduction in the marginal effect to work again at 98.5 and 99.5 percentage points for secondary levels and higher-level education, respectively, rather than parents who do not attend school. Lastly, older parents are less likely to work at 11.10 percentage points rather than those who are younger.

Welfare Perspective as Dependent Variable.

Only health and education variables have a significant correlation with the elderly welfare perspective. The result underlines that health is a variable that is consistent in influencing the elderly welfare perspective. Based on the regression results of LPM method, we can identify that parents who have better health conditions will have the psychology that they feel sufficient in their household life by 13.22 percentage points more likely rather than unhealthy parents. Moreover, by using the Logit method, the probability of healthy elderly to be satisfied with their household condition is 69 percentage points more likely rather than elderly who have health problems. For education variables, we can see from the table that education also has an essential role in determining older people's satisfaction in their households. Estimated results from the LPM said that elderly people who have higher levels of education would have a higher level of satisfaction in their households than elderly people who do not attend school. Additionally, using Logit methods, the probability of parents who attained secondary and higher-level education to feel sufficient in their households life is 69.6 and 147 percentage point.

5.2.3 Main Model Using IFLS 5 (Before Combining IFLS 4 and 5)

Overall the regression results from IFLS 5 data are not too different from IFLS 4. Both are using the LPM and Logit methods, the main independent variables namely family transfer and coresidency, have a significant negative correlation with the elderly labor supply. While for the welfare perspective as a dependent variable, the two independent variables do not have a significant association. The regression results from the demographic variables have

the same correlation sign with the regression results in IFLS 4. The difference is only in the magnitude of the influence of the demographic variables on the dependent variable.

Table 11. Regression Result using LPM and Logit Method (IFLS 5 data)

	LPM	Logit	LPM	Logit
	(1)	(2)	(3)	(4)
VARIABLES	Elderly Labor Supply	Elderly Labor Supply	Welfare Perspective	Welfare Perspective
Family Transfer	-0.0610***	-0.5198***	-0.0060	-0.0359
	(0.0101)	(0.0819)	(0.0120)	(0.0651)
Coresidency	-0.0253**	-0.1839**	-0.0129	-0.0687
	(0.0104)	(0.0793)	(0.0124)	(0.0672)
Gender	0.1119***	0.9033***	-0.0376***	-0.2007***
	(0.0100)	(0.0802)	(0.0120)	(0.0649)
Health	0.0828***	0.6038***	0.1508***	0.7574***
	(0.0102)	(0.0756)	(0.0122)	(0.0630)
Education level				
1. Elementary	-0.0278*	-0.2379**	0.0448**	0.2164**
	(0.0150)	(0.1155)	(0.0179)	(0.0900)
2. Secondary	-0.1330***	-1.0608***	0.1546***	0.8164***
	(0.0171)	(0.1315)	(0.0204)	(0.1089)
3. Higher Educ.	-0.1733***	-1.3997***	0.2800***	2.1538***
	(0.0217)	(0.1649)	(0.0259)	(0.2136)
Age	-0.0098	-0.2997***	0.0059	0.0284
	(0.0075)	(0.0550)	(0.0090)	(0.0471)
Age2	-0.0000	0.0015***	-0.0000	-0.0002
	(0.0001)	(0.0004)	(0.0001)	(0.0004)
Constant	1.5683***	14.3617***	0.4037	-0.5631
	(0.2362)	(1.7888)	(0.2822)	(1.4914)
Observations	5,799	5,799	5,799	5,799
R-squared	0.1484		0.0600	
Standard errors in parentheses				
***** p<0.01, ** p<0.05, * p<0.1**				

Data Source: STATA output

Key Findings

Based on table 10, we can see that almost all independent variables have a significant effect on the elderly labor supply with a very high confidence level of 99%. However, when the elderly welfare perspective is a dependent variable, only health and education variables have a significant positive effect. Although the primary independent variable has a significant correlation to the elderly labor supply, the magnitude of the impact of family transfer and coresidency is economically small, where is only 6.3 and 4.8 percentage points, respectively. Table 11 shows the results of the regression are very similar to the results of table 10. The difference is only the magnitude of the coefficient and the marginal effect or the impact of independent on the dependent variable.

