

# **Annals of *SPIRU HARET* University**

## **Economic Series**

**Volume 6(15), issue 2, 2015**

**EDITURA FUNDAȚIEI ROMÂNIA DE MÂINE  
BUCUREȘTI, 2015**

**Editor-in-Chief:** *Bondrea A. Aurelian*, Rector at *Spiru Haret* University, Bucharest, Romania

**Deputy Editor-in Chief:** *Gărdan Iuliana Petronela*, *Spiru Haret* University, Bucharest, Romania

**Scientific secretary:** *Pașnicu Daniela*, *Spiru Haret* University, and National Scientific Research Institute for Labour and Social Protection, Bucharest, Romania

*Costea Carmen*, Vice-Rector at *Spiru Haret* University, Bucharest, Romania

*Zaman Gheorghe*, Correspondent Member of the Romanian Academy, Institute of National Economy, Bucharest, Romania

*Filippova Svetlana*, Member of National Academy of Economic Sciences of Ukraine, and Odessa National Polytechnic University, Ukraine

*Mauri Arnaldo*, Università degli Studi di Milano, Italy

*Steve Keen*, Kingston University, London, UK

*Riad Shams*, University of Newcastle, Australia

*Dobrescu M. Emilian*, Scientific Secretary of the Economic and Legal Sciences Department, The Romanian Academy, Bucharest, Romania

*Ciucă Vasilica*, National Scientific Research Institute for Labour and Social Protection, Bucharest, Romania

*Rocco Servidio*, University of Calabria, Italy

*Zhanna Belyaeva*, Ural Federal University, Russia

*Evangelhos Tsoukatos*, Technological Educational Institute of Crete, Greece

*Pirciog Speranța*, National Scientific Research Institute for Labour and Social Protection, Bucharest, Romania

*Cătoiu Iacob*, Academy of Economic Studies, Bucharest, Romania

*Abdul Hakim Noori*, Jahan University, Kabul, Afghanistan

*Pistol Gheorghe*, *Spiru Haret* University, Bucharest, Romania

*Faggini Marisa*, University of Salerno, Italy

*Orzan Gheorghe*, Academy of Economic Studies, Bucharest, Romania

*Pîrvu Gheorghe*, University of Craiova, Romania

*Sîrghi Nicoleta*, Western University, Timișoara, Romania

*Pistol Luminița*, *Spiru Haret* University, Bucharest, Romania

*Lungu Ion*, Academy of Economic Studies, Bucharest, Romania

*Taşnadi Alexandru*, Academy of Economic Studies, Bucharest, Romania

*Ionescu Cicilia*, *Spiru Haret* University, Bucharest, Romania

*Pastore Francesco*, Seconda Università di Napoli, Italy

*Širca Nada Trunk*, University of Primorska and International School for Social and Business Studies, Slovenia

*Denkova Jadranka*, University "Goce Delcev", Republic of Macedonia

*Militaru Dorin*, Université Paris 2 – Panthéon-Assas, France

*Ionescu Ionel Eduard*, *Spiru Haret* University, Bucharest, Romania

*Cismaș Laura Mariana*, Western University, Timișoara, Romania

*Mladen Luise*, *Spiru Haret* University, and National Scientific Research Institute for Labour and Social Protection, Bucharest, Romania

*Iga Rudawska*, University of Szczecin, Faculty of Economics and Management, Poland

*Ghiorghiță Eugen*, *Spiru Haret* University, Bucharest, Romania

*Vasilescu Ruxandra*, *Spiru Haret* University, Bucharest, Romania

*Baicu Claudia*, *Spiru Haret* University, Bucharest, Romania

*Gabriela Tudose*, National Scientific Research Institute for Labour and Social Protection, Bucharest, Romania

*Gărdan Daniel Adrian*, *Spiru Haret* University, Bucharest, Romania

*Uță Cristian*, *Spiru Haret* University, Bucharest, Romania

*Baktybek B. Isakov*, Kyrgyzstan Turkey Manas University, Bishkek, Kyrgyzstan

*Dragomir Robert*, *Spiru Haret* University, Câmpulung Muscel, Romania

*Khalil Elnamrouy*, The Islamic University of Gaza

*Wael El-Daya*, The Islamic University of Gaza

*Samir K. Safi*, The Islamic University of Gaza

*Orzan Olgața Anca*, Carol Davila University of Medicine and Pharmacy, Bucharest, Romania

