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Extended families and child well-being☆

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ABSTRACT

Whereas the extended family plays a central role in many models of economic behavior, particularly in developing countries, there is a paucity of empirical evidence on the extent and nature of resource sharing among non coresident family members. This is in sharp contrast with abundant evidence that the distribution of resources within households predicts household spending and savings patterns. To fill this gap, the collective model of household decision-making is extended to the family. The model is particularly appealing in this context because it places few restrictions on preferences of individual family members who may or may not be coresident and does not specify a specific bargaining mechanism that underlies negotiations. The model yields empirical tests of whether the behavior of family members is (Pareto) efficient.

Evidence is presented on the relationship between three distinct measures of health- and education-related human capital of children and the distribution of wealth among extended family members using rich longitudinal survey data from the Indonesia Family Life Survey (IFLS). The data are ideally suited for this research because the survey follows family members when they leave the family home and detailed information about individual-specific wealth is collected. We find that child human capital outcomes are affected by wealth of non coresident family members indicating that extended families do share resources. While the special case of the model in which all members are completely altruistic is rejected, the restrictions of the efficient model are not rejected, indicating that non co-resident family members are able to co-ordinate allocation decisions in such a way as to make no family member better off without another member being worse off.

1. Introduction

An active line of inquiry highlights the role of membership in social networks, villages and families to enable sharing of resources, risks and information in order to smooth consumption and invest in human capital. These linkages are especially important in low income settings where markets for insurance and credit are incomplete, where publicly-provided safety nets are limited and where social security is not widespread. (See, for example, Angelucci and de Giorgi, 2009; Angelucci et al., 2010; Cox and Jimenez, 1990; Fafchamps and Lund, 2003; Jensen, 2003; Munshi, 2003; Rosenzweig and Stark, 1989; Smith and Thomas, 1998; Townsend, 1994). In much of this work, the extended family is thought to play a central role in providing resources to members in times of need. There is, however, a paucity of evidence on the extent to which families share resources and the impact of that sharing on the well-being of family members. Given the importance of the family in many models in economic behavior, this is an important gap in the literature.

In sharp contrast, a large number of studies has established that variaton in the distribution of resources among coresident household members is predictive of variation in spending and savings patterns, with females typically allocating more resources to investments in the future – including their children – relative to resources allocated by males (Thomas, 1990; Lundberg, Pollak, and Wales, 1997; Rangel, 2006; Ashraf, 2009; Rubalcava, Teruel and Thomas, 2009; Bobonis, 2009). It is, however, not straightforward to draw conclusions from evidence on intra-household resource allocation about how variation in the distribution of resources among non coresident family members affects resource allocation decisions in the family. For example, in South Africa, children in households that have a member who is eligible for the old age pension tend to be taller (Duflo, 2003). However, prime-age adults, who are likely to be the parents of those children, tend to be

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taller and better educated which cannot be attributed to the impact of the pension income but likely reflects shifts in living arrangements as higher human capital children and grandchildren move in when the grand-parent becomes old enough to receive the pension (Hamoudi and Thomas, 2014). This example highlights the importance of taking into account endogenous living arrangements in order to draw inferences about the impact of resources in the hands of one family member on well-being of all members.

The goal of this paper is to reach beyond the allocation of resources among coresident household members to investigate the relationship between the well-being of individuals within an extended family and the distribution of resources among coresident and non coresident family members. Focusing on human capital outcomes of children, we define an extended family as individuals who are biologically linked to the child including the child's parents, grandparents and siblings as well as the siblings of the child's parents.

Using data from the Indonesia Family Life Survey (IFLS) we examine three markers of human capital of young children that are thought to be affected by resources (Heckman, 2006). They are, first, height, conditional on age and gender, a measure of health and nutrition; second, performance on a non-verbal cognitive assessment and, third, age the child started school.

The theoretical foundation for our empirical tests is an extension of the collective model of household decision-making (Chiappori, 1988, 1992) to the context of decisions made by non co-resident family members. The extended collective model is well-suited to the application: it makes no assumptions about co-residence choices, does not impose a specific structure for how family members bargain with one another, and yields empirical tests about the nature of resource sharing within the family.

The key assumption in the model is that allocations within the extended family are Pareto efficient in the sense that no family member can be made better off without another family member being made worse off. In the context of a household, failure of efficiency may be difficult to rationalize since living arrangements are properly treated as endogenous. However, in the context of family decision-making, it is not obvious that non co-resident family members will achieve efficient allocations because of co-ordination costs, asymmetric information or because of preferences. It is, therefore, a substantively interesting test of family behavior that places plausible, testable restrictions on the behavior of individual family members who likely have heterogeneous preferences.

