-WORKING PAPER-

Women's Participation in Household Decision Making in Indonesia: A Structural Equation Approach

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Abstract

Measures of decision-making power are a central component in understanding how differences in preference translate into differences in welfare outcomes in the household. A number of studies have examined women's decision-making power in various spheres, including day-to-day household purchases, healthcare, family planning, child wellbeing, etc. Following the empirical studies in this genre, this paper focuses on dynamics within couples in Indonesia in 2007. Previous studies have employed behavioral outcome variables and multivariate regression analyses to investigate the determinants of women's decision-making power in the household. However, these methods are inadequate in measuring latent constructs such as "power." I use structural equation modeling (SEM) and factor analysis, which are frequently used to uncover underlying patterns of relationships between outcome variables. These methods reduce error in data, detect anomalous items and achieve parsimony and conceptual clarity.

1. Introduction

In the development literature, researchers are often interested in studying theoretical constructs such as "power" that cannot be observed (or measured) directly. Thus researchers operationally define these unobservable constructs in terms of behavior believed to represent it. This is particularly common in studies of the intra-household decision-making, where researchers analyze the association between women's socioeconomic status and their decision-making power in various spheres. These decision-making spheres include food consumption, child wellbeing, healthcare, family planning, large expenses, migration, etc (Mason 1987; Williams 1989; Lundberg and Poallk 1993; Shultz 1993, 1999; Balk 1994; Lundberg, Pollak and Wales 1997; Thomas, Contreras and Frankenberg 1997; Beegle, Frankenberg and Thomas 2001; Frankenberg and Thomas 2003).

In this paper, I use Structural Equation Modeling (SEM) to analyze women's decision-making power. Unlike previous studies that are primarily based on observed measurements, I use SEM procedures to incorporate both unobserved (i.e., latent) and observed variables. SEM is also useful in assessing and correcting for measurement error, detecting anomalous items, achieving parsimony and conceptual clarity.

Another key feature of this paper is that I employ an unusually rich data set from the 2007 Indonesian Family Life Survey (IFLS – Wave 4), which includes detailed information (i.e., 17 indicators) on women's decision-making behavior in the household. It also includes information on women's demographic characteristics and their partner's characteristics. In addition, the IFLS includes women's share of household assets, which is a more suitable indicator of women's economic status than employment or individual income, which are jointly determined by household decision-making.

In the past few decades Indonesia have undergone huge demographic changes, with massive declines in fertility and mortality rates, and increases in women's median age at first marriage, education and labor force participation. Therefore, I attempted to investigate whether decision-making behavior and its underlying construct have also changed over time in Indonesia. For this purpose I

compare the 2007 IFLS (wave 4) with an earlier wave of the IFLS, which was administered in 1997.

The remainder of this paper is organized as follows. Section 2 describes the gendered nature of household decision-making and past empirical studies in this genre. Section 3 presents the intuition behind my strategy to use SEM and its advantages over multivariate regression. Section 4 explains the data set, explanatory variables and the analysis plan. Section 5 analyzes and interprets the results.

2. The Gendered Nature of Household Decision-Making

In the past, the most common model of the household decision-making assumed that all household members have identical preferences or that the preferences of one member determine resource allocation, this is known as the unitary model. However, such models came under scrutiny because in reality each individual has their own preferences and resources. As a result, researchers started considering more general models (collective models), which take individuals as the basic element and treat household decisions as the outcomes of interactions and bargaining among the members (McElroy and Horney 1981; Manser and Brown 1980). Therefore, the collective model has been used to analyze the differences in preferences and distribution of resources between household members, especially between men and women.

Scholars who study development in particular, have had a long-standing interest in how a woman's preference relative to that of her spouse affects behaviors and outcomes related to household welfare. Since differential preferences do not necessarily mean that a woman will be able to exercise her preferences, the relative “power” of a woman plays a central role in household decisions. Thus, the literature in this genre has focused especially on male-female equity in intra-household decision-making power and allocation of resources, and on the economic and social benefit of educating girls and women as a form of human capital investment. Women may derive power from multiple sources, especially through

education, employment and assets. Contexts of power such as customs and norms regarding marriage and family life are also sources of power. Indonesia is a suitable research study to investigate women's decision-making power because it is extremely diverse in terms of ethnicity, women's status and socioeconomic development.

Decision-Making Spheres

Lundberg and Pollak (1993) have emphasized the different roles that men and women play in the household and the implications of these "spheres of interest" or "spheres of control" for models of household decision-making. These spheres may include expenditure on food, children's wellbeing, large expenses and family planning (e.g., contraceptive use and family size). Who influences each sphere has consequences for the overall welfare of the household. For instance, as women have different preferences from men, when they control food expenditure, they may buy nutritional food for the children, which improves their growth, and make them less susceptible to illness (Schultz 1999), whereas when men control food expenditure, they hold back some funds for themselves (Quisumbing et al 1995; Bradshaw 2004; Rao 2006). Therefore, it is important to identify the spheres of decision-making that each spous control.

Women's Decision-Making Literature

The women's status literature can be divided into two areas; one area, that looks at the association between women's characteristics and welfare outcomes such as fertility and infant mortality, and a more recent area that examines the association between women's characteristics and household decision-making. Although it was useful to see how varying characteristics of women can influence welfare outcomes, it was not clear who in the household made decisions that influence these outcomes. It was assumed that, if women have higher power in the household, she may be able to influence decision-making in certain spheres (Lundberg and Pollak 1993), but without data on decision-making, it was difficult to make this claim. For example, say it has been argued that women who have more control over resources (power)

allocate a higher share of the household budget on nutritional food and doctor's visits, which results in better child health. Then, it should be the case that women have more "say" in decisions regarding budget allocation in those households in which they have more power.

In an effort to pry open this "black-box" of household decision-making, researchers began to directly ask survey respondents to describe who they perceived to be the primary decision-maker for a series of household decision-making spheres. Most household surveys including the IFLS now use explicit questions about decision-making behavior within the household and use them as indicators of relative power within the household, these indicators to some extent can shed light on how power manifests itself in everyday life.

Previous Empirical Studies

Jejeebhoy (2000) shows that the socio-cultural context in rural India conditions the relationship of women's individual-level characteristics to decision-making, and that autonomy is the key-mediating factor between women's status and reproduction. Here the outcome variable of interest is number of children. In a similar study of rural China, Jin (1995) found that women who have significantly more influence on reproductive matters tend to be more educated, spend more time on household economic activities and marry later, the outcome of interest was the actual number of children ever born. Both these studies use welfare outcome variables (i.e., fertility) as a proxy for women's decision-making power. However, as explained in the previous paragraph, it is unclear as to "who" in the household made decisions that resulted in a specific outcome. Therefore, recent studies on decision-making power have used direct questions on household decision-making behavior to avoid this problem.