**Editorial Secretary:**

*Tascovici Daliana Ecaterina*, *Spiru Haret* University, Câmpulung Muscel, Romania

*Crețoiu Raluca*, *Spiru Haret* University, Bucharest, Romania

©*România de Măine*, Foundation Publishing House

<http://www.editararomaniademaine.ro/>

Publishing House recognized by the *Ministry of Education, Research, Youth and Sports* through the *Higher Education National Council of Research (CODE 171)*

All rights reserved. With the exception of fair dealing for the purposes of research or private study, or criticism or review, no part of this publication may be reproduced, stored or transmitted in any form or by any means without the prior permission in writing from the copyright holder. Institutions with a paid subscription to this journal may make photocopies for teaching purpose free of charge provided such copies are not resold. Full access to the papers in this issue is available online if your institution subscribes to the print volume.

*The liability for the content and originality of the text lies solely with the author/authors*

ISSN: 2068-6900

## CUPRINS

Zhang Wei-Bin, <i>Fluctuații economice din perspectiva creșterii endogene a populației, capitalului uman și avuției</i> .....	9
Ionescu Luminița, Buhur Sami, <i>Reforma controlului fiscal și financiar în România și Turcia: Un studiu comparativ</i> .....	27
Butculescu Claudiu Ramon D., <i>Considerații privind impactul inflației legislative asupra operatorilor economici</i> .....	35
Gârdan Daniel Adrian, Gârdan (Geangu) Iuliana Petronela, <i>Influența factorilor sociali și economici asupra comportamentului consumatorului de servicii medicale</i> .....	45
Pașnicu Daniela, <i>Analiza statistică comparativă a egalității de gen pe piețele muncii din România și EU28</i> .....	55
Eugen Ghiorghiță, <i>Influența educației și pregătirii profesionale asupra competențelor productive, naturii muncii și inegalității de gen</i> .....	65

## RECENZII

Thomas Piketty, <i>Capitalul în secolul XXI</i> (Cristian Uță) .....	95
--	----



## CONTENTS

Zhang Wei-Bin, <i>Economic Oscillations with Endogenous Population, Human Capital and Wealth</i> .....	9
Ionescu Luminița, Buhur Sami, <i>The Fiscal and Financial Control Reform in Romania and Turkey: A Comparative Study</i> .....	27
Butculescu Claudiu Ramon D., <i>Considerations Regarding the Impact of Legislative Inflation on Economic Operators</i> .....	35
Gârdan Daniel Adrian, Gârdan (Geangu) Iuliana Petronela, <i>The Social and Economic Factors Influence upon the Healthcare Services Consumers Behaviour</i> .....	45
Pașnicu Daniela, <i>Comparative Statistical Analysis of Gender Equality on the Labour Markets of Romania and EU28</i> .....	55
Eugen Ghiorghiță, <i>The Influence of Education and Training on Productive Skills, Nature of Work and Gender Inequality</i> .....	65

### BOOK REVIEW

Thomas Piketty, <i>Capital in the Twenty-First Century</i> (Cristian Uță) .....	95
---	----



## TABLE DE MATIÈRE

Zhang Wei-Bin, <i>Les fluctuations économiques corrélées avec la croissance endogène de la population, du capital humain et de la richesse</i> .....	9
Ionescu Luminița, Buhur Sami, <i>La réforme du contrôle fiscal et financier en Roumanie et en Turquie: une étude comparative</i> .....	27
Butculescu Claudiu Ramon D., <i>Considérations sur l'impact de l'inflation législative sur les opérateurs économiques</i> .....	35
Gârdan Daniel Adrian, Gârdan (Geangu) Iuliana Petronela, <i>L'influence des facteurs sociaux et économiques sur le comportement des consommateurs de services médicaux</i> .....	45
Pașnicu Daniela, <i>L'Analyse statistique comparative de l'égalité des sexes dans les marchés du travail de la Roumanie et UE28</i> .....	55
Eugen Ghiorghiță, <i>L'influence de l'éducation et de la formation sur les compétences productives, la nature du travail et les inégalités de genre</i> .....	65

### COMPTE-RENDU

Thomas Piketty, <i>Le capital au XXIe siècle</i> (Cristian Uță) .....	95
---	----





# ECONOMIC OSCILLATIONS WITH ENDOGENOUS POPULATION, HUMAN CAPITAL AND WEALTH

Wei-Bin ZHANG, Prof. PhD  
Ritsumeikan Asia Pacific University, Japan  
E-mail: wbz1@apu.ac.jp

