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The relationship between chronic poverty and household dynamics: evidence from Indonesia

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What is Chronic Poverty?

The distinguishing feature of chronic poverty is extended duration in absolute poverty.

Therefore, chronically poor people always, or usually, live below a poverty line, which is normally defined in terms of a money indicator (e.g. consumption, income, etc.), but could also be defined in terms of wider or subjective aspects of deprivation.

This is different from the transitorily poor, who move in and out of poverty, or only occasionally fall below the poverty line.



Abstract

Households change composition frequently through births, deaths, divorces, marriages, the departure of children from home, and other compositional changes. Consequently, a large number of people undergo some fundamental change in household arrangement during relatively short periods of time. However, using data from Indonesia, this study finds that household composition change is not a major cause of chronic poverty. Similarly, it finds no evidence that households change their composition to cope with negative shocks. Nevertheless, it confirms that the larger the number of household members, the higher the probability of a household being chronically poor. Comparing between different types of households, single female without children households have the lowest probability of being either chronically poor or vulnerable, while single male with or without children households have the highest probability of being vulnerable. The frequent changes in household composition imply that the use of the household as the unit of analysis for poverty may undermine, or at least complicate, the conceptualisation and measurement of chronic poverty. This also implies that the problem of targeting social protection programmes is not only implementational in nature, but also has some conceptual roots.

Keywords: household composition, chronic poverty, social protection, Indonesia, panel data

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1 Introduction

A typical household usually consists of several individuals with different characteristics, including their economic capacities, which in the end determines the economic capacity of the household as a unit. Consequently, a change in household composition will affect the economic capacity and economic condition of a household. The degree of change in a household's economic capacity and economic condition arising from a change in its household composition depends very much on the nature of the change in household composition that occurs. The death of a small child in a household may have little effect, but the death of a breadwinner can have a profound effect on the economic capacity and economic condition of the household.

A change in household composition will most likely entail simultaneously both positive and negative effects on a household's economic capacity and economic condition. The net effect, therefore, will be determined by the difference between the offsetting effects. For example, the death of a breadwinner will have a negative effect on a household's economic capacity through the loss of earning capacity of the dead individual. At the same time, however, it will have a positive effect on the household's economic capacity through the loss of consumption by the same individual. In this case, the net effect will almost certainly be negative since the loss in potential earning will far outweigh the reduction in consumption need.

On the other hand, the addition of a working adult to a household will most likely have a positive effect on a household's economic capacity and economic condition. When a working adult joins a household, he or she brings additional earning capacity to the household. At the same time, he or she adds consumption need to the household. As long as the gain in earning capacity exceeds the increase in consumption need, the household benefits from a positive effect of the addition to its members.

The direction of causation, however, can also go in the opposite direction. A change in the economic condition of a household can induce the household to change its household composition. For example, an improvement in economic condition may induce some households to have more children, while deterioration in economic condition may force households to reduce their size by asking some children to move out of the household. However, some other households may want to have more children when their economic conditions deteriorate as a means of increasing labour that can be supplied by the household as well as to provide better security in old age.

The existence of relationships between household composition and household's economic capacity and economic condition indicates that household composition may play an important role in explaining why some households fall into chronic poverty. In general, chronic poverty refers to severe and persistent poverty, implying that the chronically poor are the poorest of the poor. It is plausible to think that certain household compositions, which

produce a large gap between earning capacity and the consumption need of the households, are the underlying factor behind chronic poverty.

This study aims to examine empirically the significance of household dynamics in falling into, and escaping from, chronic poverty. The analyses in this study utilise the Indonesian Family Life Survey (IFLS) panel data from the RAND Corporation. The study aims to throw light on the direction and strength of the correlation existing between changes in household composition and related changes in economic capacity on the one hand, and the incidence and duration of poverty spells on the other.

The remainder of the paper is organised as follows. Section two reviews the literature on the relationships between household composition and poverty. Section three describes the data used in the analyses. Section four establishes the rates of poverty and chronic poverty in Indonesia during the period under study. Section five tries to answer the question of whether changes in household composition and related economic capacity are associated with the incidence and duration of poverty and examines to what extent household dynamics are a source of vulnerability for poorer households and a protection instrument. Section six analyses the exogeneity and endogeneity of household dynamics among poor households. Section seven investigates the ‘economic viability’ of poorer households as an explanation of persistent poverty and particularly the intergenerational persistence of poverty. Section eight discusses the implications of household dynamics for the conceptualisation and measurement of chronic poverty. Section nine explores the implications of household dynamics for social protection targeted at chronically poor households. Finally, section ten concludes.

2 Literature Review

Households change compositions frequently through births, deaths, divorces, marriages, the departure of children from home, institutionalisations, and a variety of more unusual compositional changes. A large fraction of the population undergoes some fundamental change in household arrangement during relatively short periods of time. In the United States, for example, more than half of the population is found to experience some household composition change over a five-year period, while over 15 years more than half are involved in a fundamental compositional change. Often the most dramatic changes, such as divorce or children leaving the parental nest, produce equally dramatic changes in economic status, geographic location, and other outcomes (Duncan and Hill, 1985).