Frankenberg and Thomas (2003) analyzed the response of both male and female reports on several decision-making spheres in Indonesia, and found that 25 percent of couples did not report the same decision-maker. The authors also found that ethnicity is a powerful predictor of decision-making. Additionally, they discovered that higher the woman's education; less likely is for her husband to make

decisions about food expenditures, relative to decision being joint. Higher levels of education among women also increase the probability that she makes the decisions alone relative to the husband deciding them alone. Frankenberg and Thomas (2003) used multinomial logistic regression with three decision-maker categories: male, female and joint. They used 5 single decision-making items: food eaten at home; expenditure on child education, health care for children, expenditure on durables and contraceptive use, which were estimated separately. Single indicator variables, when left to stand-alone suffer from measurement error, this yields unreliable results especially when the indicator is representing an unobservable concept such as power.

Several other studies have used additive scales, instead of using a single indicator to measure decision-making power. For example, in a study of Pakistani women, Sathar and Kazi (2000) showed that age and family structure are the strongest determinants of women's authority in decision-making. The authors used eight behavioral questions to capture women's authority in decision-making. They include decision-making about food to be purchased, children's education, how many children to have, what to do when the child is sick, whether to make a major household purchase, whether to buy animals and whether to women should work outside the home. These items were converted into an index from 0-8, and linear regression was performed to identify the determinants.

In another study in Nigeria, Kritz and Adebusoye (1999) showed that ethnicity plays a very important role in shaping a wife's decision-making authority and is even more important than other individual-level characteristics. The authors used 12 questions regarding household decision-making, for example, they asked the survey respondents: "who makes the decisions in your household on whether to buy or sell land?" Kritz and Adebusoye (1999) formed an index where responses of "I do" are scored "3," responses of "both of us do" are scored "2," responses of "my husband does" are scored "1," and responses of "others do" are scored "0." The maximum score on the wife's decision-making authority index is "36" (12 items * 3). They conducted ordinary least square regression to determine the predictors of this decision-making index.

Becker, Fonseca-Becker and Schenck-Yglesias (2006) compared husbands' and wives' reports of women's decision-making power in Western Guatemala and found that, wives tend to under-report their household decision-making power. But in couples with both partners educated and in couples in which women work for pay, both husband and wife were significantly more likely to report that they jointly make final decisions about household activities. The authors used an additive scale of decision-making for four indicators.

Additive scales provide convenient regressors and they are easier to compare across groups. However, we cannot verify whether the latent construct of decision-making power is a continuous measure as implied by the additive scales. Further, unlike factors generated by confirmatory factor analysis, additive scales obliterate potential multidimensionality of decision-making power, and are insensitive to the different measurement properties. They also ignore the relationship between item responses and underlying conceptual variables.

3. Why use Structural Equation Modeling?

The above-mentioned empirical studies are useful in understanding the determinants of women's decision-making behavior, but they fall short in capturing women's decision-making power, which is the underlying latent construct that influences behavior. Structural equation modeling provides an efficient and convenient way of describing and determining such latent constructs, and they can be easily expressed either diagrammatically or mathematically via a set of equations. Further, by using multiple indicators, we can reduce unreliability of measurements and improve the accuracy of the representation of latent constructs. The convergence of several indicators (outcomes) increases the confidence that imperfect variables (i.e., variables with measurement error) are representing the intended latent construct.

Typically, SEM represents "causal" processes that generate observations on multiple variables by a series of structural equations (i.e., regression). The hypothesized model can then be tested statistically in a simultaneous analysis of the

entire system of variables to determine the extent to which it is consistent with the data. If the goodness of fit is adequate, the model argues for the plausibility of postulated relations among variables; if it is inadequate, the tenability of such relations is rejected (Byrne 2001).

Several aspects of SEM set it apart from the older generation of multivariate procedures (see Fornell 1982). First, it takes confirmatory, rather than an exploratory approach to the data. Furthermore, by demanding that the pattern of inter-variable relations be specified a priori, SEM lends itself well to the analysis of data for inferential purposes. By contrast, most other multivariate procedures are essentially descriptive by nature (e.g., exploratory factor analysis), so that hypothesis testing is difficult, if not impossible. Second, although traditional multivariate procedures are incapable of either assessing or correcting for measurement error, SEM provides explicit estimates of these error variance parameters. Indeed, alternative methods (e.g., those rooted in regressions, or the general linear model) assume that error(s) in the explanatory (i.e., independent) variables disappear. Thus, applying those methods when there is error in the explanatory variables is tantamount to ignoring error, which may lead ultimately, to serious inaccuracies—especially when the errors are sizeable. Such mistakes are avoided when corresponding SEM analyses are used. Third, although data analyses using the former methods are based on observed measurements only, those using SEM procedures can incorporate both unobserved (i.e., latent) and observed variables.

4. Data and Analysis Plan

The IFLS is a large-scale, multipurpose household panel survey. RAND corporation conducted the first IFLS in 1993-94 in collaboration with Lembaga Demografi, University of Indonesia. The sampling scheme for the first wave is the primary determinant of the sample in subsequent waves. The IFLS1 sampling scheme was stratified on provinces, and then randomly sampled within provinces. Provinces were selected to maximize 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. The sample included 13 of Indonesia's 26 provinces containing 83 percent of the population. Over 7,000 households were surveyed in 1993-94. The IFLS2 was conducted between August 1997 and February 1998, and 94 percent of the 7,224 households that were contacted in IFLS1 were re-interviewed (excluding household where all members died), along with split-off households. IFLS4 was conducted between November 2007 and April 2008, and 93.6 percent of the IFLS1 households were re-contacted. My SEM sample includes 3,634 married women aged 15-49 years in 1997, and 6,862 married women aged 15-49 years in 2007. Although IFLS is a longitudinal survey, cross-sectional person-weights allow us to get estimates for Indonesian population living in 1997 and 2007. The IFLS survey scientists constructed these weights by raking the IFLS2 and IFLS4 sample to an external sample from the 1997 and 2007 SUSENAS (Survei Sosial Ekonomi Nasional - National Socio-Economic Survey) in the 13 IFLS provinces, this is after having made adjustments for sample attrition from 1993 to 2007 (see IFLS User Guide for details).

Decision-Making Measures

The IFLS has 17 items in the household decision making module. All respondents were asked to indicate who in the household makes decisions on each item. Table 1 presents the percentage of women who are involved in decision making for each item. The items were converted into a binary variable where "1" indicates women's participation in the decision-making and "0" if the women do not participate in decision-making for a given questionnaire item. In all the items, women in 2007 sample show a significant increase in decision-making behavior compared to the women in the 1997 sample (three items were removed from further analysis due large proportion of missing values).