## Abstract

*This paper demonstrates oscillations in the economic growth model with endogenous population growth and physical and human capital accumulation proposed by Zhang (2014). This study generalizes Zhang's model by treating all the time-independent parameters as time-dependent parameters. The model is a synthesis of the Solow growth model, Uzawa-Lucas two-sector model, and the Haavelmo population model and the Barro-Becker fertility choice model. The model studies the dynamic interdependence between population change, wealth accumulation, and human capital accumulation. We simulate the model to demonstrate existence of business cycles under different periodic shocks.*

**Keywords:** *economic oscillations; propensity to have children; human capital; endogenous population*

**JEL Classification:** E<sub>24</sub>, O<sub>47</sub>

## 1. Introduction

Modern economies are characterized of volatile changes in association with fast capital accumulation, widely spread education and fast accumulated human capital, and population dynamics. In many parts of the world life expectancy has increased dramatically. To explain the economic mechanisms and dynamic phenomena of these changes, this study builds a dynamic model to study interactions between wealth accumulation, human capital accumulation, and population dynamics with endogenous birth rate and mortality rate. This study is mainly concerned with demonstrating economic fluctuations under different exogenous shocks. There are a lot of theoretical and empirical research about mechanisms and phenomena of economic fluctuations. (Lucas, 1977; Zhang, 1991, 2005, 2006; Chatterjee and Ravikumar, 1992; Gabaix, 2011; Giovanni, et al. 2014; Stella, 2015). Nevertheless, there are only a few theoretical models which identify fluctuations due to dynamic interdependence between economic growth, human capital accumulation and population change. This study attempts to identify economic fluctuations.

The model by Zhang (2014) is based on some well-known models in the literature of economic growth and population dynamics. The neoclassical growth theory based on the Solow growth model is mainly concerned with endogenous physical capital (Solow, 1956; Burmeister and Dobell, 1970; Azariadis 1993; and

Barro and Sala-i-Martin, 1995). This study follows the traditional neoclassical growth theory in modelling economic production and physical capital accumulation. In Modelling behaviour of the household, we base on an alternative approach to determining behaviour of households proposed by Zhang (1993). In modelling human capital we follow Uzawa (1965) and Lucas (1988). Although economists have made great efforts in building growth models with endogenous human capital and physical capital with microeconomic foundations (Jones *et al.* 1993; Stokey and Rebelo, 1995; de la Croix and Licandro, 1999; Mino, 1996; Lagerlof, 2003; Alonso-Carrera and Freire-Sere, 2004; Galor, 2005; De Hek, 2005; and Sano and Tomoda, 2010), only a few studies deal with human and physical accumulation with endogenous population with microeconomic foundations within comprehensive analytical frameworks. The population change consists of dynamics of birth and death. Many factors may interact with changes in fertility (Barro and Becker, 1989; Galor and Weil, 1996; Doepke 2004; Adsera, 2005; Bosi and Seegmuller, 2012; Hock and Weil, 2012; and Chu *et al.* 2013). , the quality-quantity trade-off on children has been treated as a factor which affects the transition of economies from a stage of stagnation to perpetual growth. There are close relations between economic development and mortality rate (Schultz, 1993, 1998; Robinson and Srinivasan, 1997; Boucekkinne *et al.*, 2002; Blackburn and Cipriani, 2002; Chakraborty, 2004; Hazan and Zoabi, 2006; Fanti and Gori, 2011; Balestra and Dottori, 2012; Lancia and Prarolo, 2012). As explained in Zhang (2014), the model in this study is influenced by these researches on birth rate and mortality rate. The population dynamics is specially based on the Haavelmo (1954) population model and the Barro-Becker fertility choice model. The paper is organized as follows. Section 2 introduces the basic model with wealth accumulation and human capital accumulation. Section 3 simulates the model. Section 4 carries out comparative dynamic analysis with regard to oscillations in parameters. Section 5 concludes the study.