As explained by Edmonds *et al.* (2001), household composition itself may be a component of consumption (giving potential members utility directly), an input of production, or both. This implies that income changes, either positive or negative, of an individual household member may influence the household’s living arrangements or household composition. Similarly, based on the salient facts for Britain, Jenkins (2000) also noted that aside from changes in

household heads' labour earnings, changes in labour earnings of persons other than the household head, changes in non-labour income (including benefits), and changes in household compositions are important for poverty dynamics.

Studies on poverty dynamics often categorise poverty status of households into three groups: chronically poor, transient poor, and non-poor (or never poor). This categorisation is actually aggregated from a more detailed five poverty statuses: always poor (expenditure or incomes or consumption levels in each period below a poverty line), usually poor (mean expenditures over all periods less than the poverty line but not poor in every period), churning poor (mean expenditures over all periods close to the poverty line but sometimes poor and sometimes non-poor in different periods), occasionally poor (mean expenditures over all periods above the poverty line but at least one time below the poverty line), and the never poor (expenditure in all periods above the poverty line). The five-categorisation of poverty can be reclassified into the three categories: always and usually poor are classified as chronically poor, churning and occasionally poor are grouped into transient poor, and the rest are the non-poor or never poor group. However, the categorisation of poverty status in many studies on chronic poverty may not rigorously refer to the above classification. The chronically poor, for instance, is also frequently linked to the duration and severity of poverty (Hulme *et al.*, 2001).

McKay and Lawson (2002) describe ways to distinguish between chronic and transient poverty by focusing on the characteristics of individuals or households. By identifying the characteristics of the chronically poor, we can in turn decide what the most suitable policies are to combat chronic poverty. They note that the most common characteristics of chronic poverty include being disadvantaged in the following aspects: human capital, demographic composition, location, physical assets, and occupational category.

Using taking panel data for post-reform rural China, Jalan and Ravallion (1998) decomposed measures of household poverty into chronic and transient components and used censored conditional quantile estimators to investigate the household and geographic determinants of both chronic and transient poverty. They find that a household's average wealth holding is an important determinant for both types of poverty. Furthermore, they found that although household demographics, level of education, and the health status of householders are important for chronic poverty, they are not significant determinant of transient poverty. Finally, smaller and better-educated households have less chronic poverty, whereas household size and level of education matters little for transient poverty.

For the demographic composition characteristic, in particular, they find that an increase in household size is likely to place an extra burden on the family and is expected to have a positive relationship with chronic poverty. The movement of family members into and out of households as a result of increases in dependency ratio, mortality, number of children, grandchildren present in the nuclear household, as well as gender and household structure

such as single parent- and elderly-headed households, and marginalised group, i.e. those who belong to a disadvantaged ethnic group, scheduled castes/tribes, and the disabled, are among the main determinants in increasing the likelihood of chronic poverty.

In terms of household dynamics as a protection instrument, De Herdt (2007) investigates restructuring household composition amongst poor inhabitants in Congo-Kinshasa in order to deal with economic shock. He finds that there are more and more households hiding the daughter's mono-parental family in the households of the parents of the mother. Interestingly, this kind of household's profile is more prevalent in poorer households, which results in a condition where children live in mono-parental households and are very much affected twice by unfavourable economic circumstance. One important observation from this study is that the problem of poverty is transmitted not only to the girl-mother but also to the next generation through under-nourishment.

Woolard and Klasen (2005) study income mobility and household dynamics in South Africa and find that there are three poverty traps that hamper the poor to moving out of poverty, namely large initial household size, poor initial education, and poor initial participation in the labour market. However, they discover that out of the three, the most important variable is the initial employment situation. Both an increasing share, as well as initial share, of unemployed persons in the household has a sizeable negative impact on subsequent income mobility of the household. Bourreau-Dubois *et al.* (2003) also find out that moving into and out of poverty coincide more often with employment-related events than with demographic events.

However, another demographic status that is important is female-headed households, either single female without or with children households. The hypothesis proposed in previous research argues that female-headed households are more vulnerable to poverty, implying that being a single mother is closely connected to poverty. Higher poverty prevalence found in female-headed households is a significant finding of Meenakshi and Ray's (2002) study in India, Aliber's (2001) in South Africa, as well as of Muyanga's (2008) in Kenya. A similar result also applies in Hungary, where female headship is associated with a higher rate of long-term poverty (World Bank, 2001).

The changes in a household's composition, particularly related to chronic and transient poverty, is best identified using longitudinal panel data on households rather than cross-sectional data. Nevertheless, due to the various conceptions of longitudinal household, the concept of the longitudinal household used in analyses needs to be defined beforehand. For example, most longitudinal definitions of the household characterise a divorced wife and her children as "the same" household as the one that existed prior to the divorce. Since divorce often produces dramatic changes in the economic well-being of the women and children involved, longitudinal household definitions that combine intact and divorcing families lump

together individuals who have undergone very different kinds of experiences and tend to produce potentially misleading results (Duncan and Hill, 1985).

