Factor Mobility and Wage Inequality

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Abstract This chapter provides a model to analyze the effects of factor mobility on wage inequality and considers a condition under which an inflow of factors into the US could generate wage inequality in favor of skilled labor. It is shown that the factor intensity and the degree of factor mobility play crucial roles in generating wage inequality. Furthermore, we demonstrate that the conventional wisdom concerning the wage gap no longer holds when capital is mobile.

1 Introduction

The drastic increase in wage inequality in the US since the 1980s has become a subject of controversy among trade and labor theorists. Seminal chapters such as Autor et al. (1998), Bhagwati and Kosters (1994), Bound and Johnson (1992), Davis (1998), Deardorff (2000), Dasgupta and Osang (2007), Krugman (2000), Tokarick (2005), Xu (2001) and Zhu (2004) have speculated on the causes and their effects. Research by various authors in Choi and Greenaway (2001) and Feenstra (2000) have focused on the effects of growing integration of the world economy on wage inequality. In addition, two trade journals, JIE and RIE, have edited special issues on wage inequality. Surprisingly, however, little attention has been paid to the analyses on the effects of factor mobility on wage inequality.

1 This chapter is dedicated as a memorial to Koji’s sincere friendship which will dearly be missed. 2 In addition, two trade journals, JIE and RIE, have edited special issues on wage inequality. Surprisingly, however, little attention has been paid to the analyses on the effects of factor mobility on wage inequality.
The most significant feature in the world economy today has been the tremendous increase in international factor movements. Despite this fact, only Kar and Beladi (2004), Marjit and Kar (2005), and Yabuuchi and Chaudhuri (2007) have examined this aspect while the central body of the literature has paid scant attention to the impact that factor mobility has on wage inequality leaving it as an unexplained black box.³ Our chapter is motivated by this fact. By deriving the elasticity of wage inequality with respect to factor mobility, we consider how international factor mobility affects wage inequality in a developed country. We show that given some reasonable assumptions, wage inequality in favor of skilled labor is an inevitable outcome in the US.

The rest of this chapter is organized as follows. In Sect. 2, we set up a simple specific factor model with factor mobility. Section 3 considers the effects of factor mobility on wage inequality and shows that factor intensity and the degree of factor mobility play key roles in generating wage inequality in favor of skilled labor. In Sect. 4, we show that the conventional wisdom of labor movements on the wage gap no longer holds with capital mobility. Section 5 concludes the chapter. To focus on the effects that factor mobility has on wage inequality and the wage gap, we will neglect its welfare and repatriation effects.

2 The Model

This section sets up a simple model that relates factor mobility to wage inequality. We envision a developed economy (e.g., the USA) that produces two commodities with three factors with the usual properties, including perfect competition, full employment, constant returns to scale, and decreasing marginal productivity. The model of this (home) economy is

\[ c_j(w_j, r) = p_j, \]  
(1)

\[ c_{jw}(w_j, r)X_j = \bar{L}_j + L_j, \]  
(2a)

\[ c_{1r}(w_1, r)X_1 + c_{2r}(w_2, r)X_2 = \bar{K} + K, \]  
(2b)

\[ L_j = f_j(w_j - w^*_j), \quad f_j(0) = 0, \quad f_j'(\cdot) > 0, \]  
(3a)

\[ K = g(r - r^*), \quad g(0) = 0, \quad g'(\cdot) > 0, \]  
(3b)

\[ w_j = w^*_j, \quad r = r^*. \]  
(4)

³ Feenstra and Hanson (1996) show that foreign investment and trade are important parts of the explanation for the pattern of wage and employment changes while Markusen and Venables (1997) focus on the role of multinational firms in explaining wage inequality.