Determinants of Women's Decision-Making Power

I employ four characteristics of women that have shown to influence women's decision-making power in the household: age, education, household headship and

share of household assets. To isolate the effect of these variables I control for woman's spouse's age and education, rural/urban residence, religion and ethnicity.

Age—in developing countries, age confers authority and status; therefore older women tend to influence decision-making more than younger women (Kamal and Zunaid 2011). *Education*—increased female education is associated with increased participation in household decision-making (Frankenberg and Thomas 2003). Schooling affects decision-making in several ways and one mechanism is through wage employment. It is expected that as education levels are enhanced, women will have increased agency as well as stronger negotiating power both at home and in the community. Further, women who are educated marry at a later age as they spend most of their adolescence in school, this means they are more mature and have more life experiences when they enter married life, giving them even more power within the household.

Household Headship—in a setting such as Indonesia, it is rare for a woman to assume household headship unless her partner is absent or severely disabled. Using data from Kenya and Malawi, Kennedy & Peters (2002) show how gender of the household head affects child wellbeing. They disaggregated the households by male- and female-headed households. The female-headed households were further disaggregated into de jure (legal head of household is a woman) and de facto (male head of the household is absent more than 50% of the time). In both Kenya and Malawi, the de facto household had the lowest income. Despite this low income, preschoolers' nutritional status was significantly better than in the higher income male-headed. The authors state that the ability to improve nutritional status in a low-income environment in de facto households is related to a combination of child feeding practices and other nurturing behavior. Their findings substantiate the claim that women allocate more resources to their children when they have sole decision-making power at home.

Share of Household Assets—employment and therefore income can be thought of as an outcome of a bargaining process between husbands and wives. For instance, if time allocation choices (including the time spent at work) are part of a negotiation between husbands and wives, it is reasonable to suppose that the

subsequent distribution and spending of the individual income will also be part of that negotiation. Treating employment as predetermined in women's decision-making models; may not be appropriate as the estimates of the effect of employment on household decision will be subject to simultaneity bias. Studies that use individual labor income as a proxy for a woman's employment status are even more strongly prone to these biases (Gage 1995; Mason 1996; Miles-Doan and Brewster).

To avoid this problem of simultaneous bias, some studies have used non-labor income or assets brought to marriage (e.g. dowry and inheritance), or the value of assets owned at the time of marriage to measure relative power (McElroy and Horney 1981; Schultz 1990; Thomas 1990; Quisumbing 1994; Thomas et al. 1997). However, measurement-error is a real concern with collecting retrospective information on assets brought to marriage. Measurement-error may include recall bias in both values and the date of marriage, and error due to respondent's tendency to either hide resources or inflate their status. It would also be difficult for respondents to report the real value of the assets in present currency, as it may seem too low after many years of inflation (Frankenberg and Thomas 2003).

Therefore, share of current household assets owned by the woman may serve as a better indicator of relative status. The IFLS includes detailed questions on ownership of household assets at the time of the survey. Collecting such data is not standard practice in broad-purpose socioeconomic surveys, but was implemented in the IFLS in an attempt to measure the relative economic position of husbands and wives. IFLS collects information from each spouse about the value and ownership of all the assets owned by any member of the household. For assets for which some portion was owned by the husband and wife (or both), each respondent was asked to report the proportion that each partner owned. The common assets in an Indonesian household include the house they occupy, the land, jewelry, livestock, furniture, appliances, vehicles, etc. In this chapter I will be using 'share of assets' in place of woman's work. However, by using this variable, I am making a central assumption that distribution of assets is an indicator of power over decision-making. One can contend that a woman who has titular ownership of assets may not

have a real control over them. An understanding of the cultural context Indonesia may help in making this argument.

The ethnographic literature indicates that resources brought to marriage by a woman tend to be held under her control; gold and jewelry are commonly cited as examples of such assets. In an event of marriage dissolution, these assets remain with her and revert to her family if she dies and leaves no heirs. Further, Hart (1978) and Wolf (1991) state that assets acquired by Javanese women through their own employment also remain under their own control. In a community survey conducted as part of the IFLS, adat experts report that under the traditional law, a woman is allowed to own land or a field by herself after marriage. Women are also allowed to own their businesses, in the event of a divorce both the husband and wife leave the marriage with asset they had owned prior to marriage, and the assets acquired after the marriage are either split evenly or divided according to who obtained the assets originally. However, whether reported ownership of assets reflects control decision-making is an empirical issue. Beegle, Frankenberg and Thomas (2001) analyzed the association between ownership of assets and the use of prenatal and delivery care in Indonesia. They find that, compared with a woman with no assets that she perceives as being her own, a woman with some share of household assets influence reproductive health decisions. In my analysis I expected to find similar relationship between woman's share of household assets and decision-making.

Analysis Plan

The first step of the analysis was to identify the latent factors that represent women's decision-making power in various spheres. For this purpose I ran a tetrachoric correlation matrix (a special case of polychoric correlations) on the 14 questionnaire items for 1997 and 2007 survey years. Polychoric correlations measures the association between two theorized normally distributed continuous latent variables, from two observed ordinal variables (in this study, all observed

indicator variables are dichotomous, therefore the correlation matrix is known as tetrachoric).

Then, I used the values from the correlation matrix to conduct Exploratory Factor Analyses (EFA) with promax oblique rotated loadings (to allow inter-factor correlations). EFA is designed for situations where links between the observed and latent variables are unknown or uncertain. The analysis thus proceeds in an exploratory mode to determine how and to what extend the observed variables are linked to their underlying factors. In EFA, these relations are represented by factor loadings. I expect that items designed to measure children's welfare, for example, will exhibit high loadings on that factor, and low or negligible loadings on the other factors (Byrne 2001). I conducted this analysis for 1997 and 2007 separately to investigate whether the latent construct are consistent across survey years (although identical questionnaires were used in both surveys). Based on the EFA results and the knowledge from previous empirical research, I chose 9 decision-making items that represented 3 meaningful latent constructs.

