LABOUR MARKET FLEXIBILITY IN TERMS OF INTERNAL MIGRATION

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Modern economies have a high dynamics because of the rapid fluctuations of macroeconomic variables and parameters. Moreover, globalization emphasises the interdependencies among national economies, increasing their production capacities but, at the same time, making them more vulnerable to external perturbations. Shocks resulting from this turmoil can be absorbed depending on the degree of macromarket flexibility: goods market, labour market and money market. This flexibility becomes even more important for the member states of some optimal currency areas (OCA) because it considers both the mobility of production factors and the symmetry of business cycle transmission; i.e. the correlation of macroeconomic policies. The authors of this paper intend to analyse the situation of the internal mobility of workers as a basis for labour market flexibility.

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1. Theoretical Framework

Flexibility can be defined as the speed with which the labour market responds to any shock that the economy could face at any moment (Logos, 1994; Pissarides, 1997; Forstater, 2000). This implies a triple approach: **wage flexibility**, **worktime flexibility** and **worker mobility**. The scholarly literature (Scheremet, 2000; Laffargue, 2000; Hughes Hallett & Viegi, 2000; Dellas & Tavlas, 2002) has analyzed how flexibility differences on the labour market among regions and countries influence the shock absorption. A shock which initially has a symmetric effect in the whole European and Monetary Union (E.M.U.) will evolve in an asymmetric shock if a region adjusts faster than other.

In *the employer's perspective* the need for flexibility is perceived as *to ensure an adequate flow of personnel*, correlated with the technological process carried on, in terms of innovation as a main source of competitiveness. The *need for flexibility of the employee* is an expression of *his/her labour mobility on the labour market* in order to be able to fully assert his/her abilities, to optimize his/her choices between leisure and worktime, with the ultimate goal of maximizing his/her welfare.

Worker mobility represents an important issue to ensure the labour market flexibility and it is understood both as a shift of workers from one activity/profession to another, and as a spatial mobility. Both approaches of worker mobility are directly connected with the migration phenomenon since the motivation of job search represents the main source of human migration.

If we take into account the place of origin/destination, the delimitation between internal migration and external migration has interesting nuances in terms of international integration structures. Therefore, for the developed part of the European Union (particularly the Eurozone) the interstate migration plays the same role as the internal migration: streamlines the labour force flows, compensates deficits with surpluses for professions, specialisations and locations of labour demand and supply and, implicitly, influences the economic and social homogeneity of E.M.U.

Instead for the new member states, especially for Romania and Bulgaria, the difference between internal migration flows and external ones is very important in terms of economic consequences. Internal migration affects the increase in mobility and, therefore, the labour force flexibility, whereas external migration causes loss of labour force and human capital to home countries (Ailenei, Cristescu, 2010). As a member state of the E.U., Romania committed to join the Economic and Monetary Union in the medium term, which requires structural adjustments, apart from the fulfilment of nominal convergence conditions. These adjustments should allow the flexibility and functional efficiency of macromarkets.

2. Theories of Migration

The complexity and diversity of contemporary migration requires different theoretical approaches, seemingly heterogeneous to form a unitary particular theory.

Thus, ***the neoclassical theory*** explains migration flows through the differences between the poor and the rich areas of a country or, of the world. Migration flows become the equilibrium mechanism of deficits and surpluses on the labour market. This implies a microeconomic approach of migration which emphasises the decision-making process by which the rational individual assesses the possible monetary gains, mediated by the probability of finding a job at the place of destination, compared with gains in the place of origin. But the individual also takes into account the relocation costs. Also, potential migrant estimates the benefits of movement towards different locations for a limited time.

The ***new theory of migration*** is related to the research made by Oded Stark and it brings two major changes to the previous theory: it pulls out the individual from its relative isolation and the wage difference stops playing the key role. The new view states that the migration decision belongs to the family and it is subordinated to the minimizing risk strategy thanks to the diversification of income sources. The solution takes account of the imperfect functioning of the institutions and minimizes risks to household income.

The ***dual labour market*** argues that international migration is the effect of labour demand unavoidably related to characteristics of developed economies. It assumes the existence of a dual labour market that includes a *primary sector* with stable jobs, good working conditions, generous benefits and the possibility of upward mobility and, a *secondary sector* with unqualified jobs, hard or dangerous working conditions and weak possibilities of increasing mobility. In this sense, immigrants become the labour force who can successfully fill shortages of workers in the secondary sector, without causing negative consequences of structural migration.