## 2. The basic model

The economy consists of one production sector and one education sector. Most aspects of the production sector are similar to the standard one-sector growth model. The economy produces only one (durable) good. We select the commodity to serve as numeraire. All the other prices being measured relative to the numeraire, households own assets of the economy and distribute their incomes to consumption, education, child bearing, and wealth accumulation. The production sectors or firms use physical capital and labour as inputs. Exchanges take place in perfectly competitive markets. Factor markets work well; factors are inelastically supplied and the available factors are fully utilized at every moment. Saving is undertaken only by households. All earnings of firms are distributed in the form of payments to the factors of production. We assume a homogenous population  $N(t)$  at time. Let  $T(t)$  and  $T_e(t)$  represent for, respectively, the work time and study time of the representative household. The total work time is  $T(t)N(t)$ . We use  $H(t)$  to stand for the level of human capital of the population. The total qualified labour force is

$$\bar{N}(t) = T(t)H^{m(t)}(t)N(t), \quad (1)$$

where the parameter,  $m(t)$ , describes how effectively the population uses human capital in time  $t$ . The labour force is distributed between the two sectors. We assume that wage rates are identical between professions. The total capital stock of physical capital,  $K(t)$ , is allocated between the two sectors. We use subscripts  $e$  and  $i$  to stand for the education and industrial sector, respectively. We use  $N_j(t)$  and  $K_j(t)$  to stand for the labour force and capital stocks employed by sector  $j$ . The assumption of full employment of labour and capital implies

$$K_i(t) + K_e(t) = K(t), \quad N_i(t) + N_e(t) = \bar{N}(t). \quad (2)$$

Equations (1) can be expressed as

$$n_i(t)k_i(t) + n_e(t)k_e(t) = k(t), \quad n_i(t) + n_e(t) = 1, \quad (3)$$

in which

$$k_j(t) \equiv \frac{K_j(t)}{N_j(t)}, \quad n_j(t) \equiv \frac{N_j(t)}{\bar{N}(t)}, \quad k(t) \equiv \frac{K(t)}{\bar{N}(t)}, \quad j = i, e.$$

### The industrial sector

The production function is

$$F_i(t) = A_i K_i^{\alpha_i}(t) N_i^{\beta_i}(t), \quad A_i(t), \alpha_i(t), \beta_i(t) > 0, \quad \alpha_i(t) + \beta_i(t) = 1, \quad (4)$$

where  $A_i(t)$ ,  $\alpha_i(t)$ , and  $\beta_i(t)$  are positive parameters. The rate of interest,  $r(t)$ , and wage rate per unit work time (of the qualified labour),  $w(t)$ , are determined by markets. The marginal conditions for the industrial sector are

$$r(t) + \delta_k(t) = \frac{\alpha_i(t)F_i(t)}{K_i(t)} = \alpha_i(t)A_i(t)k_i^{-\beta_i(t)}(t), \quad w(t) = \frac{\beta_i(t)F_i(t)}{N_i(t)} = \beta_i(t)A_i(t)k_i^{\alpha_i(t)}(t), \quad (5)$$

where  $\delta_k(t)$  is the fixed depreciation rate of physical capital.

### The education sector

Following Zhang (2014), we consider the education sector perfect competition. Let  $p(t)$  stand for the student's fee per unit in time. The production function of the education sector is a function of  $K_e(t)$  and  $N_e(t)$

$$F_e(t) = A_e(t)K_e^{\alpha_e(t)}(t)N_e^{\beta_e(t)}(t), \quad \alpha_e(t), \beta_e(t) > 0, \quad \alpha_e(t) + \beta_e(t) = 1, \quad (6)$$

where  $A_e(t)$ ,  $\alpha_e(t)$  and  $\beta_e(t)$  are positive parameters. The marginal conditions are

$$r(t) + \delta_k(t) = \alpha_e(t)A_e(t)p(t)k_e^{-\beta_e(t)}(t), \quad w(t) = \beta_e(t)A_e(t)p(t)k_e^{\alpha_e(t)}(t). \quad (7)$$

The demand for and supply of education balances at any point in time

$$T_e(t)N(t) = F_e(t), \quad (8)$$

where  $T_e(t)N(t)$  stand for the total education service.

### Human capital dynamics

Following the Uzawa-Lucas model (Uzawa, 1965, Lucas, 1988) and Zhang (2014), we propose the following human capital dynamics

$$\dot{H}(t) = \frac{\nu_e(t)F_e^{a_e(t)}(t)(H^{m(t)}(t)T_e(t)N(t))^{b_e(t)}}{H^{\pi_e(t)}(t)N(t)} - \delta_h(t)H(t), \quad (9)$$

where  $\delta_h(t)$  ( $> 0$ ) is the depreciation rate of human capital,  $\nu_e(t)$ ,  $a_e(t)$ , and  $b_e(t)$ , are non-negative parameters. The sign of the parameter  $\pi_e(t)$  is not specified as it may be either negative or positive. The term,  $\nu_e F_e^{a_e} (H^m T_e N)^{b_e} / H^{\pi_e} N$ , describes the contribution to human capital improvement through education. Human capital tends to increase with an increase in the level of education service,  $F_e$ , and in the (qualified) total study time,  $H^m T_e N$ .

