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Labor supply, the family and poverty: the S-shaped labor supply curve☆

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Abstract

The canonical model of labor supply is extended to account for subsistence needs and a frequently rigid division of labor within families (gender). Various theories that have been put forward are thus reconciled, in particular with respect to the distinct work choices of the poor. The model predicts negative labor supply elasticities for secondary workers at low wage rates and positive ones at higher rates, but near 0 for primary workers at all levels. Detailed time-allocation data of the rural Philippines support these conclusions, as well as evidence from other studies, including of industrialized countries. Policy implications are briefly discussed.

JEL classification: J22 (time allocation and labor supply); O15 (human resources, income distribution, migration); D10 (household behavior and family economics, general)

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1. Introduction

The present paper shows that the canonical labor supply model of textbooks is, in fact, incomplete; it fails to capture the observed behavior of poor people. According to the

☆ This paper has been widely circulated. The model was developed as early as 1987, but the main research from which it stems was conducted at Harvard University in 1988–1989 under a grant from the Swiss National Science Foundation. This paper became part of a dissertation thesis (1990); it has been presented at the Western Economic Association Annual Meeting in Seattle, July 1991, and at several research seminars, including at the Harvard Institute for International Development (HIID) and Brandeis University. It benefited from the comments of Richard H. Day, Richard B. Freeman, Joni Hersch, Marshall Pomer, Donald Robbins, Leslie Stratton, Stephanie Gerard, anonymous referees, and participants of research seminars. However, I am mostly indebted to James L. Medoff for his valuable guidance. The data have been graciously made available by Yale University.
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textbook model poor people would work least. In practice, the opposite is often observed in less industrialized countries, but also in wealthier countries especially during economic downturns. People in impoverished circumstances appear to be working longer hours as wages fall to maintain income constant; they display a negative labor supply elasticity. These observations, however, have been somewhat of an embarrassment for the neo-classical theory, which contends that labor supply elasticities are usually positive when people respond to economic opportunities. That evidence has therefore tended to be dismissed in the literature as resulting from "irrationality" (culture of poverty), or from limited consumption opportunities (quantity constraint), in short, as being an exotic curiosity of "backward" regions.

This paper offers a third explanation on the assumption that poor people are "rational": they have the same preference structure as wealthier individuals and are price-responsive, but they face an additional subsistence constraint. That extension of the canonical model yields an S-shaped (sinusoidal) labor supply schedule for the family, instead of the habitual C-shape. It also has the merit of putting the claim of "workers' exploitation" in perspective by specifying, in a neo-classical framework, the conditions under which that might occur. As such, the present model has important policy implications with respect to: minimum wages, profit maximization of firms and monopolies, trade and growth prospects of poor countries (discussed in other papers), in addition to employment policies for poor women and children in particular due to a frequently rigid division of labor within families.

2. Background

The explanation offered here for poor people's distinct labor supply behavior in fact reconciles the two sets of models mentioned earlier, which, so far, seemed contradictory.

(a) On one hand, the canonical theory of labor supply holds that, at low levels of income, the substitution effect dominates leading to a positive slope (raising wages increases work hours), while the income effect becomes strongest at higher levels, thus resulting in a negative slope (raising wages shortens the work day); the entire schedule therefore bends backwards (C-shaped) as shown in Fig. 1a. Robbins (1930) provides an early formal presentation of that argument. However, the Slutsky decomposition upon which the model is based, and which encapsulates the choice between labor and leisure, provides no answer with respect to the relative strength of these two effects at different wage levels. These have been determined by theoretical conjectures concerning people's behavior and by some empirical evidence. It implies that the poor would be working least, in contradiction with their observed work patterns.

(b) Accordingly, evidence of long work hours and a negative labor supply elasticity *among the poor* has been rationalized by claiming that they would not be responsive to prices. That was a common view among colonialists but also in eighteenth century England (Berg, 1961). The "backward bend" has therefore been hypothesized to occur at much lower levels of income for these populations (Fig. 1b). Two sets of explanations have been offered.

The first set of explanations rests on the assumption that peasants have a different preference structure: they have often been said to be irrational, lazy, to behave unlike "economic