3 Data

This study utilises data from the Indonesia Family Life Survey (IFLS) of the RAND Corporation.¹ IFLS is an on-going longitudinal household survey, with a sample which is representative of about 83 percent of the Indonesian population. The survey areas cover 13 out of the 33 provinces in Indonesia. The first wave of IFLS, aptly called IFLS1, was conducted in 1993/94 by RAND in collaboration with the Demographic Institute of the University of Indonesia (LDUI). IFLS2 and IFLS2+ were subsequently conducted in 1997 and 1998 respectively by RAND in collaboration with UCLA and LDUI.² Finally, IFLS3 was fielded in 2000, conducted by RAND in collaboration with the Centre for Population and Policy Studies, Gadjah Mada University (PSKK-UGM).

Since IFLS is a longitudinal survey, the sampling scheme for the first round primarily determines the sample in subsequent rounds. The IFLS1 sampling scheme stratified on provinces, then randomly sampled within provinces. Provinces were selected to maximise representation of the population, capture the cultural and socioeconomic diversity of Indonesia, and be cost-effective to survey given the size and terrain of the country. Within each of the 13 provinces, enumeration areas (EAs) were randomly chosen from a nationally representative sample frame used in the 1993 SUSENAS, a socioeconomic survey of about 60,000 households conducted by Statistics Indonesia (*Badan Pusat Statistik* or BPS). The IFLS randomly selected 321 EAs in the 13 provinces, oversampling urban EAs and EAs in smaller provinces to facilitate urban–rural and Javanese–non-Javanese comparisons. Within a selected EA, field teams randomly selected households based on the 1993 SUSENAS listings of households obtained from the regional BPS office.

In IFLS1, interviews were conducted with 7,224 households and detailed individual-level data were collected from over 22,000 individuals. In IFLS2, the goal was to relocate and re-interview the 7,224 original households interviewed in IFLS1. If no members of the household were found in the 1993 interview location, the interviewer asked local residents where the household had gone. If the household was thought to be within one of the 13 IFLS provinces, the household was tracked to the new location and, if possible, interviewed there. In the end, 94 percent of IFLS1 households were relocated and re-interviewed (including 69 IFLS1 households whose every 1993 member had died by 1997). In addition, interviews

¹ The description of IFLS data in this section is summarised from the RAND Corporation website (www.rand.org/FLS/IFLS).

² The main purpose of IFLS2+ was to capture the immediate social impact of the Indonesian economic crisis that occurred during the year.

were conducted with 878 split-off households, which resulted from IFLS1 household members who had left their origin households. The total number of individuals interviewed in IFLS2 was over 33,000.

In IFLS2+, the target was only to cover a quarter of IFLS1 households. Therefore, the number of households re-interviewed was around 2,000, while the number of individuals re-interviewed was around 10,000. In IFLS3, the number of households interviewed was around 10,400, while the number of individuals interviewed was around 39,000. The re-contact rate of IFLS1 households in IFLS3 was 95.3 percent. Overall, around 91 percent of IFLS1 households form complete panel households that were interviewed in all three complete IFLS rounds, the IFLS1, IFLS2 and IFLS3.

The analyses in this study mostly utilise the complete panel data set of IFLS. This panel data set has a record of 6,403 households³, observed continuously in 1993, 1997 and 2000. In some sections of this report, however, analyses are performed on the full data set of each round. The IFLS1 data set has a record of 7,136 households, the IFLS2 data set has a record of 7,533 households, and the IFLS3 data set has a record of 10,158 households.

4 Poverty and chronic poverty in Indonesia

As a first step in the analyses in this study, it is necessary to establish the poverty status of each household in the data. Following common practice in Indonesia, the measurement of poverty in this study is based on the concept of current household consumption expenditure deficit. Using this concept, a household is judged to be poor if its per capita household expenditure is below a certain threshold, popularly known as the poverty line.⁴ The IFLS data provides information on household expenditure, but there is no data on the poverty line to be used. Therefore, the poverty line has to be independently calculated before any poverty analysis on the data can be performed.

Strauss *et al.* (2004) has calculated the regional (provincial-urban/rural areas) poverty lines for IFLS3 data. The poverty lines were calculated by inflating the poverty lines for February 1999 calculated by Pradhan *et al.* (2001) to December 2000 using a method proposed in Suryahadi *et al.* (2003). These regional poverty lines are based on a single national food poverty basket, so they have the same real value across regions, while the non-food

³ In this case, we only include panel sample only for those longitudinal households which are the same over time (origin households), regardless the split-off.

⁴ This concept is also used in the measurement of official poverty statistics in Indonesia (see BPS, 2005).

allowances are computed using the Engel-curve method. The poverty line inflation method, meanwhile, is based on re-weighting the consumer price index (CPI) to have 80 percent food share. The Indonesian CPI has a 55 percent food share.