### Consumer behaviours

Consumers decide the time of education, consumption level of commodity, number of children, and amount of saving. We use an alternative approach to household proposed by Zhang (1993). Let per capita wealth be represented by  $\bar{k}(t)$ , where  $\bar{k}(t) \equiv K(t)/N(t)$ . By the definitions, we have

$$\bar{k}(t) = k(t)T(t)H^{m(t)}(t).$$

Per capita current income from the interest payment and the wage payment is

$$y(t) = r(t)\bar{k}(t) + T(t)w(t).$$

The disposable income per head is given by

$$\hat{y}(t) = y(t) + \bar{k}(t).$$

Let  $n(t)$  and  $p_n(t)$  stand for the birth rate and the cost of birth at time. This study assumes that children will have the same level of wealth as that of the parent. The cost of the parent is

$$p_n(t) = n(t)\bar{k}(t).$$

Here, we neglect other costs such as time spent on children and purchases of goods and services (Becker, 1981; Barro and Becker, 1989; Wang *et al.* 1994; and Yip and Zhang, 1997). The household distributes the total available budget between saving,  $s(t)$ , consumption of goods,  $c(t)$ , education,  $T_e(t)$ , and bearing children,  $n(t)$ . The budget constraint is

$$c(t) + s(t) + p(t)T_e(t) + \bar{k}(t)n(t) = (1 + r(t))\bar{k}(t) + T(t)w(t). \quad (10)$$

The consumer is faced with the following time constraint

$$T(t) + T_e(t) = T_0, \quad (11)$$

where  $T_0$  is the total available time for work and study. Insert (11) in (10)

$$c(t) + s(t) + \bar{p}(t)T_e(t) + \bar{k}(t)n(t) = \bar{y}(t) \equiv (1 + r(t))\bar{k}(t) + T_0 w(t), \quad (12)$$

where  $\bar{p}(t) \equiv p(t) + w(t)$  (which is the opportunity cost of education). As in Barro and Becker (1989), this study considers the parents' utility dependent on the number of children. The utility function is specified as follows

$$U(t) = c^{\xi_0(t)}(t) s^{\lambda_0(t)}(t) T_e^{\eta_0(t)}(t) n^{\nu_0(t)}(t), \quad (13)$$

where  $\xi_0(t)$  is called the propensity to consume,  $\lambda_0(t)$  the propensity to own wealth,  $\eta_0(t)$  the propensity to receive education, and  $\nu_0(t)$  the propensity to have children. The marginal conditions for maximizing  $U(t)$  subject to (12) are

$$c(t) = \xi(t)\bar{y}(t), \quad s(t) = \lambda(t)\bar{y}(t), \quad \bar{p}(t)T_e(t) = \eta(t)\bar{y}(t), \quad \bar{k}(t)n(t) = \nu(t)\bar{y}(t), \quad (14)$$

where

$$\xi(t) \equiv \rho(t)\xi_0(t), \quad \lambda(t) \equiv \rho(t)\lambda_0(t), \quad \eta(t) \equiv \rho(t)\eta_0(t), \quad \nu(t) \equiv \rho(t)\nu_0(t),$$

$$\rho(t) = \frac{1}{\xi_0(t) + \lambda_0(t) + \eta_0(t) + \nu_0(t)}.$$

### The birth and mortality rates and the population dynamics

The population dynamics is

$$\dot{N}(t) = (n(t) - d(t))N(t), \quad (15)$$

where  $n(t)$  and  $d(t)$  are respectively the birth rate and mortality rate. It should be noted that Tournemaine and Luangaram (2012) consider mortality rate constant and specify the following technology of production of children:  $n(t) = bT_b^\theta(t)$ , where  $T_b(t)$  is the time of rearing children and  $b$  and  $\theta$  are parameters. Equation (14) determines the birth rate as

$$n(t) = \frac{\nu(t)\bar{y}(t)}{\bar{k}(t)}. \quad (16)$$

The mortality rate is taken on the following equation

$$d(t) = \frac{\bar{\nu}(t)}{\bar{y}^{a(t)}(t)H^{b(t)}(t)}, \quad (17)$$

where  $\bar{\nu}(t) \geq 0$ ,  $a(t) \geq 0$ , and  $b(t) \geq 0$ . We call  $\bar{\nu}(t)$  the mortality rate parameter. The equation implies that the mortality rate is negatively related to the disposable income and the level of human capital. From (16), (17) and (15) it is straightforward to get

$$\dot{N}(t) = \left( \frac{\nu(t)\bar{y}(t)}{\bar{k}(t)} - \frac{\bar{\nu}(t)}{\bar{y}^{a(t)}(t)H^{b(t)}(t)} \right) N(t). \quad (18)$$

