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Hukou system reforms and skilled-unskilled wage inequality in China

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ABSTRACT

In China, rural migrant workers usually cannot get fair treatment due to the *hukou* system. This paper investigates how *hukou* system reforms affect the skilled-unskilled wage inequality through the general equilibrium approach. In the basic model, we find that an increase in the strength of *hukou* system reforms will narrow down the wage inequality if the urban skilled sector is more capital intensive than the urban unskilled sector. In addition, we separately extend the basic model by introducing the endogenous minimum wage and an informal sector, and find that in these two extended cases the main results of the basic model will conditionally or unconditionally hold. When we consider some empirical evidences in China, our models predict that an increase in the strength of *hukou* system reforms will reduce the wage inequality.

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1. Introduction

The Chinese household or residential registration (*hukou*) system plays an important role in controlling and restricting rural-urban migration in China. *Hukou* determines the legitimate residences of Chinese rural and urban people. Generally, rural people have a rural *hukou*, and urban people have an urban *hukou*. The initial aim of the *hukou* system is to prevent rural residents leaving the agricultural sector and to protect urban residents to enjoy the basic amenities and social welfare provision. *Hukou* is not only a population registration system, but also a differential treatment of different residents in the sense of guaranteeing basic living and public services. During the course of the Chinese economic marketization, *hukou* system reforms are carried out to respond to the changing conditions in different ways. Along the way, the *hukou* system's functions of resource allocation and subsidization to urban residents have been greatly reduced and partially replaced. Although many reforms of the *hukou* system have been launched, there still exist two main roles (see Cai, 2011, pp.37–38). Firstly, the *hukou* system gives the priority of being employed by the urban sector to urban residents. That is to say, urban governments can protect workers who have an urban *hukou* and discriminate against workers who have a rural *hukou*. Secondly, the *hukou* system can exclude rural migrant workers from acquiring urban social welfare (e.g., access to public schools, health services, low-cost housing, and attractive jobs). In the new wave of *hukou* system reforms, many forms of institutional arrangements are introduced, and many rural migrant workers gradually obtain some urban social welfare that is excluded from them before.

There are many studies exploring the evolution of the *hukou* system, especially from the perspective of *hukou* system reforms. Wang and Zuo (1999) hold that the *hukou* system can assure a steady labor flow from the rural area to the urban area and at the same time assure that rural migrants do not settle permanently in the urban area. Wang (2004) finds that the reformed *hukou*

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system plays a crucial role in controlling internal migration and maintaining socio-political stability. Zhao (2005) reports that the changing *hukou* policies are employed to respond to the changing macro environment. Chan and Buckingham (2008) point out that the effect of recent reforms is not to abolish the *hukou* system, but to transfer the responsibility for *hukou* policies to local governments. Bao, Bodvarsson, Hou, and Zhao (2011) find that migration is significantly responsive to *hukou* system reforms. Cai (2011) argues that both central and local governments have incentives to carry out *hukou* system reforms because China has met the Lewis turning point. Wu (2013) holds that local governments have more flexibility to practice *hukou* system reforms during the course of political and economic decentralization. Song (2014) provides a literature review on the evolution of the *hukou* system and its reforms.

On the one hand, many current studies investigate the effects of the *hukou* system, especially of *hukou* system reforms. Wang (2005) argues that the *hukou* system has created deep and rigid divisions and exclusions, which exerts both positive and negative impacts on Chinese society. Au and Henderson (2006) analyze how migration restrictions affect spatial agglomeration and productivity in China. Zhang (2010) explores how the *hukou* system generates an effect on migrant workers' job mobility. Bao et al. (2011) investigate how the *hukou* system influences the scale and structure of migration. Vendryes (2011) examines how migration constraints affect capital accumulation in China. Bosker, Brakman, Garretsen, and Schramm (2012) analyze how *hukou* system reforms generate an impact on China's internal economic geography, and find that an increase of the strength of *hukou* system reforms leads to more pronounced core-periphery outcomes. More importantly, many studies focus on the impacts of the *hukou* system on inequality from different perspectives. Liu's (2005) data support that the *hukou* system is a major force that leads to rural-urban inequality. Whalley and Zhang (2007) conduct a numerical simulation analysis of migration restrictions, and find that *hukou* restrictions play a significant role in supporting inequality. Wan and Li's (2013) evidence shows that the *hukou* system produces significant discriminatory effects on urban-rural income inequality. Afridi, Li, and Ren (2015) conduct an experimental study, and find that the *hukou* system reduces the performance of rural migrant workers and increases urban-rural inequality. However, the existing studies neglect to investigate how *hukou* system reforms affect the skilled-unskilled wage inequality in China, especially through the general equilibrium approach. This paper tries to fill the current research gap.