Using the same method, in this study the December 2000 regional poverty lines calculated by Strauss *et al.* (2004) are deflated back to December 1997 and December 1993 for IFLS2 and IFLS1, respectively. Since the data for Indonesian CPI is only calculated for urban areas, the same deflator is applied to the urban and rural areas within a province. The results of these regional poverty line calculations are presented in Table A1 in the Appendix.

Using these regional poverty lines, the poverty indicators for the households in the panel data are calculated and the results are presented in Table 1.⁵ The table shows a clear improvement in household welfare between 1993 and 1997. The poverty headcount index (P0), which is the proportion of poor households of all the households in the sample, fell by more than eight percentage points during the four-year period from 23 percent in 1993 to less than 15 percent in 1997. Similarly, the poverty gap index (P1), which measures the total distance of all poor household's per capita consumption from the poverty line averaged over the whole population, fell from 6.8 percent to 3.9 percent. Meanwhile, the poverty severity index (P2), which is the total square distance of all poor household's per capita consumption from the poverty line averaged over the whole population, also fell from 2.9 percent to 1.6 percent of the poverty line.

Table 1. Poverty indicators of panel data households (%)

Poverty indicator	1993	1997	2000
Poverty headcount (P0)	23.05	14.56	15.02
Poverty gap (P1)	6.79	3.87	3.70
Poverty severity (P2)	2.92	1.56	1.37
Number of observations (N)	6,403	6,403	6,403

Source: Authors' calculation using IFLS data

⁵ The poverty indicators calculated are known as the FGT (Foster-Greer-Thorbecke) poverty indices. Specifically, the FGT poverty measures in summarised by the following formula:

$$P\alpha = \left(\frac{1}{N} \right) \sum_{i=1}^q \left(\frac{z - c_i}{z} \right)^\alpha$$

where N is the number of households, c_i is the per capita consumption of the i^{th} household, z is the poverty line, q is the number of poor households, and α is the weight attached to the severity of household poverty. P0 is called the poverty headcount index, P1 is called the poverty gap index, and P2 is called the poverty severity index (Foster *et al.*, 1984).

However, due to the advent of an economic crisis starting in the second half of 1997 until the end of 1999, there was stagnation in household welfare between 1997 and 2000. The poverty headcount increased slightly from 14.6 percent in 1997 to 15 percent in 2000, reversing the declining trend in the previous period. However, the poverty gap and poverty severity indices decreased slightly to reach 3.7 percent and 1.4 percent of the poverty line, respectively, in 2000. The poverty gap and poverty severity still decreased despite the economic crisis because the crisis mostly hit the middle and upper classes in urban areas (Wetterberg *et al.*, 1999).

To obtain a figure on chronic poverty for the households in the panel sample, it is necessary to look at the poverty dynamics of the households. Table 2 shows the poverty patterns of households in the panel sample across the survey rounds. The table shows that only approximately four percent of the households were always poor in all the three rounds of the survey in 1993, 1997 and 2000. On the other hand, approximately 66 percent of the households were never poor during all rounds of the survey. Among the rest, 30 percent of the households, around 20 percent were found poor in one round, and 10 percent were found poor in two rounds of the survey.

Table 2. Poverty dynamics of panel data households

Poverty pattern	1993	1997	2000	Incidence (%)	
Always poor	Poor	Poor	Poor	4.23	
Twice poor	Poor	Poor	Not poor	4.33	9.89
	Poor	Not poor	Poor	3.56	
	Not poor	Poor	Poor	2.00	
Once poor	Poor	Not poor	Not poor	10.93	20.16
	Not poor	Poor	Not poor	4.00	
	Not poor	Not poor	Poor	5.23	
Never poor	Not poor	Not poor	Not poor	65.72	
Number of observations (N)				6,403	

Source: Authors' calculation using IFLS data

Since chronic poverty is defined as severe and persistent poverty, the always poor category certainly meets this definition. It is also appropriate to include the twice poor category as they are in poverty most of the time. Meanwhile, the once poor category should not be included in the chronically poor group as they are not poor most of the time. This means that the rate of chronic poverty in the

panel household sample is around 14 percent.⁶ Furthermore, the once poor category is classified as the vulnerable as their experience shows that, although most of the time they are not poor, they are prone to poverty.

5 Household composition change and chronic poverty

To examine whether relationships exist between a change in household composition and the phenomenon of chronic poverty, Table 3 shows the distributions of households in the panel sample into the three poverty categories — the chronically poor, the vulnerable, and the non-poor — based on their experience of household composition change. Out of the total 6,403 households in the sample, there are 4,230 households or 66 percent which experienced at least one household composition change during the whole period from 1993 to 2000.