### Wealth dynamics

According to the definition of  $s(t)$ , the change in the household's wealth is

$$\dot{\bar{k}}(t) = s(t) - \bar{k}(t). \quad (19)$$

We have thus built the dynamic model. The model is more robust than Zhang (2014) in that the parameters in this study are time-dependent. We now examine dynamics of the model.

### 3. The dynamics and its properties

Although the model contains dynamic interactions between population change, wealth accumulation and human capital dynamics, we now show that we use computer simulation to follow the motion of the dynamic system. Below we are providing a computational procedure to plot the motion of the economic system. We introduce a new variable

$$z(t) \equiv \frac{r(t) + \delta_k}{w(t)}.$$

The following lemma shows that the dynamics can be expressed by the three-dimensional differential equations system with  $z(t)$ ,  $N(t)$ , and  $H(t)$  as the variables.

#### Lemma

The dynamics of the economic system is governed by the three dimensional differential equations

$$\begin{aligned} \dot{z}(t) &= \tilde{\Omega}_z(z(t), N(t), H(t), t), \\ \dot{N}(t) &= \tilde{\Omega}_N(z(t), N(t), H(t), t), \\ \dot{H}(t) &= \tilde{\Omega}_H(z(t), N(t), H(t), t), \end{aligned} \quad (20)$$

where  $\tilde{\Omega}_z$ ,  $\tilde{\Omega}_N$ , and  $\tilde{\Omega}_H$  are functions of  $z(t)$ ,  $N(t)$ ,  $H(t)$ , and  $t$  defined in the Appendix. Moreover, all the other variables are determined as functions of  $z(t)$ ,  $N(t)$ , and  $H(t)$  at any point in time by the following procedure:  $k_i(t) = \tilde{\alpha}_i / z(t) \rightarrow k_e(t)$  by (A2)  $\rightarrow p(t)$  by (A3)  $\rightarrow r(t)$  and  $w(t)$  by (5)  $\rightarrow \bar{p}(t) = p(t) + w(t) \rightarrow k(t)$  by (A12)  $\rightarrow T(t)$  by (A7)  $\rightarrow T_e(t)$  by (11)  $\rightarrow \bar{y}(t)$  by (A5)  $\rightarrow c(t)$ ,  $s(t)$ , and  $n(t)$  by (14)  $\rightarrow n_i(t)$  and  $n_e(t)$  by (A4)  $\rightarrow \bar{N}(t)$  by (A1)

$$\rightarrow N_i(t) = n_i(t)\bar{N}(t) \rightarrow N_e(t) = n_e(t)\bar{N}(t) \rightarrow K_i(t) = k_i(t)N_i(t) \rightarrow K_e(t) = k_e(t)N_e(t) \rightarrow F_i(t) \text{ by (4)} \rightarrow F_e(t) \text{ by (6)}.$$

As the expressions are too complicated, we simulate the model to illustrate the behaviour of the system. In the reminder of this section we summarize the simulation results in Zhang (2014) when all the parameters are time-independent. The next section simulates the motion when the parameters are exogenously oscillatory. We specify  $\delta_k = 0.05$ ,  $\delta_h = 0.05$ , and  $T_0 = 1$ . The requirement  $T_0 = 1$  will not affect our analysis. The depreciation rate of physical capital is often fixed around 0.05 in economic studies. As shown by Stokey and Rebelo (1995), the depreciation rate of human capital is reasonably valued within a range between 0.03 and 0.08 for the US economy. The other parameter values are taken on

$$\alpha_i = 0.35, \alpha_e = 0.45, \lambda_0 = 0.7, \xi_0 = 0.08, \eta_0 = 0.01, \nu_0 = 0.2, A_i = 1.2, A_e = 1.2, \quad (21)$$

$$m = 0.8, v_e = 1.3, a_e = 0.2, b_e = 0.1, \pi_e = -0.1, a = 0.3, b = 0.1, \bar{\nu} = 0.6.$$

The propensity to save is 0.7 and the propensity to receive education is 0.01. The propensity to consume goods is 0.08. The technological parameters of the two sectors are specified at  $A_i = A_e = 1.2$ . The conditions  $\pi_e = -0.1$  means that the learning by education exhibits decreasing effects in human capital. The human capital utilization efficiency is 0.8. The initial conditions are specified as

$$z(0) = 0.3, N(0) = 2.7, H(0) = 4.$$

The simulation result is plotted in Figure 1.

