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## DOES LABOUR MARKET REORGANIZATION REDUCE UNEMPLOYMENT?

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## **ABSTRACT**

This study addresses the connection between reorganization and unemployment in the labour market. Reorganization of regional labour markets measured by simultaneous gross migration flows lowers the unemployment rate, based on evidence from a panel of Finnish regions. However, reorganization is shown to be unrelated to long-term unemployment.

## **TIIVISTELMÄ**

Tutkimuksessa tarkastellaan työmarkkinoiden uusiutumisen ja työttömyyden välistä yhteyttä. Alueellisten työmarkkinoiden uusiutumisella, jota on mitattu alueiden samanaikaisella lähtö- ja tulomuutolla, on työttömyyttä alentavia vaikutuksia. Tulokset perustuvat kunta-aineistoon vuosilta 1995–1998. Alueellisten työmarkkinoiden uusiutumisella ei sitä vastoin ole yhteyttä pitkäaikaistyöttömyyteen.

JEL Classification: R23

Key words: Restructuring; Reorganization; Unemployment; Migration

## **1. INTRODUCTION**

Regional labour markets have gained an increasing interest in Finland. The reason is that there has been a rapid rise in the regional disparities in unemployment rates as part of the export-led recovery from the great slump of the early 1990s (see, for example, Pehkonen and Tervo, 1998).

This empirical study aims to relate regional unemployment to the economic fundamentals in Finland. Along with the conventional economic fundamentals suggested by the previous empirical literature on regional unemployment disparities, this study includes an elaboration of the turnover between regional labour markets measured by simultaneous gross migration flows on the regional unemployment rates and the share of long-term unemployment.<sup>1</sup> By doing this, the study provides empirical evidence for the importance of reorganization of labour markets from the regional perspective, because the previous studies tend to neglect an evaluation of the impact of reorganization in terms of gross flows on regional unemployment (see, for example, Elhorst, 2003).<sup>2</sup>

The rest of the study is organized as follows. The second section provides a survey of the literature that has analyzed the connection of reorganization and unemployment from the regional perspective. The third section provides a theoretical background. The fourth section includes a description of the data that is used to address the determination of the unemployment in the Finnish regions. The fifth section reports the results and the last section concludes.

## **2. PREVIOUS RELATED STUDIES**

There have been a number of previous studies on the impact of structural change on the levels of employment and unemployment. Those studies emphasize the notion that the reallocation of labour resources is one of the most important sources of unemployment. Restructuring is typically associated with shifts in the shares of industries or certain components of labour demand. Lilien (1982) documented a strong, positive time-series

relationship between aggregate unemployment and the cross-industry dispersion of the employment growth rates as an indication of large-scale sectoral shifts of the U.S. economy.

However, the number of empirical studies that focus on reorganization and employment from the regional perspective remains limited. The main conclusion of the literature is that an increase in the rate of labour reallocation is also a source of regional unemployment. Holzer (1991) gives attention to restructuring in connection with regional unemployment. The study analyzes the effects of demand shifts within and between local labour markets on employment and unemployment outcomes. The study is based on sales growth data at the firm or industry level in the U.S. states. The key finding of the study is that demand shifts between local areas account for large fractions of the observed variation in the unemployment and employment levels. Hyclak (1996) has applied the measures of gross flows in the investigation of restructuring by using data from 200 U.S. metropolitan areas. The measures of restructuring include job reallocation. The evidence is, therefore, based on the measures of gross job creation and destruction. Hyclak (1996) discovers empirical evidence for the notion that structural changes in labour demand have played an important role in increasing the U.S. urban unemployment rates in the first half of the 1980s. This empirical study that applies data from all regions within a single country provides a different perspective on the role of restructuring in the determination of the unemployment rates. The turnover between regional labour markets is captured by using a measure of simultaneous gross flows of migration.

### **3. THEORETICAL UNDERPINNINGS**

Contini and Revelli (1997) argue that the movements of workers are connected via the so-called “vacancy chain“. This mechanism means that the hiring of a worker who is employed in another firm launches a whole sequence of separations and hirings and, thereby, adjustment of jobs and workers at the firm level of the regions. This adjustment of labour demand induced, for instance, by the reorganization of regional labour markets via simultaneous gross migration flows, can eventually cause large cumulative effects on

employment and unemployment. In a nutshell, this feature of economic progress means that the impact of reorganization of regional labour markets on unemployment is an empirical matter.

#### **4. THE DATA**

Finland is divided into 426 municipalities (the so-called NUTS-5 level in the European Union). The yearly observations cover the period from 1995 to 1998. The variables that are used to explain regional unemployment can be divided into three broad categories. This means that there are variables that characterize (i) the industry structure of the regions, (ii) the structure of labour force, (iii) the magnitude of external reorganization of regional labour markets measured by simultaneous gross migration flows. The motivation for the traditional economic fundamentals directly arises from the studies that have investigated the determination of the regional unemployment problem (see, for example, Elhorst, 2003). The variables that characterize the industry structure and the properties of the labour force (including gross migration flows) across the Finnish regions are collected by using aggregate data from Statistics Finland. The business cycle movements are captured by including the year dummies. Table 1 contains a description of the variables.