The second step of the analysis, I ran a Multiple Indicator Multiple Causes (MIMIC) model (Joreskog and Goldberg 1975; Krishnakumar and Nagar 2005), which is a SEM procedure suited for models with multiple causes (determinants). The MIMIC model explains the relationship between observable variables and an unobservable variable(s) by minimizing the distance between the sample covariance matrix and the covariance matrix predicted by the model. The observable variables are divided into causes of the latent variable and its indicators. The MIMIC model can be decomposed into two sub-models: a *structural model* and a *measurement model*. The structural model is given by:

$$L = p^*_i x_i + d_t$$

where $x_i = (x_1, x_2, ..., x_i)$ is a vector of variables, which are potential causes of the latent variable L, and $p_i = (p_1, p_2, ..., p_i)$ a vector of coefficients in the structural model describing the "causal" relationships between the latent variable and its causes. Since the structural model only partially explains the latent variable 'L', the

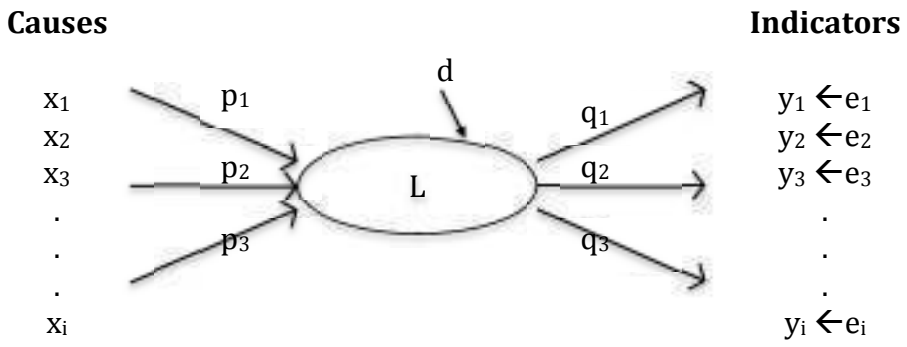
error term 'd' represents the unexplained component. The general MIMIC model assumes that the variables are measured as deviations from their means and that the error term does not correlate to the causes.

The measurement model represents the link between the latent variable and its indicators, i.e., the latent unobservable variable is expressed in terms of observable variables (i.e., Confirmation Factor Analysis - CFA). It is specified by:

$y_i = q_i * L + e_i$

where $y_i = (y_1, y_2, ..., y_i)$ is a vector of individual indicator variables and $e_i = (e_1, e_2, ..., e_i)$ is a vector of disturbances where every e_i is a white noise error tem. The single q_i coefficients represent the magnitude of the expected change of the respective indicator for a unit change in the latent variable. Like the MIMIC model's causes, the indicators are directly measurable and expressed as deviations from their means. Moreover, it is assumed that the error terms in the measurement model do not correlate either to the causes x_i or to the latent variable 'L'. A final assumption is that the e_i's do not correlate to 'd'. Figure 1 shows the general structure of the MIMIC model.

Figure 1: General Structure of a MIMIC Model



Statistical Procedures

All the EFA, CFA and MIMIC analyses in this study were conducted using Mplus (Version 4.1) software (Muthen and Muthen 2006). All the analyses used the mean and variance adjusted weighted least squares of WLSMV. This is a robust estimator, recommended for CFA with categorical or binary scores. This method does not assume normally distributed variables (instead probit regression coefficients are estimated). Relative to other estimator, the WLSMV estimator provides the best option for modeling categorical data ((Beauducel and Herzberg 2006; Lubke and Muthen 2004; Millsap and Yun-Tein 2004; Muthen and Muthen 2006). This method is suitable for this study because they involve dichotomous indicator variables.

Measurements equivalency was tested to investigate measurement invariance of CFA model for 1997 and 2007 surveys. Chi-square difference test of measurement invariance compares the chi-square values and degrees of freedom of the less restrictive model with the more restrictive model (where factor loadings, threshold and scale factors are constrained to be equal). If the chi-square difference value is significant, it indicates that constraining the parameters to be equal between groups worsen the fit of the model. Thus indicating measurement non-invariance.

The statistical-fit of SEM models were ascertained using the robust WLSMV fit function chi-square (if chi-square statistic is insignificant, the model is a good fit). Since chi-square values, including the WLSMV chi-square, are inflated by large sample sizes, model fit was also evaluated by a number of approximate or practical fit indexes. Relative chi-square (ratio of chi-square and degrees of freedom) is used to minimize the impact of large sample size. Although there is no consensus regarding an acceptable ratio of this statistic, recommendations range from as high as 5.0 (Wheaton et al., 1977) to as low as 2.0 (Tabachnick and Fidell 2007), I will be using 5.0 as a threshold to evaluate the goodness-of-fit of my MIMIC models. Other useful goodness-of-fit statistics include root mean squared error of approximation (RMSEA), the comparative fit index (CFI), and the Tucker-Lewis Index (TLI). The guidelines suggested by Hu and Bentler (1998) are that RMSEA values close to 0.06 or below be taken as a good fit, 0.07 to 0.08 as moderate fit, 0.08 to 0.10 as marginal

fit, and >0.10 as poor fit. For the CFI and TLI, values close to 0.95 or above are taken as indicating good fit, and values close to 0.90 and 0.95 are taken as acceptable fit (Muthen and Muthen 2006).

5. Results

Correlations and EFA

The preliminary analysis using tetrachoric correlation matrix indicates that women's participation on decisions regarding household food consumption and expenditure on items such as groceries (which doesn't require a substantial financial investment) are positively and significantly correlated in both survey years (see Table 2A and 2B). Additionally, the correlations between decision-making variables that concerns children (i.e., children's clothes, children's education, children's health) are also positively and significantly correlated in both survey years. Further, decision-making items that involves money transfers (i.e., giving money to parents or parent's in-law) or large financial investments (i.e., gifts for weddings and durable products such as refrigerators) are highly correlated in 2007, however, decisions regarding durable products is not highly correlated with other items in 1997. In addition to these relationships, the correlation results show a strong relationship between decisions regarding routine purchases and women's clothes (0.61*** in 2007); women's clothes and children's clothes (0.70*** in 2007 and 0.61*** in 1997); durables and children's health (0.61*** in 2007). These results give us some understanding as to what latent factors are represented by the 14 decision-making items in the IFLS. We can verify their reliability with exploratory factor analysis.

Table 3A and 3B presents the promax (oblique) rotated factor loadings of the 14 decision-making items for 1997 and 2007. According to the Kaiser criterion we can accept factors with variance (eigen value) > 1.0 (this means that the factor explains at least as much total variance as exists in the average variable). Factor loadings > 0.6 are generally considered above the threshold for accepting variable as part of a factor, further, factor loadings for a variable should be high on one factor

and near zero on the others for best conceptual clarity. According to the results in Table 3A, survey year 2007 has four factors that meets the Kaiser criteria. Five decision-making items represent Factor 1, these include large expensive purchases for the household (durables), giving money to woman's parents, giving money to husband's parents, gifts for parties/weddings and time the husband spends socializing. Factor 2 contains all three decision-making items that concerns children: i.e., children's clothes, children's education and children's health. The third factor has only two items, food eaten at home and routine purchases for the household. Finally, factor 4 is non-informative as it has only one item with an acceptable loading—time woman spends socializing. Table 3B, provides slightly different results for survey year 1997. Factor 1 includes all three decision-making items that concern children as well as husbands clothes. Factor 2 in Table 3B is similar to Factor 1 in Table 3A, however, decisions on time the husband spends socializing does not include in 1997. Factor 3 is almost identical in both survey years, where food eaten at home and routine purchases for the household have factor loadings greater than 0.8. The last factor in Table 3B includes one item that has a negative loading (time the husband spends socializing) and another item that has a positive loading (time the woman spends socializing).