The ***approach in terms of social capital*** considers an old theme (that of networks) in a new perspective, its potential benefits being more a future burden. "Each act of migration alters the social context in which are taken future decisions in a typical way that makes additional relocations more probable" (Massey and others, 1993). If a net migration rate is also a net gain in human capital stock then the impact on economic growth will be positive (Friedberg & Hunt, 1995; Shioji, 2000).

3. The Determinants of Migration[132]

According to Van der Gaag & Wissen (2003), the different factors that determine the migration flow can be classified in four main categories: *gravity variables, economic variables, labour market variables and environmental variables*.

Gravity variables

The approach is specific to the gravity models of the spatial and regional economics (Reily, 1931; Fujita & Thisse, 2003) and uses as variables the population size and distance. Empirical evidence of the positive effect of population size on internal migration is relevant and consistent with the

[132] Ivan Etzo [2008] – *Internal Migration: a Review of the Literature - ideas.repec.org.*

gravity model (Adrienko & Guriev, 2004; Hanson & Spilimbergo, 1996; Larson & Mundlack, 1995). Population density may provide an alternative specification (Van der Gaag & Wissen, 2003); however, this measure turns often to be a push factor than an attractive determinant (Anjomani, 2002; Shen, 1999). Distance is considered a fundamental explanatory variable which proxies the migration costs (Greenwood, 1985, 1997; Greenwood and Hunt, 2003).

Economic variables

A high economic prosperity means also more activities, services and opportunities for people living in a certain area. Moreover, dynamic centres attract mostly young people, who are widely recognized to be highly mobile. The most representative (and common) economic variable is the *per capita gross domestic product* (GDP). Empirical literature provides strong and robust evidence of the impact of per capita income on internal migration (Greenwood, 1997). Other variables are used to measure the impact of the cost of living on internal migration. Basile and Causi (2005) include *the index price*, but its impact turns to be statistically not significant.

Labour market variables

Another variable that is often included as explanatory variable in migration analysis is *the unemployment rate*. In fact, contrary to the per capita income, the empirical literature suggests that the impact of unemployment on internal migration is not clear. Pissarides and Wadsworth (1987) find that in UK "at higher overall unemployment rates, migration propensities are reduced". Juarez (2000) finds similar result for Spain and identifies a threshold level above which the push effect of unemployment is reduced. Hatton and Tani (2005) find that unemployment rate differentials did not affect the net interregional migration in the UK during the period 1982-2000. Finally, a meta-analysis of migration studies regarding the European countries conducted by Ederveen & Bardsley (2003) shows a weak reaction of net migration rates to differential in unemployment rates.

Environmental variables

The reason why people decide to move from one region to another one may be related not only to economic factors. The last group of variables that can affect internal migration flows is quite broad and is related with the quality of life. In this sense, these kinds of variables reflect all those factors that can affect the quality of life. All these factors concern *the public safety, social services, environmental quality, political and many other aspects*. Porel (1982) studied the relative importance of these factors versus the economic variables, finding empirical support both for the former and the latter.

4. Models of Internal Migration

Related to the theoretical support and selection process of the determinants there are so many models that analyze the migration flows.

Thus, *Sjaastad (1962)* developed a micro model where migration decision is modelled as an investment in human capital, heterogeneity among individuals being also emphasized. The migration decision in the interregional migration context is represented by the following expression:

$$NPVM_{i,j,0} = \sum_{t=1}^{T} \frac{B_j - B_i}{(1+r)^t} - \sum_{t=1}^{T} \frac{C_j - C_i}{(1+r)^t} \qquad (1)$$

Where:

i denote the region of origin and *j* the destination region, *B* denotes the total benefits, *C* the total cost related to the respective region, *r* is the discount rate and *T* is the lifetime period. In this framework, each individual (person or family) decides to move to region *j* if the present value of the total benefits to move is higher than the present value of the cost of moving.

The benefits are represented by the income earned by the migrant in the two alternative places, which in turns is a function of the personal skill level.

Harris and Todaro (1970) introduce imperfections on the labour market in the context of internal migration from rural to urban areas. Unemployment rate and wage differentials between the rural and the urban sectors are the key elements of migration. The employment rate in the urban sector represents the probability to find a job and individuals maximise the expected utility function. Thus the individual, that is assumed to be risk neutral, decides to migrate from the rural to the urban sector if and only if:

$$\sum_{t=1}^{T} p_u(t) * \frac{w_u}{(1+r)^t} - c > \sum_{t=1}^{T} \frac{w_r}{(1+r)^t} \quad (2)$$

Where:
pu is the employment rate in the urban sector, namely, the probability to earn the wage *wu*, the term *c* denotes the migration costs and *wr* is the wage in the rural sector.