#### **5. EMPIRICAL STRATEGY AND THE RESULTS**

Since the panel data of the study cover all NUTS5 regions in Finland, the determination of the regional unemployment can be captured by applying a fixed effects model, as follows:

$$UN_{it} = a + v_i + b'X_{it} + e_{it} \quad (1)$$

where  $i = 1, \dots, 426$ ;  $t = 1, \dots, 4$ , and UN stands for the applied measure of the unemployment rate.  $X$  is a vector of the regional economic fundamentals. In addition,  $v_i$

represents fixed effects measure by the regional dummies and  $e_{it}$  is a normally distributed error term.

The results reported in Table 2 show that the high volume of simultaneous gross inward and outward migration lowers the regional unemployment rate in the Finnish regions. This pattern arises most likely from more efficient matching between employees and establishments. This particular result differs from the previous studies that emphasize the role of reorganization as an important source of the regional unemployment problem. However, the results further reveal that the reorganization of regional labour markets is not connected to long-term unemployment in the Finnish regions.

The rest of the estimation results from Table 2 can be summarized in a nutshell as follows. An increase in the share of manufacturing pushes down unemployment, but a high share of the service sector pushes up the unemployment rate. There is empirical evidence that an increase in the density of economy activity leads to a decline in the unemployment rate. This effect is probably due to the so-called thick market externalities via regional labour market pooling.<sup>3</sup> An increase in the share of skilled employees pushes down the unemployment rate. This pattern is consistent with the fact that the unemployment risk is higher for less educated persons. An increase in the share of the so-called aged employees is unrelated to unemployment as is the share of Swedish population.

## **6. CONCLUSIONS**

The study explored the determination of unemployment in the Finnish regions. The evaluation of regional labour markets was based on panel data that included a measure of simultaneous gross migration flows as an indicator of the reorganization of regional labour markets. The most important empirical finding is that the reorganization of regional labour markets lowers the unemployment rate. However, the reorganization of regional labour markets is unrelated to the magnitude of long-term unemployment in the Finnish regions. The essential role of reorganization in the determination of regional unemployment has some direct relevance for regional policy. In particular, these findings

provide empirical support for the perspective that public measures should not be aimed at scaling down gross migration flows since the reorganization of regional labour markets will yield a lower unemployment rate. In this sense, the regional reallocation of labour resources seems to be good for employment. However, the popular policies aimed to stimulate migration flows may fail to help the long-term unemployed persons that constitute the core of the European unemployment problem.

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**Table 1. The description of variables**

Variable	Definition/measurement
UN	The number of unemployed in region <i>i</i> / labour force in region <i>i</i> (i.e. unemployment is measured as fractions. For example, 34-percent unemployment is represented as 0.34)
UNLT	The number of long-term unemployed persons in region <i>i</i> / the total number of unemployed persons in region <i>i</i> (long-term unemployed are persons that have been unemployed over six months)
The measures of industry structure:	
MANU	Employment in manufacturing industries in region <i>i</i> / total employment in region <i>i</i>
SERV	Employment in private services in region <i>i</i> / total employment in region <i>i</i>
The measures of labour force:	
DENSITY	The number of employees in region <i>i</i> divided by surface area in region <i>i</i>
SKILLED	The number of employees with more than basic education in population in region <i>i</i> / population in region <i>i</i>
AGED	The number of population aged from 65+ in population in region <i>i</i> / population in region <i>i</i>
SWEDISH	The number of swedish-speaking population in region <i>i</i> / population in region <i>i</i>
The measure of reorganization of regional labour markets:	
MIGR	$(\text{Gross inward migration to region } i + \text{gross outward migration from region } i) -  \text{gross inward migration to region } i - \text{gross outward migration from } i $ divided by average population in region <i>i</i> . This means that MIGR is an index of simultaneous gross inward and outward migration.

**Table 2. The results from the fixed effects model (dependent variables: UN and UNLT). The models include unreported year dummies and a constant**

	Dependent variable: UN		Dependent variable: UNLT	
	Coefficients	t-statistics	Coefficients	t-statistics
MANU	-0.00149**	-5.09	-0.0944	-0.86
SERVICES	0.000671**	2.59	-0.09067	-0.92
DENSITY	-0.00029**	-3.16	-0.01967	-0.59
SKILLED	-0.00059**	-3.58	0.019319	0.31
AGED	0.000333	0.42	0.045764	0.16
SWEDISH	0.001934	1.14	-0.99361*	-1.54
MIGR	-0.0011**	-4.64	-0.03071	-0.35
N	1802		1802	
R <sup>2</sup>	0.77		0.01	
F(10, 1340)	443.04		0.74	

Notes: \*\* (\*) indicates that the parameter estimate is statistically significant at the 5 (10) per cent significance level.

<sup>1</sup> There have been some previous empirical studies that investigate the effect of net in-migration on the regional unemployment rates (see, for example, Elhorst, 2003), but these studies exclude the use of gross migration flows as a measure of reorganization between regions. In particular, Chalmers and Greenwood (1985) argue that the effect of net in-migration on regional unemployment is an empirical question and cannot be solved by theoretical considerations owing to the fact that net in-migration causes both regional labour supply and demand to increase.

<sup>2</sup> Pehkonen (1999) provides an empirical evaluation for the factors in the Finnish regional unemployment rates by applying cross-sectional data from 1991 that covers thirteen labour districts. The study does not include a consideration of the industry structure nor the elaboration of reorganization of regional labour markets.

<sup>3</sup> The models based on the ideas of the so-called new economic geography stress these effects (see, for example, Fujita, Krugman and Venables, 1999).