MIMIC Model

Although tetrachoric correlations and EFA provided us statistically reliable methods to identify factors and items that may represent underlying latent variables, theoretical concepts and previous empirical evidence should be considered when making decisions about which items should be included in each factor in MIMIC models.

In most societies, women are the primary caregivers of their children. Therefore it is natural for them to influence decisions regarding their children's wellbeing compared to other members in the household. T. P. Shultz (1993; 1999) showed that women's education has a positive effect on the determinants of children's education and health, whereas father's education does not, which implies that women are more influential on matters that concern their children compared to

men. Women tend to invest more resources on children's health by giving them nutritional food and by taking them to a doctor when they are sick. This is one of the main reasons why development scholars promote women's empowerment as means to improve health and education of children in developing nations. Therefore, I used the three decision-making items: children's clothes, children's education and children's health to represent the latent construct "child welfare."

The second factor that makes theoretical and practical sense pertains to premeditated large expenses. Intergenerational cash transfers are a common practice in Indonesia (Frankenberg and Kuhn 2004), where adult children provides financial assistance to their elderly parents. These transfers are substantial and may require negotiation between spouses as to how to assist one's parents and parents-in-law. Expenditure on large expensive purchases (durables) such as television, refrigerator or motorcycles may also require negotiation between spouses. Gifts for parties, especially for weddings in Indonesia include wide variety of household goods. For example newlyweds are said to receive blenders, mixers, toasters and rice cookers from their guests. Therefore, presenting a gift at a special occasion requires a substantial investment and premeditation by the attendees. I include these four variables into a factor named "large expenses," because it seems to represent a decision-making sphere that pertains to premeditated large expenses.

In contrast to large purchases, the third factor represents decisions that are routine, low cost, and may only require little negotiation between spouses. These decision-making items include food eaten at home and routine purchases for the household such as groceries and cleaning supplies. Women tend to control this decision-making sphere, however, a woman's socioeconomic characteristic may play an important role in determining her ability to influence this sphere. This is where the MIMIC models can provide us additional information on the determinants (causes) of these three latent factors.

Measurement equivalence tests between the two survey years indicated that the above three factors represents dissimilar latent constructs in 1997 compared to 2007, which makes comparisons between survey years impossible. However, I performed two separate MIMIC analyses for 1997 (not shown) and 2007, which

includes the measurement component for the three factors and a structural component that models the relationship between determinants and latent constructs. Fit statistics of the 1997 MIMIC model indicated that the model fitted poorly with the survey data (relative chi-square=6.001), whereas fit statistics of the 2007 MIMIC model indicated a good fit with the data (relative chi-square=2.895). Therefore, I will only present results for the 2007 MIMIC model as it represents the structural model accurately.

Table 5A presents the results of the measurement component (i.e., Confirmation Factor Analysis - CFA) of the 2007 MIMIC model. Since latent constructs don't have a metric, one measurement coefficient in each factor should be fixed to "1." The unstandardized CFA estimates are comparable within factors and the standardized CFA estimates (not shown) are > 0.5, this is an indication that the decision-making items are accurately representing the underlying construct. The residual variances (or unexplained variances) of the three factors are small which indicates that the factors account for the most of the variances in the decision-making items. Oblique rotation allows factors to be be correlated, this is a more realistic model than orthogonal rotation. The correlation estimates indicate that the large purchases and child welfare are moderately correlated (0.0409***). In addition to the relative chi-square of 2.895, which suggested a good fit, CFI=0.986, TLI=0.984 and RMSEA=0.017 also confirmed the goodness-of-fit of the MIMIC model with the survey data.

Table 5B presents the structural component of the MIMIC model which includes several covariates that are expected to cause the three latent constructs. In WLSMV for binary indicators, coefficients are estimated using probit regression, which gives the change in the z-score or probit index for a one unit change in the predictor. For example, for a one-unit increase in woman's age the z-score increases by 0.088 for the child welfare factor. For categorical covariates, the interpretation is slightly different. For example, women who own 25-50% of household assets, compared to women who own 0% of household assets, increases the z-score by 0.425 for the large purchases factor.

On all the factors, woman's age takes a non-linear relationship. This implies that up to a certain age, women have more decision-making power than their younger counterparts. But when they reach older ages, they have significantly lesser impact on the three decision-making spheres. This maybe particularly true for child welfare factor, because as women get older, their children mature into young adults who are able to make decisions for themselves.

Education shows an interesting pattern as well, where women with no education have a stronger influence on all decision-making spheres compared to women with some education. However, the relationship between the two variables changes from negative to positive as indicated by the squared education variables. One possible explanation for this puzzle is that, women who have lower education levels tend come from economically deprived backgrounds where they have to engage in gainful employment to support the household, therefore they are more likely to influence in household decisions as their relative worth is considerably greater than women who do not engage in gainful employment. However, as education level increases (beyond grade school), women may exercise more power in the household due to their increased knowledge, negotiation skills and higher earnings. Since these explanations cannot be empirically verified at this time, further investigation on this variable is warranted.

If the woman is the household head, her z-score increases by 0.770 for child welfare factor. This is consistent with the Kennedy & Peters (2002) study in Kenya Malawi, where households with female-heads had pre-school children with superior nutritional status despite their lower income, compared to high income male-headed household. However, household headship does not have a significant effect on the other two factors.

Woman's share of household assets is a useful variable that can be used instead of employment and individual income, which maybe jointly determined by household decision-making. Compared to women who own 0% of household assets, women who own at least some assets (i.e.,1-25%, 25-50% or 50%+) showed a positive relationship with all three factors. This indicates that the more assets a

woman owns in the household, more decision-making power she will exert in all spheres.

Since women's decision-making power is a relative measure, it is important to control for spouse's characteristics. The results indicate that, spouse's age and education has no independent effect on child welfare and large purchases. However, increases in spouse's age gives women more decision-making power in the daily purchase sphere, this implies that as men's age increases relative to women's age, they are less likely to influence day-to-day household decisions which does not require a substantial expense.

6. Discussion

In summary, the findings in this study showed that the IFLS decision-making questionnaire items measure reliable latent constructs that represent three spheres of decision-making, which are intuitive and theoretically driven. Women's age, education, household headship and share of household assets have significant influences on the level of decision-making power women have on each sphere. The results also indicate that age and education has a non-linear relationship between the decision-making power. Finally, 1997 survey instruments do not measure the same latent constructs as 2007 survey instruments, although the questionnaires are worded identically (see appendix for the wording of the survey questionnaires). Therefore, comparison across survey years is impossible.