To summarize, the result of regression in the main models using IFLS 4 and IFLS 5 data separately reject the first hypothesis for family transfer, coresidency toward elderly labor supply. Meanwhile, only education and health have a positive significant association toward elderly welfare perspective.

5.2.4 Main Model Using IFLS 4 and 5

This subchapter will explain the results of multi-regression using a combined data of IFLS 4 and 5. As mentioned earlier, the author will use a fixed effect and then compare with the LPM only method using the same data. In applying the fixed-effect model, we will gradually regress with other independent variables to investigate the consistency of the impact of the main independent variables on the dependent variable. The results are as follows:

Table 12. Regression Result using LPM with Fixed Effect and LPM only (IFLS 4 and 5 data)

	LPM Only		LMP with Fixed Effect				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Elderly Labor Supply	Elderly Labor Supply	Elderly Labor Supply	Elderly Labor Supply	Elderly Labor Supply	Elderly Labor Supply	Elderly Labor Supply
Family Transfer	-0.0621***	-0.0470***	-0.0321**	-0.0312**	-0.0312**	-0.0322**	-0.0313**
	(0.0108)	(0.0104)	(0.0144)	(0.0144)	(0.0144)	(0.0143)	(0.0143)
Coresidency	-0.0016	-0.0492***		-0.0483***	-0.0481***	-0.0457***	-0.0448***
	(0.0108)	(0.0107)		(0.0166)	(0.0166)	(0.0165)	(0.0165)
Age		-0.0147*			-0.0056	0.0450***	0.0448***
		(0.0081)			(0.0058)	(0.0125)	(0.0124)
Age2		0.0000				-0.0004***	-0.0004***
		(0.0001)				(0.0001)	(0.0001)
Health		0.0889***					0.0626***
		(0.0112)					(0.0152)
Year_base			-0.1123***	-0.1185***	-0.0800**	-0.0894**	-0.0812**
			(0.0083)	(0.0085)	(0.0403)	(0.0402)	(0.0401)
Constant	0.8560***	1.6590***	0.8911***	0.9258***	1.2519***	-0.3198	-0.3780
	(0.0113)	(0.2604)	(0.0116)	(0.0166)	(0.3338)	(0.4787)	(0.4776)
Observations	5,798	5,798	5,798	5,798	5,798	5,798	5,798

R-squared	0.0057	0.0805	0.0601	0.0629	0.0632	0.0699	0.0753
Number of pidlink			2,899	2,899	2,899	2,899	2,899
Standard errors in parentheses							
***** p<0.01, ** p<0.05, * p<0.1**							

Data Source: STATA output

First of all, we will discuss the regression results using the LPM method only. The family transfer has a significant negative relationship with elderly labor supply when it is either without covariates or with covariates. The difference is only in the magnitude of the influence of the independent variable or the coefficient (6.21 and 7.14 percentage point). For the coresidency variable, there is a change in significance between the models without covariate and the complete model. The coresidency variable has a significant relationship with the elderly labor supply when we add other explanatory variables to the model.

Using the fixed effect model above, we find that the two main independent variables which are family transfer and coresidency have a significant negative relationship with the elderly labor supply at the 5% and 1% respectively level of significance. The result also indicates that the main independent variables have a consistent significant negative relationship (see column 3-7). The result of the full fixed-effect model reveals that if there is an increase in family transfer by one percentage point toward elderly people, the decision of the older people to work at their retirement will decrease by 3.13 percentage points, while the other control variables remain constant (column 7). In addition, the result also shows that an increase of coresidency by one percentage point will reduce the elderly labor supply as 4.48 percentage points.

Based on table 12, the regression results using the LPM only method and LPM with fixed effects show the same correlation between family transfer and coresidency and the elderly labor supply. The difference is only in the magnitude of the impact or coefficient. When we utilize the LPM method with fixed effects, the effect of family transfers on elderly labor supply is smaller than the results of the LPM method only. Moreover, for coresidency, the results of the LPM method with fixed effects are higher than the results of LPM only. From the above findings, this also implies that although independent variables have a significant correlation to the dependent variable, the economic impact is not substantial enough, less than ten percentage points.