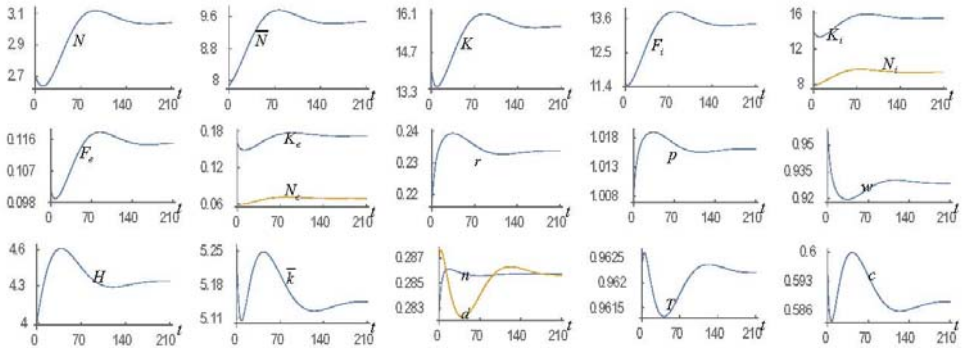


Figure 1. *The Motion of the Economic System*



We observe that the variables tend to become stationary over time. The simulation demonstrates that the dynamic system has a unique equilibrium point. The equilibrium values of the variables are

$$N = 3.04, H = 4.34, K = 15.65, \bar{N} = 9.47, N_i = 9.40, N_e = 0.067, \\ K_i = 15.48, K_e = 0.17, k_i = 1.65, k_e = 2.50, F_i = 13.43, F_e = 0.12, n = d = 0.286, \\ k = 1.65, r = 0.234, p = 1.02, w = 0.93, \bar{k} = 5.14, T = 0.96, c = 0.59.$$

We calculate the three eigenvalues:  $-0.21$ ,  $-0.08$ , and  $-0.04$ . As the three eigenvalues are real and negative, the unique equilibrium is locally stable. Hence, the system always approaches its equilibrium if it is not far from the equilibrium.

#### 4. Comparative dynamic analysis in some parameters by simulation

Zhang (2014) shows how the system reacts to a once-for-all change in parameters. This section shows how the system reacts to time-dependent changes in parameters. For convenience we consider the parameters in (21) as the long-term average values. We make small perturbations around these long-term values. In this study we use  $\bar{\Delta}x_j(t)$  to stand for the change rate of the variable  $x_j(t)$  due to changes in a parameter value.

##### Oscillations in the mortality rate parameter

We now examine the case that the mortality rate parameter is oscillated as follows

$$\bar{v}(t) = 0.6 + 0.04\sin(t).$$

The simulation results are plotted in Figure 2. The oscillations in the mortality rate parameter causes fluctuations in the death rate and have little impact on the birth rate. The population, total labour force and the total physical capital fluctuate. The output levels of the two sectors and the levels of two inputs of the two sectors are oscillatory with small amplitudes. We see that the rate of interest, wage rate, human capital, wealth, work time and consumption are also oscillatory with negligible amplitudes.

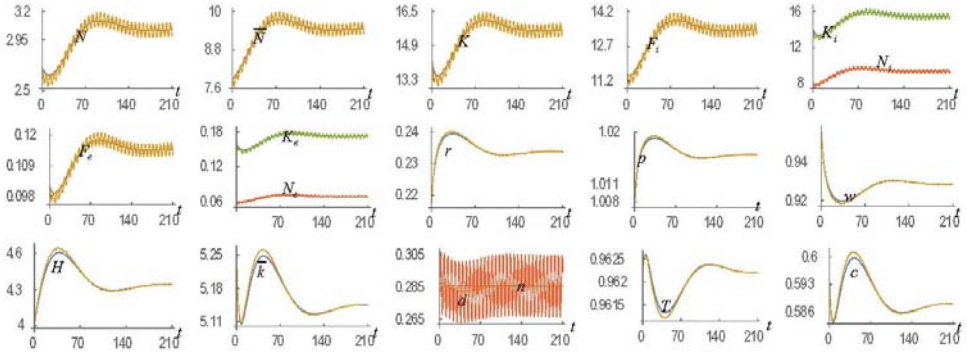


Figure 2. *Oscillations in the Mortality Rate Parameter*

### Oscillations in the output elasticity of the industrial sector's capital input

We now study what happens in the economy if the output elasticity of the industrial sector's capital input experiences the following fluctuations

