

# **Potential Internal Brain Drain of Scientists in Slovenia**

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**Milena Bevc and Sonja Uršič**

**- EXTENDED ABSTRACT -**

## **1. INTRODUCTION**

In knowledge based economy and society, human resources in research and development (HRR&D) sector, especially researchers/scientists, are one of the key factors of holding the competitiveness. This is especially true for a small country like Slovenia without any special natural sources. Therefore, the production of human resources for R&D and their retention in the science sector (in the home country) is of key importance. Data indicate that the number of researchers employed, expressed in full-time equivalents, has decreased in Slovenia from the early 1990s and that Slovenia is lagging behind the EU-15 average in the relative number of researchers (Bevc, 2007).

In this paper we analyse the potential internal mobility of scientists in Slovenia and their potential internal brain drain in 2005. By the internal mobility we consider the change of employment within the country and by internal brain drain the movement of scientists from the science sector to other sectors within the country. Besides realized internal mobility and migration in particular period (real mobility and migration) very important is also potential (intended - more or less probable) mobility and migration in the future. Both flows are in the case of scientists statistically non-registered phenomena in Slovenia as well as in the majority of other countries. Furthermore, there is lack of analysis of trends in potential mobility and migration (external or internal) using the same methodology. Consequently, surveys using various questionnaires represent the basic tool in the analysis of such migration flows.

In the mid-1990s the European Commission initiated the international research project on brain drain of researchers from former socialist countries (COST A2 project: Europe's Integration and the Labour Force Brain Drain). Different dimensions of this brain drain were investigated – external (abroad) and internal (from research to non-scientific sectors) on one side, and real (in period 1988–94) and potential (probable in the 90s) on the other side. Slovenia was included in this project together with the following nine countries in transition: Bulgaria, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania and Slovakia. Results for Slovenia are presented in four research reports (Bevc, Malačič, 1995;

Bevc et al. 1996; Bevc, 1996; Malačič, 1996). Ten years later the investigation of real (in period 1995-2004; Bevc, Koman, Murovec, 2006) and potential emigration (probable in 2005; Bevc, Uršič, 2006) was undergone again for Slovenia, using in the case of potential emigration the same methodology, size of the sample and type of sampling as in the mid-1990s. This was done within two research projects, carried out by the Institute for Economic Research Ljubljana. The main purpose of the project on potential emigration was to estimate the extent, the reasons, motives and characteristics of the outflow of researchers abroad and to non-scientific sphere within the country. The main source of data in this project was survey of researchers conducted in the science sector, using random sampling and very large sample (28% of the “study population”).

In this paper we will present the part of the aforementioned project that analyses the potential internal brain drain of Slovene researchers with master’s and doctoral degree in 2005 compared to the mid-1990s. Section 2 will give an overview of the stock and characteristics of human resources in R&D in Slovenia in comparison with the EU. Section 3 will describe the sample and methodology used. It will also include a comparison of the study population, sample, and respondents. Then, section 4 will depict the analysis and results. First some main characteristics of surveyed researchers will be presented. Then the extent and factors (respondents’ characteristics) of potential internal mobility will be discussed. After that we will analyse the alternative employment choices of potential migrants and their connection with particular researcher’s characteristics (determinants of particular choices). Finally, we will show the extent of and characteristics of potential internal brain drain. Section 6 will summarise the main conclusions.

As a "potential internal migrant" we define a researcher who wishes, intends or would under special conditions leave the current employment in the 6-month period after the survey was carried out and take another employment in the country.

## **2. HUMAN RESOURCES IN R&D IN SLOVENIA IN COMPARISON TO EU**

### **3. SAMPLE AND METHODOLOGY**

#### **3.1. The study population, sample, and respondents**

#### **3.2. Methodology**

## **4. ANALYSIS AND RESULTS**

### **4.1. Some main characteristics of surveyed researchers**

### **4.2. Potential mobility and brain drain of scientists within the country (potential internal mobility and brain drain)**

- 4.2.1. The extent and determinants of potential internal mobility (change of employment within the country)**
- 4.2.2. Alternative employment and characteristics of potential internal migrants**
- 4.2.3. The extent and determinants of potential brain drain from the science sector within the country (potential internal brain drain)**

## **5. CONCLUSIONS**

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