Indonesia provides an ideal context for research on the extended family. First, the anthropological literature discusses inter-linkages between kin to provide resources not only when a family member experiences a negative shock, but also to support investments in the next generation and to provide aid at older ages. This literature has emphasized the importance of trust and reciprocity within kinship networks drawing on qualitative evidence from villages in Indonesia (Geertz, 1961, 1963; Jay, 1969; Schroder-Butterfill, 2005; Kreager and Schroder-Butterfill, 2007).

Second, studies have extensively described the importance of transfers among non co-resident family members in Indonesia. Frankenberg et al. (2002) document the fact that exchanges between non co-resident family members are widespread and conclude that there is evidence in support of at least three motivations for these exchanges. First, some transfers appear to reflect an exchange of money for time as parents buy filial obligations (Park, 2003). Second, it has been suggested that parents pay for their children's education partly as a loan that is later repaid in the form of old age support (Raut and Tran, 2005; Cameron and Cobb-Clark, 2008). Third, transfers reflect insurance among family members. Park (2003) also documents that older siblings assist younger siblings who have fewer resources. Okten and Osili (2004) describe information sharing among non-coresident siblings. While this work documents extensive financial links between non-coresident family members in Indonesia, it is difficult to establish a direct link between transfers and specific spending outcomes with the survey data used in these studies.

Third, a small number of studies have investigated risk-sharing among non co-resident family members in Indonesia. Whereas Gertler and Gruber (2002) find imperfect consumption insurance against health shocks, a re-analysis by Genoni (2012) using more recent, richer data establishes that consumption insurance is almost complete and driven by resources from extended family members. The key role of risk-sharing among non-coresident family members in the face of the Asian financial crisis and the very broad set of mechanisms used to smooth consumption are described in detail in Frankenberg et al. (2003) and Thomas and Frankenberg (2007). Witoelar (2013) documents characteristics of the kin network that affect household consumption patterns in research that is closely related to the research reported here.

This paper makes four contributions to the literature. First, studies of household decision-making are, by design, limited to behavior of the self-selected group of individuals who have chosen to co-reside in a household unit. By placing the family at the center of decisions about sharing of resources, our paper directly addresses this important gap in the literature. The lack of evidence on how families make decisions is primarily a reflection of a paucity of data. Since household surveys are designed to collect information on members of sampled households, it is only with long-term panel studies which successfully track movers that these questions can be adequately addressed. Studies like the Panel Study of Income Dynamics and IFLS are especially well-suited data sources for these types of analyses.

Second, seminal work by Altonji et al. (1992) and Hayashi et al. (1996) test whether families are completely altruistic and behave as if all members share the same preferences (or one family member makes all decisions). Using expenditure data from the U.S., they reject this unitary model of the family. We test a more general model of resource-sharing that tests whether allocations are Pareto efficient. Along the way, we also test, and reject, the special case of unitary families. The results of our test for efficient allocations are of substantive interest because they determine whether non coresident family members are able to co-ordinate actions so that resources are shared in such a way that no family member could be made better off without another member being worse off.

Third, while examinations of how households allocate their budgets are a powerful tool for making welfare comparisons, it is not clear how to interpret evidence of resource allocation of non co-resident family members that is based on expenditure patterns as in Altonji et al. (1992) and Witoelar (2013). Those studies compare the impact of a household's own per capita expenditure and the per capita expenditure of non co-resident family members on a household's spending on specific goods. Shared housing costs and economies of scale of living arrangements, including shared food purchase and preparation costs, are key mechanisms through which family members share resources. Thus, the distribution of expenditure across households in the family likely reflects the outcome of resource sharing decision and so is properly treated as endogenous in these models (Dalton et al., 2016). These issues also complicate interpretation of specific expenditures or budget shares. We address this limitation by exploiting uniquely-rich data collected in IFLS on the distribution of wealth among individual family members and side-step the problem of the endogeneity of household expenditure.

Fourth, rather than focus on budget shares, we examine child human capital outcomes which are likely to be affected by resources and have an immediate welfare interpretation. Whereas there is indirect evidence that child human capital outcomes are affected by resources outside the household, direct evidence on this question is scarce. For example, creative research has shown that eligibility for Progresa, the Mexican anti-poverty program, is associated with increased rates of school enrollment among children who share the same surname but live in a different household in the village (Angelucci et al.,