Table 3. Household distribution by poverty categories across the existence of household composition change (%)

Existence of household composition change	Poverty categories			N
	Chronically poor	Vulnerable	Non-poor	
No change in household composition	15.00	19.10	65.90	2,173
Experienced a change in household composition	13.66	20.71	65.63	4,230
Total	14.12	20.16	65.72	6,403

Source: Authors' calculation using IFLS data

Among the households which experienced household composition change, around 13.7 percent are chronically poor, 20.7 percent are vulnerable, and 65.6 percent are non-poor households. Similarly, among the households which did not experience household composition change, around 15 percent are chronically poor, 19 percent are vulnerable, and 66 percent are non-poor households. These distributions by poverty groups of both households that experienced household composition change and those that did not are similar to each other as well as to the total distribution.

⁶ If chronic poverty is defined as those who are in poverty in all periods, then the rate of chronic poverty is approximately four percent. However, using this alternative definition results in similar findings in the subsequent analyses.

If a change in household composition is a source of vulnerability among poorer households, it can be expected that those who experienced a change in their household composition will have a higher probability of being chronically poor. Hence, it can be expected that the distributions by poverty groups of both groups of households will differ significantly, i.e. those which experienced household composition change will have a significantly higher proportion of the chronically poor. Since Table 3 indicates that it is not the case, it can be concluded that household composition change is not a major cause of the chronic poverty phenomenon in Indonesia.

To look at this issue further, in particular to examine whether certain types of household composition change may induce a higher probability for households to be chronically poor, Table 4 shows the distributions by poverty categories of the households which experienced household composition change by the type of the composition change that occurred. The table shows that most of the distributions are either relatively similar to the total distribution or have a smaller proportion of the chronically poor. Hence, in general the table also implies that there is no evidence that certain types of household composition change cause a higher probability for households to be chronically poor. The exception is divorce or separation, which has a higher relative frequency in chronically poor households. However, this is based on a small number of observations with only 14 households in the sample which had gone through divorce or separation.

Table 4. Household distribution by poverty categories across the types of household composition change (%)

Type of composition change	Poverty categories			N
	Chronically poor	Vulnerable	Non-poor	
Death of breadwinner	0.00	33.33	66.67	12
Death of other household member	15.00	15.00	70.00	20
Birth of a child	11.81	15.28	72.92	288
Divorce or separation	21.43	14.29	64.29	14
Additional working adult	14.34	20.58	65.08	1,074
Additional non-working adult	13.92	21.30	64.78	2,723
Others	5.05	22.22	72.73	99
Total	13.66	20.71	65.63	4,230

Source: Authors' calculation using IFLS data

6 Household dynamics as a protection instrument

It is possible that households respond to negative shocks or bad states by changing their household composition to cope with them. For example, after a negative shock, a household may send some of their children to live with a relative to reduce their economic burden. To examine this possibility, Table 5 shows the proportion of households that had a bad state in the previous period among those which experienced a change in their household composition. Two bad states are examined in this table: poverty and unemployment.

Table 5. The proportions of households having a bad state in previous period among those which experienced household composition change (%)

Bad state in previous period	1997	2000
Poverty:		
- Poor in previous period	21.99	14.59
- Not poor in previous period	78.01	85.41
N	4,230	4,230
Unemployment:		
- Head unemployed in previous period	15.26	20.52
- Head employed in previous period	84.74	79.48
N	4,155	4,006

Source: Authors' calculation using IFLS data

In terms of poverty, the table indicates that among all households that experienced a change in their household composition between 1993 and 1997, 22 percent were poor in 1993. Similarly, among all households that experienced a change in their household composition between 1997 and 2000, 14.6 percent were poor in 1997. Meanwhile, Table 1 shows that 23 percent of households were poor in 1993 and 14.6 percent were poor in 1997. This implies that the proportion of poor households among those that experienced household composition change are very similar to the proportions of poor households in the total sample. This finding indicates that there is no evidence that households change their composition to cope with poverty.

In terms of unemployment, the table indicates that among all households that experienced a change in their household composition between 1993 and 1997, 15.3 percent had unemployed heads in 1993. Similarly, among all households that experienced a change in their household composition between 1997 and 2000, 20.5 percent of them had unemployed heads in 1997. Meanwhile, the data indicates that 15.3 percent of households had unemployed heads in 1993 and 18.7 percent had unemployed heads in 1997. This implies that the proportions of households with unemployed heads among those that experienced household composition change are very similar to the proportions of poor households in the

total sample. This finding indicates that, as in the case with poverty, there is no evidence that households change their composition to cope with unemployment.

However, there is a possibility that a period of 3-4 years is too short for households which have a bad state to respond to it by changing their household composition. Therefore, Table 6 replicates Table 5 by showing the proportion of households that had a bad state in the initial period (1993) among those which experienced a change in their household composition between 1993 and 2000.

