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Intra-household labor allocation in colonial Nigeria☆

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Abstract

We use a year-long panel of time-use data from colonial Nigeria to show that labor complementarities and strategic concerns shaped the time-use decisions of African households. Using quantitative and ethnographic approaches, we show that health shocks imposed time costs that followed the gender division of labor. The labor of others did not automatically compensate for this. Whether individuals could respond by recruiting substitutes depended on social standing, urgency of work, and type of illness. Labor was coordinated between spouses. Child labor was coordinated with parental work, aided child care, and allowed children to build skills and resources.

Keywords: Labor; Health; Africa; Households

1. Introduction

Many important economic choices concerning resource allocation, production, and labor supply are made within households. Understanding how households arrive at these decisions is essential for understanding the behavioral and distributional consequences of economic policies (Alderman et al., 1995; Mazzocco, 2007), for correctly estimating levels of social inequality (Lise and Seitz, 2011), and for understanding whether households can achieve efficient allocations (Bobonis, 2009; Rangel and Thomas, 2005). From these motivations, a large literature has emerged that tests between alternative models of the household, and that estimates the technologies of home production, consumption, and labor supply.[1] In this paper, we contribute to this literature by using a unique data

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[1] See Browning et al. (2014) for a review.

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source to examine the roles of labor complementarities and strategic concerns in household time allocation in an example from African history.

From 1939 to 1940, the anthropologist Jack Harris visited the Igbo village of Amankwu, in colonial Nigeria. He collected information on the daily activities of a sample of villagers over the course of a year. We use these reports to create panel data on time use covering more than 6000 person-days. The reports also provide a rich body of descriptive evidence on individuals' motivations. We use these data to test the degree to which labor complementarities and strategic concerns shaped time use decisions.

In particular, we test whether labor between spouses is complementary and whether similar complementarities exist between parents and children. We use two broad classes of test for complementarity. First, we investigate responses to illness. If labor is substitutable, the healthy spouse or child of an individual facing a health shock should intensify productive activities to make up the work of the sick individual and to maintain household output. We find little evidence of this in the data, with the exception that men's harvesting work increases when their wives are sick. This failure of substitution may be driven by several considerations, including caring labor, the urgency of other individuals' work, lack of urgency of the work lost, or by labor complementarities, i.e. by whether an increase in labor input by one individual raises the marginal product of labor for another individual. We support complementarities as an important part of the explanation using our second broad class of test. We demonstrate that both spouses and parent-child pairs coordinate their activities over and above what would be predicted by the agricultural cycle. In the case of spouses, complementarities arise in part from task specialization within a gender division of labor that households mostly take as given. This is consistent with anthropological descriptions of Igbo agriculture, in which work such as farm clearing, planting, and palm production were cooperative activities in which the actions of one individual facilitated the tasks of others. For children, this is explained both by the complementarity of child labor with adult labor and by the ease with which child care is combined with child labor. The candid narratives in our data add further context.

Second, we test for strategic misallocation in time use. By "strategic misallocation," we mean the allocation of resources such as time or income to uses that have lower returns, but that increase an individual's claim to the resource or its returns. Here, our evidence is primarily ethnographic. On the question of strategic concerns in time allocation, there is no quantitative evidence that individuals strategically reallocate their time to take advantage of a spouse's absence. The descriptive evidence, by contrast, provides multiple examples of strategic time use that may divert time from more productive allocations: for instance, men cultivate women's crops in order to preserve their bargaining power. Because visible contributions to production create claims over consumption, tasks are wastefully duplicated. Husbands attempt to limit the income-generating activities of their wives as punishment for misbehavior, but are constrained by their wives' social networks and outside options, as well as by the threat of non-cooperation and retaliation within marriage. Responses to illness reveal a similar pattern. The ability to recruit substitute labor depends on an individual's relationships and status within the household. Senior (earlier-married) wives, in particular, are better able to recruit substitutes. The chronically ill, except those "too old to work," face greater difficulty replacing their lost time. Individuals in the data view child labor as a way for parents to look after children while accomplishing their work, for children to build human capital and earn small discretionary incomes, and for adopted wards to earn their keep. In many cases, then, children use their labor as a source of autonomy. This strategic behavior is understandable if individuals' bargaining power over the allocation of resources depends on both exogenous characteristics and endogenous choices. Markers of bargaining power in our data include age, social status, health, social networks, and crop-specific labor inputs.

2. Historical background

During the colonial period in Nigeria, the Igbo lived mostly in rural communities with populations ranging from a few hundred to a few thousand (Gailey, 1970: p. 23). They practiced bush-fallow agriculture in which land was cultivated for a period of years before being left fallow to return to bush. Tasks were highly seasonal, with land clearing and preparation concentrated between January and March, planting during March and April, and harvests collected in October and November (Forde, 1937; Martin, 1988). For men, farming was centered on the cultivation of yams, while women planted several crops, including maize, cassava, and cocoyams (Harris, 1940, 1943, 1944). These crops were then owned separately by the husband and wife (Green, 1964; Harris, 1940). Women were responsible for feeding the household, although husbands would help, particularly from September through November (Green, 1964; Harris, 1940). Women's control over food was cited by