On the other hand, the literature on skilled-unskilled wage inequality is very plentiful. The existing studies analyze such an issue from different perspectives. The perspective that is most closely related to this paper highlights the role of public inputs, institutional arrangements, and economic policies in affecting the skilled-unskilled wage inequality (see e.g., Anwar, 2008; Anwar & Sun, 2015; Chaudhuri & Yabuuchi, 2007; Mandal & Marjit, 2010; Pi & Chen, 2016; Pi & Zhou, 2012, 2013, 2014, 2015; Sun & Anwar, 2015). This strand of literature identifies different channels through which governmental behaviors and related institutions exert effects on wage inequality. For example, Mandal and Marjit (2010) and Pi and Zhou (2015) find that corruption influences the wage rates of skilled and unskilled workers and thus the wage inequality. Anwar and Sun (2015) and Sun and Anwar (2015) find that the taxation of labor in different sectors may generate different impacts on wage inequality via different economic mechanisms. However, the current studies on skilled-unskilled wage inequality fail to take China's *hukou* system reforms into consideration. This paper tries to explore how *hukou* system reforms affect the skilled-unskilled wage inequality, which is greatly different from the existing literature.

In order to bridge the gap between the aforementioned two strands of literature, we build several general equilibrium models under the framework of Harris and Todaro (1970) to conduct our analysis. In the basic model, we find that the wage inequality will be reduced if the urban skilled sector is more capital intensive than the urban unskilled sector when the government increases the strength of *hukou* system reforms. In order to reflect the reality in China, we extend our basic model by considering two different cases with the urban endogenous minimum wage and an urban informal sector. In these two extended models, we find that the main results of the basic model will conditionally or unconditionally hold. Specifically, in the extended case where we introduce the urban endogenous minimum wage, when the elasticity of the urban minimum wage with respect to urban unemployment is large enough, our main results in the basic model will still hold; however, when the elasticity is small enough, these results will not hold. That is to say, our main results only conditionally hold in this situation. In the extended case where we introduce an urban informal sector into our basic model, our main results unconditionally hold. To the best of our knowledge, this paper is the first one to incorporate *hukou* system reforms into the Harris-Todaro framework.

We also provide some empirical evidences to show that the urban skilled sector is more capital intensive than the urban unskilled sector, and that the condition of a large enough elasticity of the urban minimum wage with respect to urban unemployment can be satisfied with large probability. Thus, on the basis of these estimations, our models predict that an increase of the strength of *hukou* system reforms will narrow down the skilled-unskilled wage inequality.

The rest parts of this paper are organized as follows. We build the basic model in Section 2. Section 3 gives two extended models. Section 4 offers some empirical discussions. Concluding remarks are provided in Section 5.

2. The basic model

Consider a semi-open economy concluding three formal sectors, an urban skilled sector, an urban unskilled sector and a rural sector. All sectors produce final goods and sell them at given world prices. The urban skilled sector employs urban skilled labor L_{SX} and capital K_X to produce an exportable manufacturing good X. The urban unskilled sector employs urban unskilled labor (or rural migrant labor) L_{UY} and capital K_Y to produce an import-competing manufacturing good Y. The rural sector employs rural labor L_{UZ} and land T to produce an exportable agricultural good Z. X, Y, and Z also denote the total quantities of goods that these sectors produce, respectively. In the factor market, capital can move freely between the urban skilled sector and the urban unskilled sector, land is specific to the rural sector, and urban skilled and unskilled workers are specific to the urban skilled sector and the