Table 6. The proportion of households having a bad state in initial period among those which experienced household composition change (%)

Bad state in initial period	2000
Poverty:	
- Poor in initial period	21.84
- Not poor in initial period	78.16
N	4,006
Unemployment:	
- Head unemployed in initial period	15.10
- Head employed in initial period	84.90
N	4,006

Source: Authors' calculation using IFLS data

Table 6 shows that among all households that experienced a change in their household composition between 1993 and 2000, 21.8 percent of them were poor in 1993. Table 1 shows that 23 percent of households were poor in 1993. This implies that the proportion of poor households among those that experienced household composition change are very similar to the proportion of poor households in the total sample. This finding again indicates that there is no evidence that households change their composition to cope with poverty, even after a seven year period.

Similarly in terms of unemployment, the table indicates that among all households that experienced a change in their household composition between 1993 and 2000, 15.1 percent of them had unemployed heads in 1993. The data indicates that 15.3 percent of households had unemployed heads in 1993. This implies that the proportion of households with unemployed heads among those that experienced household composition change are very similar to the proportions of households with unemployed heads in the total sample. This finding indicates that, again as in the case of poverty, there is no evidence that households change their composition to cope with unemployment, even after a seven year period.

7 Economic viability and chronic poverty

Because household composition affects the economic capacity and viability of a household, it is important to establish whether certain household compositions are associated with a higher probability of a household becoming chronically poor. To examine this, Table 7 shows household distribution by poverty group across the type of household composition at the initial period in 1993. The table shows that there is a wide array of household composition types found in the data. A large majority of households, however, have both a husband and a wife present in the household.

Table 7. Household distribution by poverty group across the type of household composition at initial period (%)

Type of household composition at initial period	Chronically poor	Vulnerable	Non-poor	N
Husband-wife households:	14.61	19.66	65.73	5,036
Husband and wife	6.38	18.62	75.00	376
Husband, wife, a child	8.14	17.83	74.03	774
Husband, wife, a child, others	17.96	20.40	61.64	451
Husband, wife, two children	11.58	17.03	71.40	881
Husband, wife, two children, others	14.99	21.55	63.47	427
Husband, wife, three children	15.13	21.07	63.80	674
Husband, wife, three children, others	16.61	16.93	66.45	313
Husband, wife, four or more children	22.71	21.71	55.58	797
Husband, wife, four or more children, others	19.53	23.32	57.14	343
Single father households:	9.57	17.02	73.40	94
Single male	0.00	0.00	100.00	33
Single father, a child	10.00	25.00	65.00	20
Single father, two children	15.79	26.32	57.89	19
Single father, three or more children	18.18	27.27	54.55	22
Single mother households:	9.60	18.64	71.75	354
Single female	0.00	6.45	93.55	31
Single mother, a child	5.83	15.53	78.64	103
Single mother, two children	13.59	25.24	61.17	103
Single mother, three or more children	11.97	18.80	69.23	117
Others	13.60	23.83	62.57	919
Total	14.12	20.16	65.72	6,403

Source: Authors' calculation using IFLS data



In general, the large number of varieties of household composition can be classified into four large groups: husband-wife households, single father households, single mother households, and other composition households. Within each group, the table indicates that the larger the number of household members, the higher the probability of a household being chronically poor or vulnerable.

To examine the relationship between household composition and poverty status more rigorously, an ordered probit analysis is performed and the results are presented in Table 8. The independent variables used in this model are based on the initial period (i.e. 1993) conditions. The table shows that the chronically poor and the vulnerable generally have similar coefficients in terms of sign, significance level, as well as the magnitude of the coefficients. The results of the estimations in general confirm the findings from the descriptive analysis.

First of all, the coefficient of household size variable affirms that greater household size increases the probability of a household being chronically poor or vulnerable. In terms of household composition, single male/father with and without children households have a higher probability of being vulnerable than husband-wife without children households, which is the omitted category in the estimation.⁷ Households in other compositions also have a higher probability of being in chronic poverty or vulnerable. On the other hand, single mother without children households have a significantly lower probability of being in either chronic poverty or vulnerable.

Meanwhile, the proportion of working household members has positive and significant coefficients. This indicates that the urgency to meet household needs forces chronically poor and vulnerable households to send more of their household members into the labour market. On the other hand, the proportion of household members with secondary education or higher has large negative coefficients. This confirms the importance of education in resolving the problem of poverty.

⁷ Single male/father with and without children are lumped together because of the small number of observations.

Table 8. Results of ordered probit of the effects of household composition on the pProbability to be chronically poor or vulnerable

Independent variable	Chronically poor		Vulnerable	
	Coefficient	Std. Error	Coefficient	Std. Error
Household composition:				
Husband-wife with children households	0.01592	0.02367	0.01416	0.02190
Single male/father with and without children households	0.08498	0.06077	0.05223 *	0.02562
Single female without children households	-0.11640 **	0.00477	-0.21484 **	0.00591
Single mother with children households	0.01100	0.03290	0.00901	0.02580
Other household compositions	0.06705 *	0.03200	0.04668 **	0.01784
Household characteristics:				
Number of household members	0.02383 **	0.00188	0.02035 **	0.00174
Dependency ratio	-0.00003	0.00004	-0.00002	0.00003
Proportion of male in a household	-0.00008	0.00019	-0.00007	0.00016
Proportion of adult in a household	0.03525	0.02767	0.03011	0.02368
Proportion of working household members	0.02319 *	0.01204	0.01981 *	0.01028
Proportion of household members with secondary education or higher	-0.61423 **	0.02719	-0.52458 **	0.03156

Note: The independent variables used in the model are based on 1993 data.

