



An economic analysis of remittance of unskilled migration on skilled–unskilled wage inequality in labor host region



Xiaochun Li*, Yu Zhou

School of Economics, Nanjing University, China

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ABSTRACT

The present paper establishes a two-sector general equilibrium model and conduct the comparative static approach to investigate the impact exerted by an increase in the remittance rate of the unskilled migrants on the skilled–unskilled wage inequality in the labor host region. We find that the unskilled migrants increase their remittance rate to the labor outsourcing regions that will decrease the skilled–unskilled wage inequality in the labor host region.

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1. Introduction

The migrant remittance has captured lots of attention to the development economists during the last decades. World Bank (2001) estimates that the Indian immigrant remittance occupied 2.6% of GDP in 1999 and the Pakistan immigrant remittance took 1.8% of GDP in 1999. Rodriguez (1996) points out that 17% Philippine citizens received the immigrant remittance, which occupied 8% of Philippine's national income. Cox et al. (1998) show that 25% households in Peru received the immigrant remittance, which took 22% of Peru's national income. Furthermore, Cox and Ureta (2003) uses the data collected from Salvatore and shows that 14% rural people and 15% urban citizens in Salvatore received the overseas immigrant remittance in 1997. In addition to the economic impacts of the international migration on the labor-outsourcing regions or countries, the rural–urban migrant remittance in developing countries also exerts lots of economic impacts. For example, China's rural–urban migrants send or take home (or the labor outsourcing region) part of their income obtained from the labor-host region and the family members of the migrant workers in the labor-outsourcing region could benefit a lot from the rural migrant remittance. This is a common phenomenon among nearly 200 million rural–urban migrants in China. It has been estimated by the Chinese government that the rural–urban migrant remittance reached nearly 330 billion RMB (around 55 billion U.S. dollar) in 2010, which almost took 20%–50% of the income of the households who receive the

remittance¹. Chen (2006) estimated that the total amount of rural migrant remittance could reach billions and the rural migrant remittance also alleviates the financial pressures in rural areas and becomes an important source of financing for education and medical expenses.

From the above typical facts we know that the migrant remittance generates great impacts of on the labor-outsourcing regions or countries, which arouse the interests of both the empirical and theoretical economists. The theoretical studies mainly consider the economic impacts of the migrant remittance on the price level, production activities and the social welfare in the labor-outsourcing regions or countries. The typical studies can be referred to Lundahl (1985), Kirwan and Holden (1986), Djajic (1986, 1998), Rivera-Batiz (1986), Quibria (1997), and McCormick and Wahba (2000). The current empirical studies mainly center on the contributions of the migrant remittance to the economic growth, and the impacts of the migrant remittance on the citizens' income and income inequality in the labor outsourcing regions or countries. The representative empirical literatures can be referred to Taylor and Wyatt (1996), Lucas (2005), Rodriguez (1996), Cox et al. (1998), World Bank (2001), Glytsos (2002), and Cox and Ureta (2003).

On the other hand, enormous empirical studies show that both developed and developing countries have suffered from the increased skilled–unskilled wage inequality. The representative empirical literatures can be referred to Lawrence (1994), Feenstra and Hanson (1996), Wood (1997), Feenstra and Hanson (2003) and Banga (2005).

* Corresponding author. Tel.: +86 13814097480.
E-mail address: xiaochun@nju.edu.cn (X. Li).

¹ Detailed information can be referred to: http://www.npc.gov.cn/npc/xinwen/rddl/sd/2010-03/16/content_1564113.htm (Yuanqian Li, 2010).

The current theoretical studies try to address the issues relating to the growing skilled–unskilled wage gap from the perspectives of the trade and investment liberalization (Anwar, 2006; Anwar and Rice, 2009; Beladi et al., 2008; Chaudhuri, 2004; Chaudhuri, 2008; Chaudhuri and Yabuuchi, 2007; Marjit and Kar, 2005; Marjit et al., 2004; Yabuuchi and Chaudhuri, 2009; Yabuuchi and Chaudhuri, 2007), and the technical progress (Fang et al., 2008; Moore and Ranjan, 2005). However, the academia seldom relates the enlarging skilled–unskilled wage inequality to the migrant remittance.

However, the impact exerted by an increase in the remittance of the unskilled migrants on the skilled–unskilled wage inequality is largely ignored. Such problem cannot be avoided in reality and exists in practice. In order to fill the current research gap, the present paper establishes a two-sector general equilibrium model and conducts the comparative static approach to investigate the impact exerted by an increase in the remittance of the unskilled migrants on the skilled–unskilled wage inequality in the labor host region. We find that the unskilled migrants increase their remittances to the labor outsourcing regions that will decrease the skilled–unskilled wage inequality in the labor host region.

The rest of this paper is organized as follows: in Section 2, we set up the theoretical model; in Section 3, we conduct the theoretical analysis of the established model; and we draw a conclusion in Section 4.

2. Theoretical model

Consider a typical closed urban economy of developing countries, which absorbs the rural–urban migrants. There are two kinds of labor in this economy, the urban citizens and the rural–urban migrants. Generally speaking, for developing countries, the human capital level of the urban citizens is higher than that of the rural people. Therefore, in our assumed economy, it is reasonable for us to treat the urban citizens as the skilled labor and the rural–urban migrants as the unskilled labor. Because the rural–urban migration control policies prevail in the developing countries (Lall et al., 2006; Zhao, 2005), we set the number of the rural people who transfer to urban areas as given.