The main contribution of this study is that it uses structural equation modeling to measure and predict decision-making power. In the past, researchers employed proxy variables, single indicators of decision-making behavior and additive indices to measure women's decision-making power. But these methods are prone to measurement error and unreliability. SEM reduces these drawbacks and provides more reliable results.

Table 1. Women's Participation in Household Decision Making in Indonesia in 1997 and 2007

	Decision Making Spheres	1997 (N=5,490)		2007 (N=9,823)		Difference	p-value
		Weighted Proportions	Std. Err	Weighted Proportions	Std. Err		
1	Food eaten at home	0.89	(0.005)	0.91	(0.003)	0.01	*
2	Routine purchases for the household	0.89	(0.005)	0.89	(0.003)	0.01	
3	Woman's clothes	0.86	(0.005)	0.92	(0.003)	0.06	***
4	Husband's clothes	0.70	(0.007)	0.79	(0.004)	0.08	***
5	Children's clothes	0.84	(0.006)	0.89	(0.004)	0.06	***
6	Children's education	0.86	(0.005)	0.93	(0.003)	0.07	***
7	Children's health	0.90	(0.005)	0.95	(0.003)	0.05	***
8	Large expensive purchases for the household	0.76	(0.006)	0.86	(0.004)	0.10	***
9	Giving money to woman's parents	0.92	(0.004)	0.95	(0.003)	0.03	***
10	Giving money to husband's parents	0.90	(0.005)	0.94	(0.003)	0.04	***
11	Gifts for parties/weddings	0.93	(0.004)	0.95	(0.003)	0.02	***
12	Money for monthly arisan (savings lottery) ϕ	0.92	(0.005)	0.94	(0.004)	0.02	**
13	Money for monthly savings ϕ	0.84	(0.008)	0.91	(0.005)	0.06	***
14	Time the husband spends socializing	0.52	(0.007)	0.61	(0.006)	0.09	***
15	Time the woman spends socializing	0.90	(0.005)	0.92	(0.003)	0.01	*
16	Whether spouse works	0.74	(0.007)	0.80	(0.004)	0.05	***
17	Whether to use contraception ϕ	0.93	(0.005)	0.96	(0.003)	0.03	***

Notes: All proportions are weighted according to the survey design

***p<0.001, **p<0.01, *p<0.05

ϕ More than 10% of the respondents did not answer this question, therefore these items will not be used for further analyses

Source: IFLS

Table 2A. Tetrachoric Correlation Among the 12 Decision Making Variables in 2007 (N=9,823)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.00													
2	**0.92**	1.00												
3	0.48	**0.61**	1.00											
4	0.14	0.23	0.36	1.00										
5	0.35	0.48	**0.70**	0.52	1.00									
6	0.20	0.32	0.44	0.32	**0.71**	1.00								
7	0.28	0.44	0.52	0.42	**0.76**	**0.90**	1.00							
8	0.28	0.39	0.35	0.29	0.42	0.55	**0.61**	1.00						
9	0.25	0.36	0.44	0.31	0.50	0.49	0.57	**0.67**	1.00					
10	0.20	0.33	0.35	0.33	0.43	0.45	0.54	**0.64**	**0.92**	1.00				
11	0.31	0.44	0.43	0.26	0.49	0.47	0.55	**0.65**	**0.81**	**0.79**	1.00			
12	0.17	0.19	0.22	0.25	0.19	0.20	0.21	0.25	0.39	0.34	0.35	1.00		
13	-0.09	-0.02ξ	0.10	0.31	0.12	0.15	0.14	0.21	0.21	0.21	0.19	-0.06ξ	1.00	
14	0.05ξ	0.10	0.16	0.16	0.13	0.28	0.32	0.36	0.36	0.28	0.31	0.22	0.35	1.00

Notes: 1 = Food, 2= Routine Purchases, 3=Woman's Clothes, 4=Husband's Clothes, 5=Kid's Clothes, 6=Kid's Education, 7= Kid's Health, 8=Durables, 9=Money to Woman's Parents, 10=Money to Husband's Parents, 11=Gifts, 12=Husband Socializing, 13=Woman Socializing, 14=Husband Work

ξNot significant at 0.05 significance level, all other correlations are significant at 0.001 significance level

Source: IFLS 2007

Table 2B. Tetrachoric Correlation Among the 12 Decision Making Variables in1997 (N=5,490)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	1.00													
2	**0.93**	1.00												
3	0.51	0.53	1.00											
4	0.28	0.33	0.33	1.00										
5	0.52	0.51	**0.61**	0.58	1.00									
6	0.37	0.36	0.43	0.41	**0.70**	1.00								
7	0.46	0.44	0.53	0.43	**0.73**	**0.88**	1.00							
8	0.22	0.24	0.32	0.26	0.36	0.50	0.52	1.00						
9	0.32	0.30	0.41	0.27	0.42	0.48	0.56	0.58	1.00					
10	0.29	0.27	0.31	0.34	0.37	0.43	0.50	0.50	**0.84**	1.00				
11	0.51	0.50	0.49	0.44	0.54	0.56	0.58	0.51	**0.70**	**0.65**	1.00			
12	0.28	0.30	0.34	0.20	0.29	0.28	0.33	0.25	0.32	0.28	0.35	1.00		
13	-0.03ξ	-0.04ξ	0.07	0.21	0.07	0.12	0.16	0.26	0.25	0.20	0.19	-0.32	1.00	
14	0.01ξ	0.03ξ	0.12	0.12	0.14	0.24	0.22	0.40	0.31	0.21	0.27	0.25	0.28	1.00

Notes: 1 = Food, 2= Routine Purchases, 3=Woman's Clothes, 4=Husband's Clothes, 5=Kid's Clothes, 6=Kid's Education, 7= Kid's Health, 8=Durables, 9=Money to Woman's Parents, 10=Money to Husband's Parents, 11=Gifts, 12=Husband Socializing, 13=Woman Socializing, 14=Husband Work

ξNot significant at 0.05 significance level, all other correlations are significant at 0.001 significance level

Source: IFLS 1997

Table 3A. Exploratory Factor Analysis with Promax Oblique Rotation for 14 Decision Making Spheres for 2007 Survey Year (N=6,904)