** Significant at 1%

* Significant at 5%

8 Household dynamics and the concept of chronic poverty

In terms of composition, households are very dynamic. Babies are born, while existing household members die. New individuals join, while existing members leave households. A household can split into two or more households when a husband and his wife divorce or a child gets married and starts a new household. On the other hand, two or more households can join and merge into a new household, for instance, when a widow and a widower get married. All of these have an implication for the conceptualisation and measurement of poverty.

To illustrate the complication, Table 9 shows the poverty rates for various household groups across survey rounds in the IFLS data. The first row tracks the poverty rate for the

households in the complete panel which were visited in all the three rounds, replicating the numbers reported in Table 1. These numbers are always higher than the corresponding numbers in the last row, which reports the poverty rates based on all households available in the data for each round of the survey. This suggests that the panel households are poorer than the complete sample of households participated in the survey.

Table 9. Poverty headcount rates for various household groups in the data (%)

Household group in the data	Poverty headcount (%)			N
	1993	1997	2000	
First round households:				
- First round households in the complete panel	23.05	14.56	15.02	6,403
- First round households visited in the second round but not visited in the third round	14.93	5.97	–	201
- First round households not visited in the second round but visited in the third round	12.07	–	10.34	232
- First round households not visited in the second and third rounds	10.00	–	–	300
- Total first round households	21.92 (N=7,136)	14.29 (N=6,604)	14.86 (N=6,635)	7,136
Second round households:				
- New households in the second round visited in the third round	–	8.94	11.91	705
- New households in the second round not visited in the third round	–	13.39	–	224
- Total second round households	–	10.01 (N=929)	11.91 (N=705)	929
Third Round Households:				
- New households in the third round	–	–	9.30	2,818
All Households in the Data	21.92 (N=7,136)	13.77 (N=7,533)	13.11 (N=10,158)	10,883

Source: Authors' calculation using IFLS data

The reasons for this are twofold. First, the first round households that dropped out from the sample in any of the subsequent rounds are less poor compared with those that can be tracked in all of the subsequent rounds. This can be seen by comparing the poverty rates in the first row with those in the second, third, and fourth rows. This gives an indication that migrating households tend to be wealthier than those who stay in an area. Similarly, the new households that result from the split off of the original first round households are also less poor compared with their original households. This can be seen by comparing the poverty rates of the total first round households (the fifth row) with those of the total second round households and the new households in the third round. All of this suggests that the use of the household as the unit of analysis for poverty may undermine, or at least complicate, the conceptualisation and measurement of chronic poverty.

9 Household dynamics and social protection

Because the chronically poor are the poorest of the poor, they constitute the most deserving beneficiaries of government's social protection programmes. Here social protection programme is defined as any programme that is intended to provide help for the poor and the vulnerable. Experiences from Indonesia as well as from other developing countries show that targeting of programme beneficiaries is one of the most difficult and contentious issue in the implementation of social protection programmes.

As an illustration of the problem, Table 10 shows the distribution of households that participated in government social protection programmes by poverty group in 2000. The table shows that for basic need assistance, the proportions of the chronically poor and the vulnerable that reaped the benefits of this programme are slightly higher than their respective proportions in the population. However, the bulk of the benefits of this programme were enjoyed by the non-poor with more than 55 percent of the beneficiaries of this programme never poor. The distribution of benefits for non-basic needs assistance was even worse, with the proportions of the chronically poor and the vulnerable similar to their proportions in the population and 69 percent of the beneficiaries non-poor.

Table 10. Distribution of households participated in government social protection programmes in 2000 by poverty group (%)

Government program	Chronically poor	Vulnerable	Non-poor	N
Purchased basic needs from cheap market during the last 12 months	19.36	26.00	54.64	2,608
Any assistance during the last 12 months (excluding basic needs)	13.95	17.44	68.60	258
Total panel households	14.12	20.16	65.72	6,403

Source: Authors' calculation using IFLS data

To see whether participation in the government's social protection programmes is related to household dynamics, Table 11 shows the distribution of households that participated in government social protection programmes by changes in household composition. Approximately 22 percent of households that participated in government social protection programmes experienced household composition change in the period 1993-1997. There was a doubling, to approximately 44 percent, in the proportion of households that participated in government social protection programmes that experienced household composition change in the following period, 1997-2000. The remaining 34 percent are households that did not experience any household composition change during the whole period of observation.

These figures are similar to the distribution of total panel households as shown in the last row of Table 11. This suggests that household dynamics does not seem to play a significant role

in determining whether a household participates or not in government social protection programmes.