Furthermore, Column 7 in table 12 also presents other results regarding control variables. It exhibits that variable age and age square variables show different correlations with elderly labor supply. It implies that elderly people who are 50-60 years old tend to decide still to work, but parents who are getting older will choose not to work in retirement (see graph in Appendix I to find out the elderly labor supply and age relationship). Another variable that has a significant positive correlation is health. In a complete fixed-effect model and the LPM method, we can identify that health has the same level of significance, which is at 1% level of significance. The table said an increase of health by one percentage point would raise decision of elderly people to work by 6.23 percentage point. This result means that elderly people who claim to have good health conditions will decide to enter the labor market in retirement. Indeed, if we look back at the results of past regressions, health is the most consistent variable that has a significant positive correlation to the dependent variable.

Table 13. Regression Result using LPM with Fixed Effect and LPM only (IFLS 4 and 5 data)

	LPM Only		LPM with Fixed Effect				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Welfare Perspective	Welfare Perspective	Welfare Perspective	Welfare Perspective	Welfare Perspective	Welfare Perspective	Welfare Perspective
Family Transfer	-0.0305**	-0.0245**	0.0210	0.0213	0.0213	0.0206	0.0219
	(0.0118)	(0.0117)	(0.0172)	(0.0172)	(0.0172)	(0.0172)	(0.0171)
Coresidency	-0.0018	-0.0126		-0.0183	-0.0180	-0.0162	-0.0150
	(0.0119)	(0.0120)		(0.0199)	(0.0199)	(0.0199)	(0.0198)
Age		-0.0013			-0.0100	0.0275*	0.0272*
		(0.0092)			(0.0069)	(0.0150)	(0.0149)
Age2		-0.0000				-0.0003***	-0.0003***
		(0.0001)				(0.0001)	(0.0001)
Health		0.1542***					0.0907***
		(0.0127)					(0.0182)
Year_base			-0.0631***	-0.0655***	0.0027	-0.0043	0.0076
			(0.0099)	(0.0102)	(0.0483)	(0.0483)	(0.0482)
Constant	0.7820***	0.7605***	0.7783***	0.7914***	1.3686***	0.2053	0.1209
	(0.0124)	(0.2934)	(0.0139)	(0.0199)	(0.4002)	(0.5753)	(0.5732)
Observations	5,798	5,798	5,798	5,798	5,798	5,798	5,798
R-squared	0.0011	0.0282	0.0154	0.0157	0.0164	0.0191	0.0275
Number of pidlink			2,899	2,899	2,899	2,899	2,899
Standard errors in parentheses							
***** p<0.01, ** p<0.05, * p<0.1**							

Data Source: STATA output

The multi regression results in table 8 show only the control variables, namely age and health, which have a significant correlation with the elderly welfare perspective. Using LPM with fixed effects, health has a significant positive relationship with the welfare perspective at the 1% level of significance. It implies that the elderly which has good health conditions, will feel sufficient and satisfied in its household life. If the health variable increases by one percentage point, it will increase the income welfare perspective as 9.14 percentage points. The age variable also indicates the same significant correlation. In the fixed-effect model, this shows that at the age of 50 years old, the elderly people feel satisfied with their household welfare, but when elderly people get older, their welfare perspective decreases.

Key Findings

Based on the results of the multi-regression above (LPM with Fixed effect), this study found that although the coefficients of the family transfer and coresidency variables changed slightly when the control variables were added gradually. The result still showed a consistent significant negative relationship with the eldelrly labor supply (see column 3-7 at table 12). In contrast, the two main independent variables do not have a significant relationship with the elderly welfare perspective. Overall, the regression result of LPM only method is almost similar to LPM with Fixed effect method. However, the difference is only in the magnitude of the impact in each independent variable. The control variables applied in the both methods show a significant relationship that varies, but only health variables are consistent in the results of the two methods.

To summarize, the result of regression in the main models using a combination of IFLS 4 and 5 data reject the first hypothesis for family transfer, coresidency toward elderly labor supply. Moreover, only age and health have a positive significant correlation toward elderly welfare perspective.

Another conclusion is that although the correlation between the independent variable and the dependent variable is statistically significant, the impact of the independent variable is not large enough to affect the dependent variable.