The urban economy consists of two sectors, sector 1 and sector 2. Sector 1 is the skilled labor-intensive sector, using the local skilled labor and capital as factors of production. Sector 2 is the unskilled labor-intensive sector, employing rural–urban migrants, capital and the local skilled labor who cannot find the job in sector 1 as factors of production. In developing countries, sector 2 can be represented by architecture industries, catering services and other physic labor industries. These sectors are typically unskilled labor-intensive. However, in sector 2, due to the technical limitation, the productivity of skilled labor is same as that of the unskilled one. It is reasonable to see that in this situation, the skilled labor will receive a wage rate same as that of unskilled labor. Similar notions can be referred to McCormick and Wahba (2000).² Sector 2 belongs to the unskilled intensive industries and the labor employed in that sector is protected by minimum wage law or receive the contractual wage rate. The situation prevails in developing countries (see Yabuuchi and Chaudhuri, 2007). For example, the Chinese rural–urban migrants can neither enter the urban state-owned enterprises, nor high-tech industries (see Li and Qian, 2011).

The production functions of sector 1 and sector 2 are given by:

$$X_1 = F^1(L_{U1}, K_1), \tag{1}$$

$$X_2 = F^2(L_{U2} + \bar{L}_{TR}, K_2), \tag{2}$$

where X_1 and X_2 are the outputs of sector 1 and sector 2, respectively. L_{U1} and L_{U2} are the urban labor employed by sector 1 and sector 2,

respectively. K_1 and K_2 are the capital utilized by sector 1 and sector 2, respectively. \bar{L}_{TR} is the amount of the unskilled migrants. F^1 and F^2 are the strictly quasi concave and linearly homogenous functions of sector 1 and sector 2, respectively.³

The profit maximization condition yields:

$$pF_L^1 = w_s, \tag{3}$$

$$F_L^2 = \bar{w}_U, \tag{4}$$

$$pF_K^1 = r, \tag{5}$$

$$F_K^2 = r, \tag{6}$$

where $F_L^i = \partial F^i / \partial L (i = 1, 2)$, $F_K^i = \partial F^i / \partial K (i = 1, 2)$. Here we normalize the price of the output of sector 2 into unit. p is the relative price of the output of sector 1 in terms of the output of sector 2. r is the interest rate. w_s is the wage rate of the skilled labor employed by sector 1. \bar{w}_U is the wage rate of the unskilled labor used by sector 2, which satisfies $w_s > \bar{w}_U$.

The full employment condition of factor markets is shown as follows:

$$L_{U1} + L_{U2} = \bar{L}_U, \tag{7}$$

$$K_1 + K_2 = \bar{K}, \tag{8}$$

where \bar{L}_U and \bar{K} are the labor and capital endowments in the labor host region.

If we assume that $a (0 < a < 1)$ represents the unskilled migrant remittance rate, that is, the unskilled migrant worker will send a proportional of his income back to the region where the migrant worker comes from, then we can get the total amount of the consumption expenditure of the labor host region, I , which is described as:

$$I = w_s L_{U1} + \bar{w}_U L_{U2} + (1 - a) \bar{w}_U \bar{L}_{TR} + r \bar{K}. \tag{9}$$

The assumed economy only produces two products. By virtue of Walras law that one good market clearing means the other product market will be cleared up, we know that the market-clearing condition can be demonstrated by:

$$D^1(p, I) = X_1, \tag{10}$$

where D^1 is the indirect demand of the output produced by sector 1 in our assumed economy. Now the basic model has been constructed. We have ten equations, from Eq. (1) to Eq. (10), which determine ten endogenous variables, $X_1, X_2, L_{U1}, L_{U2}, K_1, K_2, p, r, w_s$ and I . The exogenous variable is a .

3. Comparative static analysis

Analyzing the established economy system, we know that given the value of p , from Eqs. (1) to (8), we can solve for the equilibrium values of $X_1, X_2, L_{U1}, L_{U2}, K_1, K_2, r$ and w_s . Therefore, $X_1, X_2, L_{U1}, L_{U2}, K_1, K_2, r$ and w_s can be shown as the functions of p . From Eq. (9), we can know that I is also the function of p . Finally, we substitute I and X_1 into Eq. (10) and then solve for the value of p .

First, we build Lemma 1 to investigate the impact of an increase in the remittance of the unskilled migrant labor on the price of the output produced by sector 1.

² It is commonly seen in reality that if a technician cannot find a job in the tech-sector, and if he/she would like to find a job in the clean industry, the technician has to receive a wage rate as a common cleaner (the unskilled labor).

³ Generally speaking, the skilled labor intensive sector (sector 1) has a higher per capita capital stock than that of the unskilled labor intensive sector (sector 2). The per capita capital stock of the skilled labor-intensive sector (sector 1) has a threshold value. In this situation, it is not hard to see that there exists no corner solution of our established model (the skilled labor cannot be fully employed by sector 1).

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