		Factor 1	Factor 2	Factor 3	Factor 4
Variance of the Factor (Eigen Value)		4.97	4.76	3.30	1.78
Promax Oblique Rotated Factor Loadings					
1	Food eaten at home	-0.004	-0.136	**1.013**	-0.048
2	Routine purchases for the household	0.070	0.026	**0.936**	-0.014
3	Woman's clothes	0.018	0.465	0.486	0.040
4	Husband's clothes	-0.052	0.561	0.050	0.293
5	Children's clothes	-0.042	**0.897**	0.108	-0.037
6	Children's education	0.163	**0.891**	-0.195	-0.086
7	Children's health	0.206	**0.847**	-0.070	-0.063
8	Large expensive purchases for the household	**0.702**	0.137	0.041	0.090
9	Giving money to woman's parents	**0.869**	0.098	0.007	0.040
10	Giving money to husband's parents	**0.877**	0.056	-0.019	0.026
11	Gifts for parties/weddings	**0.799**	0.084	0.096	0.006
12	Time the husband spends socializing	**0.647**	-0.057	-0.005	-0.341
13	Time the woman spends socializing	0.014	-0.058	-0.044	**0.924**
14	Whether spouse works	0.463	-0.164	-0.025	0.509
Promax Factor Rotation Matrix					
	Factor 1	0.858	0.838	0.596	0.314
	Factor 2	0.300	-0.071	-0.723	0.493
	Factor 3	0.406	-0.518	0.158	-0.274
	Factor 4	-0.093	-0.157	0.311	0.764

Note: All values are weighted according to the sample design
Source: IFLS 2007

Table 3B. Exploratory Factor Analysis with Promax Oblique Rotation for 14 Decision Making Spheres for 1997 Survey Year (N=3634)

		Factor 1	Factor 2	Factor 3	Factor 4
Variance of the Factor (Eigen Value)		5.16	4.62	3.06	1.52
Promax Oblique Rotated Factor Loadings					
1	Food eaten at home	0.042	0.117	**0.896**	0.013
2	Routine purchases for the household	0.075	0.088	**0.879**	-0.022
3	Woman's clothes	0.481	0.076	0.330	-0.074
4	Husband's clothes	**0.805**	-0.141	-0.020	0.103
5	Children's clothes	**0.910**	-0.137	0.154	-0.005
6	Children's education	**0.882**	0.038	-0.063	-0.018
7	Children's health	**0.768**	0.158	0.056	-0.008
8	Large expensive purchases for the household	0.200	**0.656**	-0.114	0.025
9	Giving money to woman's parents	-0.101	**0.946**	0.118	0.037
10	Giving money to husband's parents	-0.143	**0.908**	0.148	0.021
11	Gifts for parties/weddings	0.189	**0.609**	0.262	0.002
12	Time the husband spends socializing	0.133	0.278	-0.045	**-0.803**
13	Time the woman spends socializing	0.115	0.303	-0.055	**0.852**
14	Whether spouse works	0.179	0.507	-0.433	-0.051
Promax Factor Rotation Matrix					
	Factor 1	0.900	0.821	0.572	-0.161
	Factor 2	-0.012	0.447	-0.674	0.524
	Factor 3	0.124	-0.240	0.259	0.825
	Factor 4	-0.419	0.263	0.389	0.136

Note: All values are weighted according to the sample design
Source: IFLS 1997

Table 4: Summary Statistics of the Explanatory Variables (N=6,862)

Explanatory Variables	Mean or Proportion	Std. Error
Woman's Characteristics		
Woman's age in years (15-49)	34.70	0.115
Woman's education level in years	5.57	0.034
Woman is the household head (1)	0.01	0.001
Woman's share of household assets		
0% of household assets (1)	0.05	0.003
1-25% of household assets	0.21	0.005
25-50% of household assets	0.53	0.007
50% or more of household assets	0.01	0.001
Household members do not own assets	0.21	0.005
Spouse's Characteristics		
Spouse's age	0.03	0.002
17-24 years (1)	0.22	0.005
25-34 years	0.43	0.007
35-49 years	0.15	0.005
50+ years	0.16	0.005
Spouse's age is missing		
Spouse's education level		
No grade school (1)	0.02	0.002
Some grade school (1-6 grade)	0.22	0.006
Completed grade school or higher (7+)	0.56	0.006
Spouse's education is missing	0.20	0.005
Control Variables		
Rural Residence (1)	0.55	0.007
Religion		
Islam (1)	0.94	0.003
Protestant	0.03	0.002
Catholicism	0.01	0.001
Hinduism	0.02	0.001
Other Religion	0.001	0.000
Ethnicity		
Javanese (1)	0.52	0.007
Sundanese	0.15	0.005
Balinese	0.02	0.001
Batak	0.03	0.002
Bugis	0.02	0.001
Minang	0.03	0.002
Banjar	0.02	0.002
Betawi	0.03	0.002
Other Sothern Sumatran	0.03	0.002
Other Ethnicity	0.15	0.005

Notes: All means and proportions are weighted according to the survey design
Source: IFLS 2007

Table 5A: Measurement Component of the MIMIC Model: Women's Participation in Decision-Making in Indonesia (6,862)

Measurement Component	F1: Child Welfare	F2: Large Expenses	F3: Daily Purchases
	Unstandardized Estimates	Unstandardized Estimates	Unstandardized Estimates
Decision-Making Items			
Food eaten at home			1.000
Routine purchases for the household			1.420 ***
Children's clothes	1.000		
Children's education	1.097 ***		
Children's health	1.237 ***		
Large expensive purchases for the household		1.000	
Giving money to woman's parents		1.255 ***	
Giving money to husband's parents		1.206 ***	
Gifts for parties/weddings		1.122 ***	
Residual Variances	0.650 ***	0.599 ***	0.648 ***
Factor Correlations			
Large Purchases & Children's Welfare		0.409***	
Daily Purchases & Children's Welfare		0.262***	
Large Purchases & Daily Purchases		0.217***	
Goodness of Fit Statistics			
Chi Square Test ($\chi 2$)		248.97***	
Degrees of Freedom (DF)		86	
Relative Chi Square ($\chi 2$ / DF)		2.895	
CFI		0.986	
TLI		0.984	
RMSEA		0.017	

Notes: All coefficients are weighted according to the sample design
***p<0.001, **p<0.01, *p<0.05
Source: IFLS 2007

Table 5B: Structural Component of the MIMIC Model: Women's Participation in Decision-Making in Indonesia (N=6,862)