Chapter 6: Conclusion and Recomendation

6.1 Conclusion

An ageing population is a phenomenon which is widespread in all parts of the world both in developed and developing countries. This phenomenon has triggered countries to issue policies and programs to prevent potential negative impacts. However, the programs and policies implemented in developed countries are more mature and structured rather than in developing countries. United Nations claimed developing countries, including Indonesia, have more constraint to prepare and deal with the consequences of ageing than developed countries (as cited in Kaushal 2014: 215). Consequently, due to inadequate pension and social assistance systems, the elderly population in developing countries will depend on income in the labor market, family transfer assistance (Cameron, Lisa A. and Cobb-Clark 2002). Furthermore, transfers are not only as a guarantor of living standards for the elderly but also as a determining factor for the elderly either to participate into the labor market or not at their retirement age (Cameron, Lisa A. and Cobb-Clark 2008).

This study aims to evaluate the impact of family support in the form of family transfer and coresidency on the elderly labor supply and their welfare perspective. By implementing three statistical methods (LPM, Logit and LPM with Fixed Effect method), this paper attempts to answer several related questions:

First: To what extent do characteristics of parents and children motivate the behaviour of transfer and coresidency in Indonesia?

Based on the results and analysis in subsection 5.2.1, the parents' characteristics, which are health, age and gender, have a significant relationship with the family transfer at the 1% level of significance. Moreover, the result said when the health condition of elderly people decreases as one percentage point, the family transfer they receive will increase by 5.04 percentage points. We can also identify that children tend to give transfers to older and female parents. In terms of children's characteristics, only the variable marital status of the child has a significant negative relationship with the family transfer. If the child who has income is married, then the family transfer given to parents will decrease.

These results are in line with previous research which states that family transfers are influenced by the characteristics of transfer recipients and givers (Chaudhuri and Roy 2009, Cameron and Cobb-Clark 2008, Frankenberg et al. 2002, Sun 2002). In addition, these results also confirm that there is no single factor affecting family transfer behaviour in Indonesia (Lee et al. 1994, Park 2003). In fact, the above results also reflect the conditions of the ageing society in Indonesia. As mentioned before, because social security does not cover the entire population of parents, children have a reason that their parents need financial support to cover their medical or health care needs. Elderly people who are getting older and female elderly are also a strong reason to accept transfers because they may no longer have the ability to generate income from the labor market.

Next, we discuss coresidency as a dependent variable. Factors of parental characteristics that influence coresidency are age, gender and marital status of parents. All these variables have a significant correlation with coresidency at 1% level of significance. For example, result in column 2, table 9 said that as parents advance in age by one unit, the decision of coresidency will decrease as 0.87 percentage point. For children's characteristics, the level of significance of the variables varies, but almost all have a significant correlation except children education for the highest level of education. It could be seen that female child who already has an income, are not married and have elementary or secondary school education tend to live with their parents.

The regression results in column 2 show similarities with previous studies. Coresidence behaviour is closely related to the characteristics of parents and children ((Frankenberg et al. 1999, Cameron and Cobb-Clark 2008, Chaudhuri and Roy 2009) The results are also in line with the context of Indonesia where when parents get older the children tend not to coreside with parents. This explains that coresidency is like a cycle in Indonesia (Cameron and Cobb-Clark, 2008). It means that when parents get older, the child will also enter the age of marriage, so when the child is married, he will decide not to live with parents. However, when parents get older and older and also incapability to live alone, then the child will bring parents to live with them. This explanation also explains the variable signs of the marital status of the child in the regression result. Furthermore, the gender and marital status variables present that the widow will tend to live with their children. Logically, the elderly widows are a group of elderly who are most vulnerable and require informal support from families, especially children.

Second: To what extent do the family transfer and coresidency affect the decision of elderly people to work and their welfare perspective in Indonesia?

To answer this question, the results of the regression and analysis in chapter 5 using the LPM and Logit method show that family transfer and coresidency have a significant effect on the elderly labor supply with a very high confidence level of 99%. However, on the other model, family transfer and coresidency do not have a significant effect on elderly welfare perspective. Based on the results of the multi-regression above (LPM with Fixed effect), this study found that although the coefficients of the transfer family and coresidency variables changed slightly when the control variables were added gradually, this still showed a consistent significant negative relationship with the elderly labor supply (see column 3-7 at table 12). Although the primary independent variable has a significant correlation to the elderly labor supply, the magnitude of the impact of family transfer and coresidency is economically small.