Another way to evaluate internal migration flows includes some aggregate variables such as *population, GDP, unemployment rate* etc. The main reason is that, contrary to micro data, macro aggregate data are more accessible and often (especially for developing countries) the only data source available (Cushing and Poot, 2004). Indeed, the gravity model (Lowry, 1966; Lee, 1966), which is one of the first formal model of migration, remains the most common theoretical framework in empirical migration analysis (Greenwood & Hunt, 2003). The ***modified gravity model*** widely used in the empirical investigations on migration determinants takes the following form:

$$M_{ij} = \beta_0 + \beta_1 * D_{ij} + \beta_2 * P_i + \beta_3 * P_j + \beta_4 * Y_i + \beta_5 * P_j + \beta_6 * U_i + \beta_7 * U_j + \varepsilon_{ij} \quad (3)$$

Where:
Mij indicates the migration flows from place *i* to place *j*, *D* refer to distance, *P* is the population size, *Y* is the income and *U* is the unemployment rate.

A further development in macro migration modelling is represented by ***the systemic approach*** (Alonso, 1978). In contrast with gravity models, systemic models take into account the overall geographical system and not only the characteristics of the origin and destination places. The systemic model presented by Alonso in the "Theory of Movement" (1978, 1986) is a generalization of the modified gravity model in (3). The Alonso's model takes the following form:

$$M_{ij} = v_i * D_i^{\alpha_i - 1} * w_j * C_j^{\beta_i - 1} * t_{ij} \quad (4)$$

Where:
Mij is migration from origin *i* to destination *j*, *D* represents the opportunities of *i* and *C* represents the competition in *j*, a high degree of competition makes the destination *j* more attractive for all the system; α and β are the elasticity of response to *D* and *C*, respectively; *vi* and *wi* refers to population size of the origin and destination place, respectively; *t* measures the ease of movement between *i* and *j*.

5. Database and Methodology

The authors have proposed to analyze the territorial mobility of workers in Romania using as proxy variable the internal migration. Thus, we have correlated ***net migration balance*** with some economic variables frequently used in literature: ***the unemployment rate, average gross nominal monthly earnings and nominal GDP*** (at NUTS 3 level). In order to accurately capture the correlation between the migration balance and the indicators mentioned above, we have used absolute deviations from the average for the explanatory variables:

$$Dif(x_i) = \frac{x_i - \bar{x}}{\bar{x}},$$

Where:
$Dif(x_i)$ – differential of x
x_i – value of x variable for each NUTS 3 level
$\bar{x}$ – average level of x

In these circumstances we used an equation of regression of the following form:

$$BM_i = a*DUR_i + b*DW_i + c*DGDP_i + \varepsilon_i \quad (5)$$

i = 1, 2, ..., 42 NUTS 3
Where:
BM_i – the migration balance
DUR_i – unemployment rate differential
DW_i – wage differential
DGDP – GDP differential
ε_i – estimation error

The authors have considered that the most important factors in migration decision should be: *wage differential and unemployment rate differential*, but they have also tested all combinations of the three regression factors mentioned above. Tests were conducted on a panel regression model that includes data at NUTS 3 level during 2004-2008 for the correlation between the migration balance, the unemployment rate and wages, and during 2004-2007 for the correlation including GDP. The results of our econometric tests are illustrated in table 1.

Table 1- Results of econometric tests for some regression models of migration flows

Variable	*Model 1*	*Model 2*	*Model 3*	*Model 4*
Unemployment rate differential	-0.153693	-0.192725	-0.187557	-
[t-stat]	-0.842040	-0.782695	-0.744431	
Wage differential	3.016787	3.012692	-	2.999817
[t-stat]	3.535704	2.672443		-0.175902
GDP differential	-	-0.045545	0.165773	-0.025464
[t-stat]		-0.314743	1.285522	2.640522
C	-0.012454	-0.014993	-0.014903	-0.015058
[t-stat]	-0.083054	-0.103476	-0.094200	-0.101674
R squared	0.224976	0.216874	0.092095	0.196475

As you can see the best results are achieved by model 1. Yet, even in this situation the strength of the correlation is small (R^2=0.225), which indicates **high spatial rigidity of the labour force in Romania**. As for the other models the correlation level is even smaller (with negligible values in the 3rd model), but with the Durbin-Watson test indicating error autocorrelation.

6. Conclusions

Internal migration of workers represents a very important phenomenon to ensure the labour market flexibility. There are a lot of factors that influence migration, as there are also some obstacles. Testing some of the economic factors for Romania has revealed a strong rigidity of the labour market, even though wage differentials seem to motivate workers to change address. Barriers related to real estate market, family ties and social environment prevail regarding the mobility of workers in Romania. This means that *our labour market is still quite far from the functional model of the developed E.U.*

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