The impacts of capital market distortion on wage inequality, urban unemployment, and welfare in developing countries

Jiancai Pi *, Xuyang Chen

Department of Economics, School of Business, Nanjing University, 22 Hankou Road, Nanjing 210093, PR China

ABSTRACT

This paper employs the general equilibrium approach to investigate how the change of rural–urban capital market distortion influences skilled–unskilled wage inequality and urban unemployment in developing countries. Our basic model shows that a decrease in capital market distortion will reduce the wage inequality and the urban unemployment rate. Our extended model confirms the main results of our basic model. Furthermore, this paper also analyzes the effect of capital market distortion on social welfare, and finds that an alleviation of capital market distortion will generate a welfare gain in both basic and extended models.

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1. Introduction

The rural–urban capital market distortion and population migration are typical features of developing countries. Rural–urban migration, providing urban areas with abundant labor forces, stimulates economic growth of developing countries. However, compared with urban manufacturing industries, agricultural sectors in rural areas have to pay a higher interest rate of capital, which results in the inefficiency of resource allocation and thus makes the rural–urban capital market distortion become a stumbling block to economic development. Many economists empirically explore the economic impacts of capital market distortion. For instance, Zhuang (1996) shows that substantial distortions existed in the 1983 Chinese economy, where capital was underpaid in most non-agricultural sectors. He finds that there would be an increase of almost 15% in real gross domestic product (GDP) if China were switched to the free market system where all the distortions are eliminated. Bhattacharyya and Kumbhakar (1997) investigate the agricultural sector in India's West Bengal by using a sample of 289 rice growers. They find that the farmers suffered an output loss of 11.7% due to the capital market distortion. Lin and his coauthors (e.g., Chen & Lin, 2014, Lin, 2003, 2009, Lin, Cai, & Li, 1994) conduct their analyses in a more systematic and comprehensive way, and they empirically reveal

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* Corresponding author. Tel.: +86 25 83621121.
    E-mail addresses: pi2008@nju.edu.cn (J. Pi), jscxyang@163.com (X. Chen).

that the heavy-industry-oriented development strategy in many developing countries (e.g., China and India) will lead to capital market distortion and other factor-price distortions, and that such kinds of distortions will result in poorer economic performance, higher unemployment level, and larger urban–rural inequality.

There are many factors that affect the capital market distortion. Chaudhuri and Dastidar (2011); Chaudhuri and Gupta (1996), and Gupta and Chaudhuri (1997) find that the corruption of the bank official will lead to capital market distortion. Bose (1998) points out that the small cultivators' heterogeneous likelihood of default and asymmetric information about such kind of risk will worsen the availability of loans for the informal sector. Chaudhuri (2001) suggests that if the formal interest rate is very low, not the small farmers but the bank official and the moneylender will catch the dissipated rent. Chaudhuri and Gupta (2014) find that international factor mobility will raise the degree of capital market distortion. More importantly, the issue about how the improvement of capital market distortion influences the economy has captured much attention of development economists. For instance, Khan and Naqvi (1983) argue that in a two by two Harris–Todaro economy, a reduction of capital market distortion will decrease urban unemployment and raise national welfare. Chao and Yu (1992) claim that Khan and Naqvi's findings are not necessarily held if land is introduced to their model. However, if labor is divided into skilled and unskilled types and an intermediate sector is introduced to consider the upstream and downstream relationship in the producing process, will the corresponding results be amended? This question still remains unsolved in the existing literature.

In this paper, we use the term "capital market distortion" in the sense of Chao and Yu (1992), Gupta (1997b) and Khan and Naqvi (1983) that is, there exists a capital rental differential. The distortion in our sense is referred to as the rural–urban capital market distortion, which manifests as a far higher interest rate of capital in the rural area than in the urban area. Just as in Gupta (1997a), the distortion derives from the fact that the rural sector usually uses capital from the unorganized informal credit market while the urban sector can employ capital provided by formal lenders.[1] This phenomenon emerges in many developing countries (e.g., China and India). For example, Romatet (1983) provides the empirical evidence by investigating into the capital market distortion of India's Calcutta.

On the one hand, along with the pace of globalization, many developing countries suffer from the growing skilled–unskilled wage inequality (see e.g., Anwar & Sun, 2012; Feenstra & Hanson, 2003; Wood, 1997). This phenomenon has attracted more and more attention. The existing literature tries to address such an issue from different perspectives. The first strand of literature (see e.g., Anwar, 2006, 2010; Anwar & Rice, 2009; Beladi, Chakrabarti, & Marjit, 2010, 2011; Das, 2002, 2005; Marjit, Beladi, & Chakarabarty, 2003; Moore & Ranjan, 2005; Pan & Zhou, 2013; Zhang, 2012, 2013) focuses on trade, factor mobility and technical progress, which shows that intra- and inter-industry trade, international factor flow, and technological advance can conditionally increase the wage inequality. The second strand of literature (see e.g., Anwar, 2008; Anwar & Sun, 2015; Chaudhuri & Yabuuchi, 2007; Pan, 2014; Pi & Zhou, 2012, 2013) concentrates on the role of public inputs, institutional arrangements, and economic policies in changing the skilled–unskilled wage inequality, which highlights that the aforementioned channels will generate their influences. For example, Chaudhuri and Yabuuchi (2007) find that although there are some factors that worsen the wage inequality, labor market reforms can narrow down the wage gap through raising the wage rate of unskilled labor under some condition. Nevertheless, to the best of our knowledge, the impact of rural–urban capital market distortion on wage inequality is largely ignored by the existing literature. Since the rural–urban capital market integration policy is always regarded as one of the most important development policies in developing countries, it is worthy to analyze the impact of such a policy on wage inequality.

On the other hand, urban unemployment in developing countries is explored by the existing studies from different angles, which show that different development policies exert different impacts on unambiguously or conditionally reducing urban unemployment. Beladi and Naqvi (1988) stress the role of the improvement in the agricultural production technique. Gupta (1997a) highlights the effect of enhancing the agricultural output price. Chaudhuri (2000) focuses his attention on the wage and price subsidies to the rural sector, and Yabuuchi and Beladi (2001) consider such an issue with an eye to the wage subsidy in a model different from Chaudhuri (2000). Chaudhuri and Banerjee (2010) emphasize the impacts of FDI in agricultural land on unemployment. In addition, Chaudhuri and other scholars (e.g., Chaudhuri, 2007, Chaudhuri, Yabuuchi, & Mukhopadhyay, 2006) also analyze the role that other development polices play (e.g., international factor mobility policies) in reducing urban unemployment. However, the existing studies neglect to consider the influence of rural–urban capital market distortion on urban unemployment in the presence of two types of labors and the intermediate product. This paper complements the existing studies in this direction.

In order to fill the current research gap, we follow the work of Khan and Naqvi (1983), and make some modifications to get closer to reality. We divide labor into skilled and unskilled types and introduce an intermediate sector in order to consider the upstream and downstream relationship in the production process. We show that the mitigation of rural–urban capital market distortion will decrease the wage inequality and the urban unemployment rate, and that the total unemployed population can also descend if the economy participates in the exportation of high-skill products. What is more, we also study the effect of rural–urban capital market distortion on social welfare.

The rest parts of this paper are organized as follows. We construct the basic model in Section 2. Section 3 gives the extended model. Concluding remarks are provided in Section 4.

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[1] Gupta (1997a) considers three sectors in his model, i.e., the urban formal, urban informal and rural sectors. The urban informal sector and the rural sector share a common interest rate of capital, while the urban formal sector employs capital at a lower interest rate.