

# Market Potential, Wage Inequality, and Regional Unemployment Rates\*

Keisuke Kondo<sup>†</sup>

## Abstract

This paper theoretically and empirically analyzes the relationship between regional wages, unemployment rates, and agglomerations by introducing the standard search and matching framework into a new economic geography (NEG) model. In the theoretical part of our analysis, we extend a multi-region Helpman (1998) model by incorporating job search frictions in regional labor markets. To understand model properties, we conduct our numerical analysis under the assumption of two symmetric regions. We then compare these results with those obtained from Krugman's (1991) model with a search and matching framework of vom Berge (forthcoming). In the empirical part of our analysis, by using Mexican state panel data, we structurally estimate the NEG wage equation augmented by the search and matching framework. In addition, we examine the relationship between the regional unemployment rates and agglomeration (expressed by labor force density) by using Mexican municipal data.

Our theoretical and empirical results show that in the NEG model with search and matching, geographic accessibility across regional markets on average increases the regional nominal wages. Thus, our paper confirmed that the well-known implication on the positive relationship between real market potentials and nominal wages holds even if frictional labor markets are taken into account. However, there are two contradictory predictions about the relationship between regional unemployment rates and agglomeration between our model and vom Berge (forthcoming): our model predicts a lower unemployment rate in agglomerated region by using a Helpman-type model, while vom Berge (forthcoming) predicts a higher unemployment rate in an agglomerated regions by using a Krugman-type model. From our empirical results obtained by using Mexican municipal data, we found that the elasticity of the labor force density on unemployment rate is significantly negative after controlling for endogeneity problem, implying that the unemployment rates in agglomerated regions are comparatively lower. To sum up, our findings suggest that the agglomeration of economic activities leads to higher nominal wages and lower unemployment rates.

*JEL classifications:* F12, J61, J64, R12, R23.

*Keywords:* Real Market Potential, Wage Equation, Regional Unemployment, Trade, Migration

---

\*First version: February 27, 2013. This version: May 14, 2013. I would like to thank Kensuke Teshima for his helpful comments and suggestions. I also thank all the participants of the CIE Brown Bag Seminar at the Instituto Tecnológico Autónomo de México (ITAM) for their useful comments and suggestions. All the remaining errors are naturally my own. I am grateful to those at the ITAM for all that I received during my stay there. This research was carried out under a scholarship granted by the Government of Mexico through the Ministry of Foreign Affairs of Mexico.

<sup>†</sup>Graduate School of Economics, Kobe University. 2-1 Rokkodaicho, Nada-ku, Kobe-shi, Hyogo-ken, 657-8501, Japan. (e-mail: keisuke.kondo@stu.kobe-u.ac.jp).