Explanatory Variables	F1: Child Welfare Coefficient (S.E.)		F2: Large Purchases Coefficient (S.E.)		F3: Daily Purchases Coefficient (S.E.)	
Woman's Characteristics						
Woman's age in years (15-49)	0.088 (0.024)	***	0.062 (0.021)	**	0.077 (0.020)	***
Age squared	-0.001 (0.000)	***	-0.001 (0.000)	*	-0.001 (0.000)	**
Woman's education level in years	-0.123 (0.049)	*	-0.144 (0.048)	**	-0.075 (0.049)	
Education squared	0.018 (0.006)	**	0.018 (0.006)	**	0.011 (0.006)	
Woman is the household head (1)	0.770 (0.209)	***	-0.158 (0.237)		0.165 (0.196)	
Woman's share of household assets						
0% of household assets (1)						
1-25% of household assets	0.033 (0.092)		0.189 (0.081)	*	0.236 (0.070)	***
25-50% of household assets	0.288 (0.090)	**	0.425 (0.081)	***	0.513 (0.072)	***
50% or more of household assets	2.087 (0.684)	**	0.340 (1.830)		0.665 (0.272)	**
Household members do not own assets	0.210 (0.095)	*	0.396 (0.086)	***	0.468 (0.078)	***
Spouse's Characteristics						
Spouse's age						
17-24 years (1)						
25-34 years	0.075 (0.119)		0.068 (0.095)		0.284 (0.086)	***
35-49 years	0.011 (0.134)		-0.089 (0.107)		0.279 (0.101)	**
50+ years	0.043 (0.148)		-0.138 (0.127)		0.353 (0.124)	**
Spouse's age is missing	0.063 (0.175)		-0.028 (0.152)		0.359 (0.145)	*
Spouse's education level						
No grade school (1)						
Some grade school (1-6 grade)	-0.085 (0.160)		-0.021 (0.122)		-0.147 (0.125)	
Completed grade school or higher (7+)	-0.085 (0.156)		0.063 (0.117)		-0.155 (0.121)	
Spouse's education is missing	-0.190 (0.195)		0.096 (0.160)		-0.359 (0.162)	*
Control Variables						
Rural Residence (1)	0.052 (0.045)		-0.004 (0.039)		0.026 (0.038)	
Religion						
Islam (1)						
Protestant	-0.105 (0.120)		0.041 (0.134)		-0.149 (0.115)	
Catholicism	-0.341 (0.159)	*	0.192 (0.186)		-0.249 (0.146)	
Hinduism	-0.045 (0.232)		0.127 (0.174)		0.077 (0.157)	
Other Religion	0.364 (0.428)		-0.124 (0.314)		-0.010 (0.318)	
Ethnicity						
Javanese (1)						
Sundanese	-0.049 (0.067)		0.037 (0.057)		-0.275 (0.054)	***
Balinese	-0.059 (0.228)		-0.230 (0.174)		-0.196 (0.157)	
Batak	0.194 (0.121)		-0.098 (0.106)		0.006 (0.107)	
Bugis	0.262 (0.118)	*	0.226 (0.101	*	-0.031 (0.099)	
Minang	-0.238 (0.107)	*	-0.130 (0.083)		-0.307 (0.081)	***
Banjar	0.027 (0.115)		0.377 (0.105)	***	0.171 (0.113)	
Betawi	-0.209 (0.094)	*	0.052 (0.080)		-0.020 (0.100)	
Other Sothern Sumatran	0.143 (0.112)		0.195 (0.107)		-0.361 (0.080)	***
Other Ethnicity	0.089 (0.063)		0.194 (0.059)	**	-0.029 (0.056)	

Notes: (1) is the reference category. All coefficients are weighted according to the sample design
All coefficients are estimated using WLSMV where probit regression is used to estimate the coefficients
***p<0.001, **p<0.01, *p<0.05
Source: IFLS 2007

SECTION PK (HOUSEHOLD DECISION-MAKING)

We would like to know how your family makes decisions about expenditures and use of time.

PK18 TYPE: EXPENDITURES AND USE OF TIME	PK18 In your household, who makes decisions about: (CIRCLE ALL THAT APPLY ON EACH LINE)																	
	Respondent	Spouse	Male Child	Female Child	Mother	Father	Mother in law	Father in law	Brother	Sister	Brother in law	Sister in law	Grandparent	Other, specify_____	Son/Daughter in law	Grandchild	X/W/Y/V	Can't Answer
A. Food eaten at home	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
B. Routine Purchases for the household of items such as cleaning supplies	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
C. Your clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
D. Your spouse's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
E. Your children's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	W	Z
F. Your children's education	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	W	Z
G. Your children's health	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	W	Z
H. Large expensive purchases for the household (i.e., refrigerator or TV)	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
I. Giving money to your parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	X	Z
J. Giving money to your spouse's parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	X	Z
K. Gifts for parties/weddings	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
L. Money for monthly arisan (savings lottery)	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	X	Z
M. Money for monthly savings	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	X	Z
N. Time the husband spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
O. Time the wife spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P		Z
P. Whether you/your spouse works?	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	V	Z
Q. Whether you and your spouse use contraception?	A	B	C	D	E	F	G	H	I	J	K	L	M	N _____	O	P	Y	Z

Code PK18:
V. Don't work
W. No children
X. Never used money for this purpose
Y. Never used contraception

PK20	PK21TYPE	PK21

SECTION PK (HOUSEHOLD DECISION-MAKING)

We would like to know how your family makes decisions about expenditures and use of time.

EXPENDITURES AND USE OF TIME (PK2TYPE)		PK18. In your household, who makes decisions about: (CIRCLE ALL THAT APPLY ON EACH LINE)																	
		RESPONDENT	SPOUSE	SON	DAUGHTER	MOTHER	FATHER	MOTHER-IN-LAW	FATHER-IN-LAW	BROTHER	SISTER	BROTHER-IN-LAW	SISTER-IN-LAW	GRANDPARENT	SON/DAUGHTER IN-LAW	GRANDCHILD	OTHER	X or W or Y	CAN'T ANSWER
A1.	Expenditure on food eaten at home	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
A2.	Choice of food eaten at home	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
B.	Routine purchases for the household of items such as cleaning supplies	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
C.	Your clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
D.	Your spouse's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
E.	Your children's clothes	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	W	Z
F.	Your children's education	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	W	Z
G.	Your children's health	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	W	Z
H.	Large expensive purchases for the household (i.e., refrigerator or TV)	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
I.	Giving money to your parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	X	Z
J.	Giving money to your spouse's parents/family	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	X	Z
K.	Gifts for parties/weddings	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
L.	Money for monthly arisan (savings lottery)	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	X	Z
M.	Money for monthly savings	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	X	Z
N.	Time the husband spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
O.	Time the wife spends socializing	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
P.	Whether you/your spouse works? **INTERVIEWER NOTE: ASK WHETHER RESPONDENT OR SPOUSE DOES OR DOES NOT WORK**	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V		Z
Q.	Whether you and your spouse use contraception? **INTERVIEWER NOTE: ASK FOR COUPLES USING AND NOT USING CONTRACEPTION**	A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	V	Y	Z

Code PK18: X. Never used money for this purpose. Y. Never consider the use of contraception. W. No children V. OTHER Z. CAN'T ANSWER

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