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ANALYSIS

Relative shadow prices of social capital for household-level paper recycling units in Vietnam

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Abstract

This study employs a parametric deterministic input distance function for computing the relative shadow prices of social capital with respect to physical capital and labor for household-level paper-recycling units in Vietnam. The results indicate that social capital has positive effects on the production efficiency of paper-recycling units. More specifically, the contribution of a 1% increase in social capital to production efficiency improvements is much greater than that of one million Vietnamese dong of physical capital, but less than that of 100 worker-hours of labor. Furthermore, associational activity and trust are the most valuable out of the four components of social capital and an increase of 1% in the measures of associational activity and trust is equal to an increase of US$364.936 and US$337.103 in the value of physical capital, respectively. The results also indicate that the relative shadow prices of the reciprocity and associational activity measures are highest for the lowest income group; whereas those of trust and information sharing are highest among the higher income groups.
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1. Introduction

In recent years, social capital has emerged as one of the dominant concepts for explaining the outcomes of various social and economic phenomena, including economic production and economic development. The concept of social capital as an input in a household's or nation's production function (Grootaert, 1999) and as an asset that can be accumulated and that yields a flow of benefits (Grootaert and Van Bastelaer, 2001) has contributed to a broader analysis of economic processes. In recent years, numerous empirical studies (e.g., Narayan and Pritchett, 1999; Grootaert, 1999; Maluccio et al.,

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2000; Ruben and Van Strien, 2001; Grootaert et al., 2002; Grootaert and Narayan, 2004) have investigated the effects of social capital on household-level production, and several have observed that social capital can help households or small units to overcome the deficiency of other capitals (Annen, 2001; Fafchamp and Minten, 2002). All of these studies have used social capital as a factor in the household production function and found that social capital is positively and significantly related to household welfare, measured by either household income or expenditure. However, most of these studies restricted their analysis to 'associational activity' as a measure of social capital, which does not capture the impact of other aspects of social capital on economic outcomes. Similar to other production factors–such as labor, physical capital, and human capital–social capital is comprised of different types of social capital, and the contributions of different types to the production process may vary. In such circumstances, a single dimensional measure or an aggregate index measure of social capital conceals the effects of different components of social capital, and policies based on an understanding of the outcome of a single dimensional measure or an aggregate measure of social capital may prove to be misleading.

Serageldin and Grootaert (1997) showed that different types of social capital coexist in society and that the recognition of all types is necessary to produce the optimal results for economic outcomes. Similarly, Hean et al. (2003) emphasized a multidimensional concept of social capital and contend that a single measure cannot fully capture the concept. More recently, Ha et al. (2004a) examined the contributions of four components of social capital, namely associational activity, social relations (information sharing), trust, and norms of reciprocity, to the welfare of households in a paper-recycling craft village in Vietnam. Their study found that social capital has a strong and positive contribution to household income and that the effects of each of its components on income vary for different income groups. Generally, these studies have conceptualized, measured, and incorporated social capital as a private good in household production analysis, which is similar to the conceptualizations developed by Loury (1977), Fukuyama (2001), and Glaeser et al.

(2002).[2] Hence, social capital is now well recognized as a household production factor, on a par with the conventional production inputs such as physical capital, human capital, and labor. However, none of these studies have examined how social capital affects production efficiency and the shadow prices of certain types of outputs. One exception is a study by Ha et al. (2004b) that incorporated social capital as a production factor and analyzed output efficiency and the shadow prices of environmental outputs of household level paper recycling units in Vietnam.

In addition to all these dimensions, factor prices are a critical component of production and efficiency analysis of household-level production units, and are an essential ingredient for efficient resource allocation. Social capital is not traded in the market, and hence its prices are not available from market information. However, no attempt has been made to develop a mechanism to assign prices to social capital.[3] Furthermore, most previous studies (e.g., Narayan and Pritchett, 1999; Grootaert, 1999; Grootaert et al., 2002; Grootaert and Narayan, 2004; Ha et al., 2004a) have found that social capital's impacts on household output vary across income groups; thus, its prices, including prices of different types of social capital, may also vary across income groups.

The purpose of this paper is to investigate the above-mentioned aspects of social capital as a production factor. First, an input distance function approach will be used to calculate the relative shadow prices of social capital and identify the extent to which social capital contributes to the production efficiency

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[2] This approach is different from the conceptualization and measurement of social capital as a public good by Coleman (1990), Putnam (1993), Dasgupta (2000) and others. Although there is no contradiction between the two approaches, the treatment of social capital in production analysis differs. Social capital, conceptualized and measured as a public good, will be a shift factor in an aggregate production function and thus a component of total factor productivity (Dasgupta, 2000), while social capital, conceptualized and measured as a private good, will be a production factor on par with other factors.

[3] Although some economists remain critical of the concept of social capital as an economic phenomenon, Solow (2000, p. 6) points out that "those who write and talk about social capital are trying to get at something difficult, complicated and important: the way a society's institutions and shared attitudes interact with the way its economy works. It is a dirty job, but someone has to do it; and mainstream economics has puristically shied away from the task."