Agricultural prospects and informal wage in general equilibrium

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Abstract

Better prospect for agricultural exports and productivity should increase agricultural wage. However, we argue that such an outcome depends on the capital movement between the formal and informal manufacturing sectors. This is shown in a model that demonstrates a close link between agricultural and informal wage. Presence of an informal sector may lead to reverse migration from the urban to the rural sector without any pressure on rural wage. We argue that the policy outcome in the rural sector is likely to depend on the intersectoral mobility of capital in the urban sector. Our result is robust with respect to reasonable alterations of the basic structure.

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1. Introduction

Agriculture constitutes the backbone of many developing countries in Asia, Latin America and Africa. This is in spite of the fact that the share of agriculture in GDP has been declining making way mainly for the service sector. Yet, in large countries such as India and China, the rural sector absorbs a significant chunk of the workforce. Typically, agricultural workers represent a segment of the ‘informal’ labor. Together with informal workers in manufacturing and services, they
occupy a formidable share of the workforce. For example, in India such a share is about 90%. In other words, less than 10% of the workforce is employed in the organized or formal sectors. Agenor (1996) provides a detailed survey of the literature, which actually estimates the size of the informal labor market in developing countries. The share of informal workforce is simply overwhelming in most of the developing and transition economies.

Given there is a natural link between informal urban and rural workers, through migration or otherwise, it is commonly perceived that the rural and informal wage should be close in magnitude, if not the same. At least, one can safely assume that they will tend to move together. Liberal trade policies and/or land reform can unleash the productive potential of agriculture and is likely to improve agricultural wage. While such an assertion is fairly instructive, we would put this to test in a framework that explicitly models the link between the formal and informal manufacturing, mobility of informal workers between the rural and urban sectors and most importantly, mobility of capital within the urban sectors. Given this backdrop, the simple relationship between agricultural productivity and agricultural wage turns out to be more complex and fairly interesting. Our analytical structure is primarily one of simple general equilibrium a’la Jones (1965, 1971). Framework for modeling of formal–informal labor markets has been drawn from earlier work by Carruth and Oswald (1981) and Agenor and Montiel (1996). Related work also includes Fields (1990), Marjit (1991), Gupta (1997), Kar and Marjit (2001), Marjit et al. (2001), Marjit and Beladi (2002), Chaudhuri and Mukherjee (2002), Marjit (2003), Marjit, Kar and Beladi (in press), Agenor (2006) etc. These contributions, however, have not looked into the relationship between agriculture and informal wage. Previous work invoking the interaction between trade reform and wage movements in the informal sector (including, Marjit, 2003; Kar and Marjit, 2001 etc.) did not consider the explicit connection between growth in the agricultural sector and its effects on informal wage, which the paper under consideration devotes full attention to. In fact, there is no agricultural sector in Marjit (2003) and that the informal sector produces: (1) a non-traded intermediate good used by the formal sector and (2) an exportable final commodity, by using the same type of capital.

The model and the results are discussed in Section 2. Section 3 confirms the robust nature of the results under various alterations. Section 4 provides the concluding remarks.

2. Basic model and results

There are three sectors in our economy, agriculture, formal manufacturing and informal manufacturing. Agriculture uses land and labor. Formal manufacturing sector uses labor, hired at a unionized fixed nominal wage rate and capital. Informal manufacturing uses labor with market determined wage and capital. Formal wage is greater than the informal wage. Agriculture and informal manufacturing pay the same wage. If workers cannot find a job in the urban formal sector, they will find alternatives in either agriculture or in the urban informal sectors. Consistent with the typical assumption about the ‘informal’ labor, both agriculture and informal manufacturing represent the informal segment. It is a small open economy with exogenously given prices. Markets are competitive and technology represents CRS and diminishing marginal productivity.
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