These results confirm previous research. First, although the effect of family transfer was small, there was a significant negative relationship between the decisions of the elderly people to work with remittances or family transfers (Nguyen et al. 2012, Utomo et al. 2018). In addition, the coresidency variable has an essential role in determining whether or not to work for the elderly in Indonesia (Cameron and Cobb-Clark 2008). Moreover, the benefits obtained by the coresiding father come from joint consumption in the family and affect the father's decision to reduce the number of hours worked (Kochar 2000).

The results of the regression reflect conditions in the context of Indonesia. Although family transfer and coresidency behaviour are widespread in Indonesia, the activity of the majority of older people in Indonesia is work. This situation can happen because maybe the nature of the family transfer is uncertain in terms of the amount and time of administration. Additionally, the amount of transfer that is too small is also an important factor in influencing elderly people to choose to participate in the labor market or not. Furthermore, the possible reasons why parents continue to choose to work even though the child lives with them is first, based on the literature review in chapter 3, children's income is not sufficient to cover all household needs, especially secondary and tertiary needs such as recreation expenses, health care and others. Second, coresidency provides benefits to both parents and children. Thus, the reason parents keep working is simple to want to provide care for children even though they are adults.

Third: To what extent do demographic variables such as age, gender, education and health affect the decision of elderly people to work and the welfare perspective of elderly people in Indonesia?

Based on subsection in 5.2.2, 5.2.3 and 5.2.4, It presents that variable age and age square variables show different correlations with elderly labor supply. It implies that elderly people who are 50-60 years old tend to decide still to work, but parents who are getting older will choose not to work in retirement (see graph to find out the elderly labor supply and age relationship). Another variable that has a significant positive correlation is health. In a complete fixed-effect model and the LPM method, we can identify that health has the same level of significance, which is at 1% level of significance. The table said an increase of health by one percentage point would raise the decision of older people to work by 6.23 percentage point. This association means that older people who claim to have good health conditions will decide to enter the labor market in retirement.

The results of regression in the main models using IFLS 4 and IFLS 5 data separately have a significant correlation for gender, health, age, education (secondary and higher level) toward elderly labor supply. Meanwhile, only education and health have a positive significant association toward elderly welfare perspective. Furthermore, the result regression in the main models using a combination of IFLS 4 and 5 data shnow that only age and health have a positive significant correlation toward elderly welfare perspective.

Some of the results of this study are also consistent with previous studies, but several other results are different if we use two waves of IFLS data. For example, when we use IFLS 4 and 5 data separately, the results are in line with (Kaushal 2014, Cameron and Cobb-Clark 2008, Utomo et al. 2018, French 2005) which states that firstly, older people have higher education will reduce working hours when they are older. Secondly, the elderly women who get older will reduce the number of hours they work even more than the reduction in the older man. The most logical explanation is that educated people usually have a higher income so that their savings are enough when they have entered retirement age. Lastly, the number of working hours owned by workers who have good health status is higher than workers who have poor health status.

6.2 Implication and Recommendations

6.2.1 Implications

This research might enrich the literature relating to family transfer, coresidency and elderly labor supply and update the literature with more updated data and more comprehensive sample size. As mentioned before, there is still very limited research focused on the topic in Indonesia. There is only similar research in the previous two decades with smaller data and different methods. This research proposes a method using fixed effects for two-wave data. The purpose of using this method is in order to cover the endogeneity problem in the model. Lastly, this paper is expected to be used as an alternative in estimating the impact of intergenerational support towards elderly labor supply in the future.

6.2.2 Recommendation for Future Policy and Future Research

Although family transfer and coresidency have not been able to replace official government assistance such as pension schemes, social security and social institutions, these intergenerational support makes an important contribution to parents who are vulnerable to their health condition and old age. Future policies might be designed to encourage transfers from children to parents, such as taxes for children to ensure parental needs. In addition, policies also need to be focused on parents who have poor health conditions and older parents. Family transfer and coresidency also cannot fully replace the income of older people when they participate in the labor market. Therefore, the government needs to review and

plan programs such as pensions without contributing to improving the welfare of the elderly society.

Regarding data source and time limitations, several points cannot be fully carried out in this paper. First, to overcome potential endogeneity problems, it might be more appropriate to use instrument variables as a solution rather than panel data. Secondly, the results will be stronger and representative if using IFLS data from IFLS 1 to IFLS 5. Thirdly, adding other variables besides the characteristics of the recipient and transfer provider to examine the motivations and determinants of family transfer and coresidency, such as parents' home prices, economic and social shocks.