Table 11. Distribution of households who participated in government social protection programmes in 2000 by changes in household composition (%)

Government program	Change in household composition 1993-1997	Change in household composition 1997-2000	No change in household composition	N
Purchased basic needs from cheap market during the last 12 months	21.93	44.21	33.86	2,608
Any assistance during the last 12 months (excluding basic needs)	22.09	43.80	34.11	258
Total panel households	21.33	44.73	33.94	6,403

Source: Authors' calculation using IFLS data

To examine more rigorously whether household composition change affects the probability of receiving assistance from government social protection programmes, Table 12 shows the results of probit analysis of receiving assistance on household poverty status, change in household composition, and other household characteristics. The table shows that in general poverty status does not have any effect on the probability of receiving assistance from government social protection programmes. The only exception is that the vulnerable group has a higher probability of receiving the basic need assistance. However, the chronically poor do not have a significantly higher probability of receiving assistances compared with the non-poor.

Similarly, households that experienced a change in household composition do not have significantly different probability of receiving any assistance compared with those that did not experience any household composition change. This confirms the finding from the descriptive analysis that household dynamics does not play a significant role in determining whether a household participates or not in government social protection programmes.

Table 12. Results of probit analysis of household participation in government social protection programmes in 2000 (%)

Independent variable	Basic needs assistance		Other assistances	
	Coefficient	Std. Error	Coefficient	Std. Error
Poverty status:				
Chronically poor	0.33698	0.22719	0.12199	0.42655
Vulnerable	0.29597 **	0.10773	-0.02686	0.20418
Poor in 1993	0.03295	0.10902	-0.13284	0.20336
Poor in 1997	-0.06977	0.10596	-0.08762	0.20563
Poor in 2000	0.12706	0.10269	-0.09073	0.19605
Change in household composition:				
Change in household composition 1993-1997	0.07934	0.04978	0.07779	0.08664
Change in household composition 1997-2000	0.01345	0.04076	-0.00663	0.07303
Household characteristics:				
Number of household members	-0.03518 **	0.01023	0.04295 **	0.01734
Dependency ratio	0.00044 *	0.00018	-0.00041	0.00031
Proportion of male in a household	0.00040	0.00097	0.00113	0.00169
Proportion of adult in a household	0.13321	0.12615	0.68597 **	0.21440
Proportion of working householders	0.01125	0.06222	0.05859	0.11216
Proportion of household members with secondary education or higher	-1.45382 **	0.11014	-0.45125 *	0.19883

Note: The independent variables used in the estimation are based on 1993 data.

** Significant at 1%

* Significant at 5%

This finding indicates that the targeting problem in government social protection programmes is not only implementation in nature, but also has some conceptual roots. Identification of poor and vulnerable households is far from straightforward.



10 Conclusion

The findings of this study indicate that household composition change is not a major cause of the chronic poverty phenomenon in Indonesia. Furthermore, there is no evidence that certain types of household composition change cause a higher probability of households being chronically poor. There is no evidence either that households change their composition to cope with negative shocks.

However, the results of the analysis suggest that the larger the number of household members, the higher the probability a household will be chronically poor. Comparing between different types of household composition, single female without children households have the lowest probability of being chronically poor or vulnerable, while single male/father with and without children households have the highest probability of being vulnerable. Finally, a higher proportion of household members who have attended senior secondary or higher education significantly reduces the probability of a household to be chronically poor or vulnerable.

Due to the frequent changes in household composition, the use of household as the unit of analysis for poverty may undermine, or at least complicate, the conceptualisation and measurement of chronic poverty. This also has an implication for the targeting of social protection programmes because it implies that the problem in targeting is not only implementational in nature, but also has some conceptual roots.

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Appendix

Table A1. Regional poverty lines (monthly Rupiah per capita)

Province	1993 ^b		1997 ^b		2000 ^a	
	Urban	Rural	Urban	Rural	Urban	Rural
North Sumatra	24,849	24,071	39,496	38,260	83,662	81,043
West Sumatra	24,949	22,567	36,275	32,811	87,377	79,035
South Sumatra	24,587	23,083	40,381	37,911	84,141	78,994
Lampung	26,746	23,578	41,837	36,881	89,820	79,180
Jakarta	31,551	–	54,280	–	107,766	–
West Java	32,221	28,768	45,892	40,974	95,594	85,351
Central Java	28,473	25,208	42,165	37,329	85,111	75,351
Yogyakarta	30,453	25,495	46,839	39,213	92,086	77,094
East Java	28,210	26,965	41,571	39,737	84,480	80,752
Bali	33,601	31,291	46,962	43,734	102,020	95,007
West Nusa Tenggara	26,286	27,072	38,909	40,072	85,282	87,832
South Kalimantan	28,213	24,425	42,768	37,026	89,769	77,716
South Sulawesi	27,560	25,951	40,949	38,557	87,361	82,259

Source: ^aStrauss et al. (2004)

^bCalculated using a method proposed in Suryahadi et al. (2003)



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