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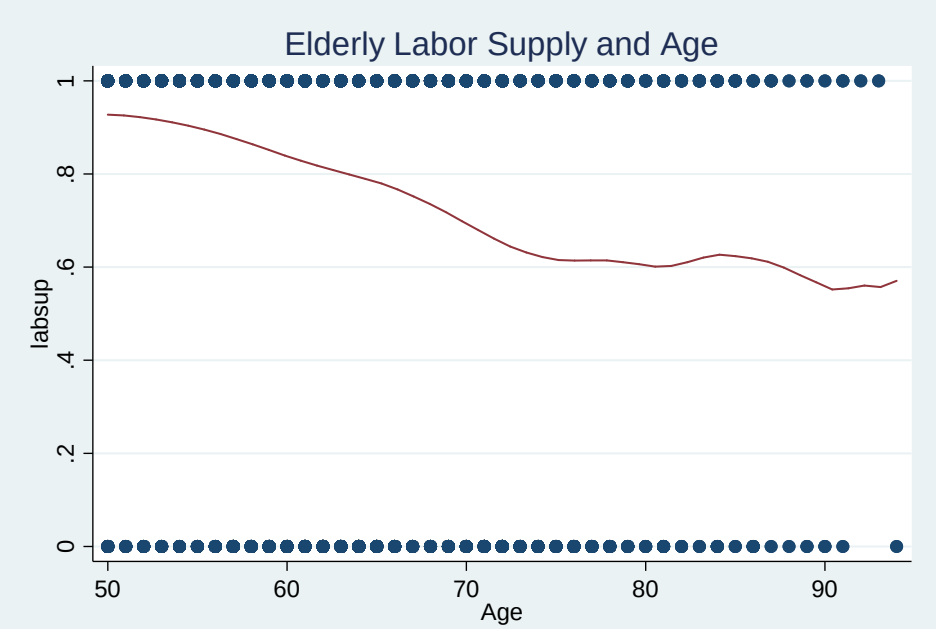
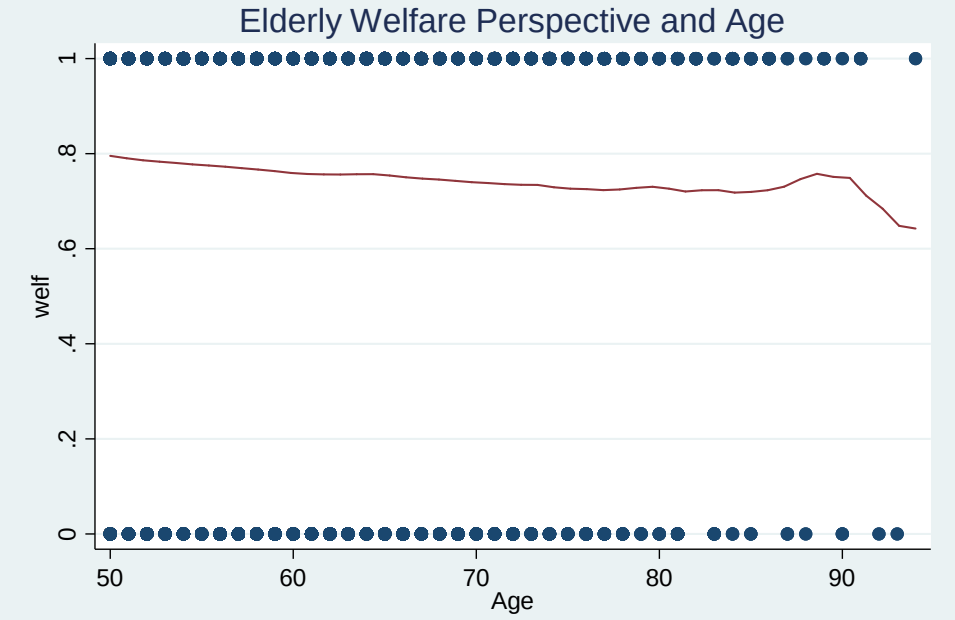
Appendix I: Correlation of Age, Elderly Labor Supply and Elderly Welfare Perspective

A. Graph reflecting relationship between age and Elderly Labor Supply.



Source: IFLS 4 and 5 processed by author

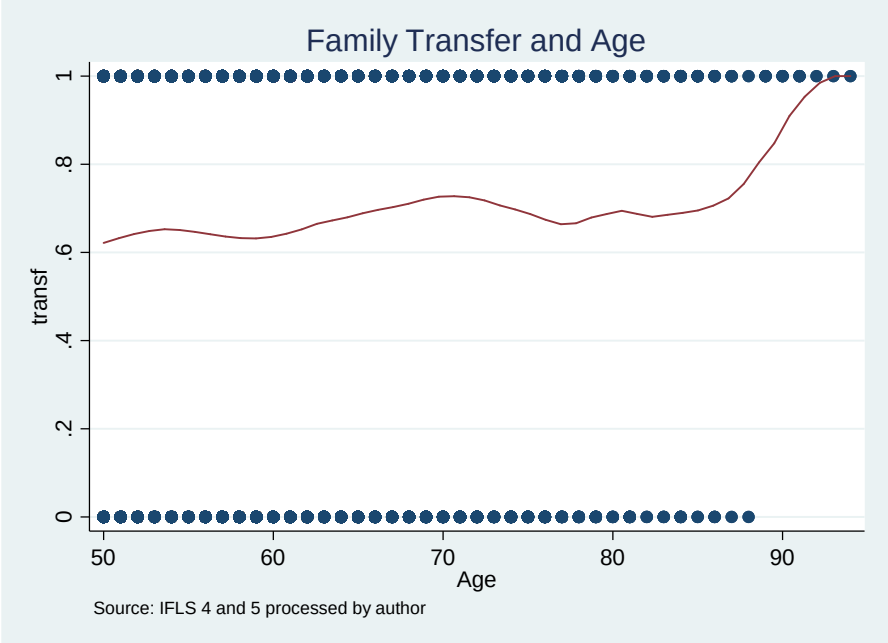
B. Graph reflecting relationship between age and Elderly Welfare Perspective.



Source: IFLS 4 and 5 processed by author

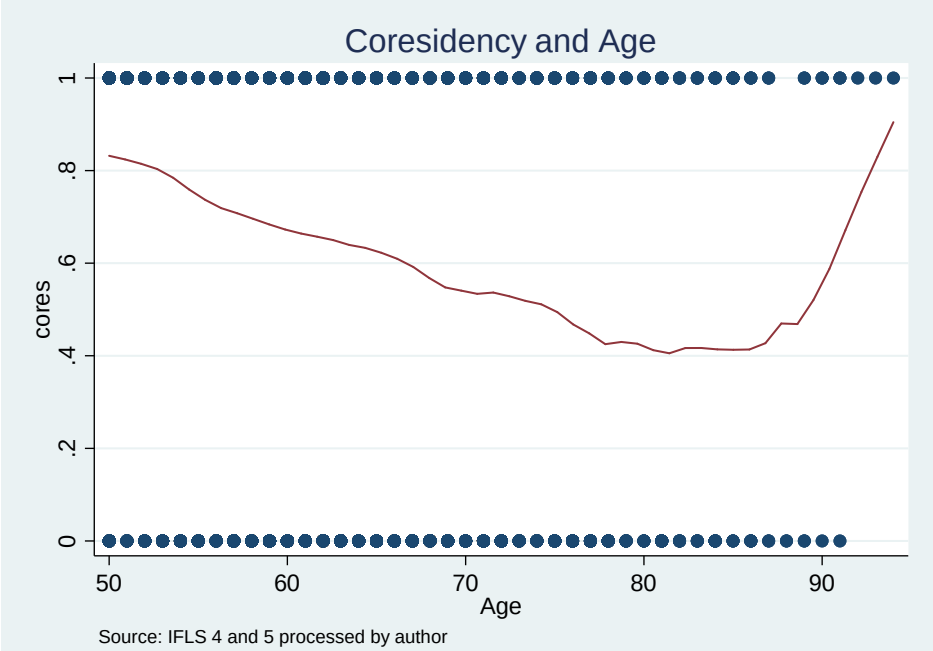
Appendix II: Correlation of Age, Family Transfer and Coresidency

A. Graph reflecting relationship between age and FamilyTransfer.



Source: IFLS 4 and 5 processed by author

B. Graph reflecting relationship between age and Coresidency.



Source: IFLS 4 and 5 processed by author