$$\alpha_i(t) = 0.35 + 0.01\sin(t).$$

Different from the effects caused by oscillations in the mortality rate parameter, the oscillations in the output elasticity causes fluctuations in the rate of the interest, the price of education, wage rate, wealth, distribution, and consumption level. The population, total labour force, the total physical capital, and the two sectors' output and input levels fluctuate with negligible amplitudes.

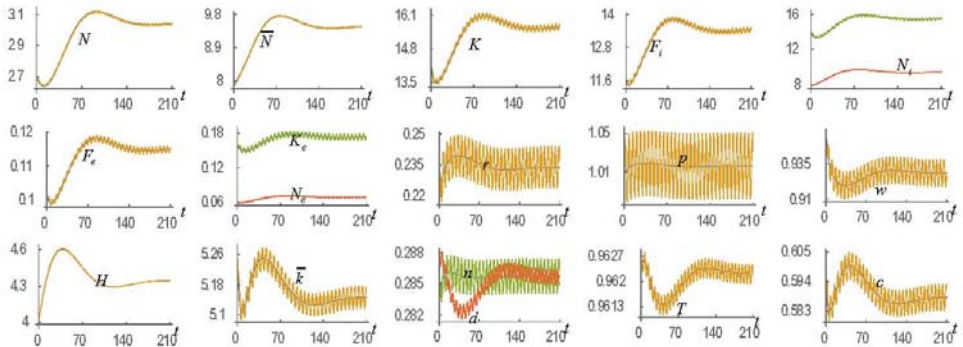


Figure 3. *Oscillations in the Output Elasticity of the Industrial Sector's Capital Input*

### Oscillations in the propensity to save

We now study the impact of the following fluctuations in the propensity to save

$$\lambda_0(t) = 0.7 + 0.02\sin(t).$$

All the variables fluctuate around their long-term trends. Both human capital and wealth fluctuate with negligible amplitudes.

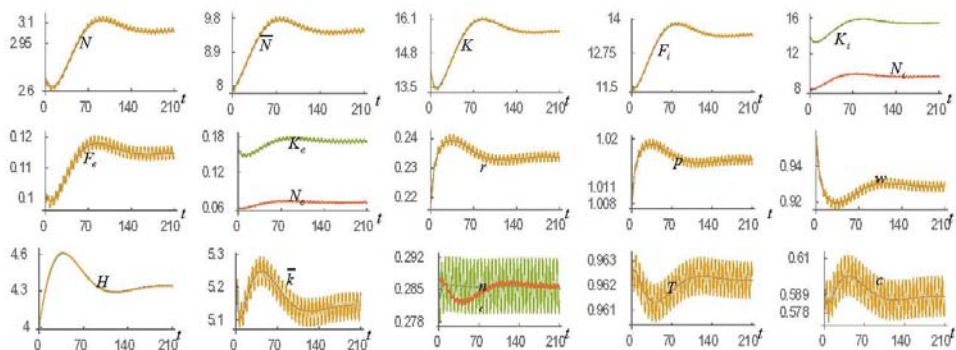


Figure 4. *Oscillations in the Propensity to Save*

### Oscillations in the mortality rate elasticity because of disposable income

We now examine how strongly the disposable income may affect population growth. We consider the following fluctuations in the mortality rate elasticity because of disposable income

$$a(t) = 0.3 + 0.02\sin(t).$$

The effects on the economic system are similar to the effects caused by oscillations in the mortality rate parameter. The death rate experiences fluctuations and the impact on the birth rate is negligible. The population, total labour force and the total physical capital fluctuate. The output levels of the two sectors and the levels of two inputs of the two sectors are oscillatory with small amplitudes. We see that the rate of interest, wage rate, human capital, wealth, work time and consumption are also oscillatory with negligible amplitudes.

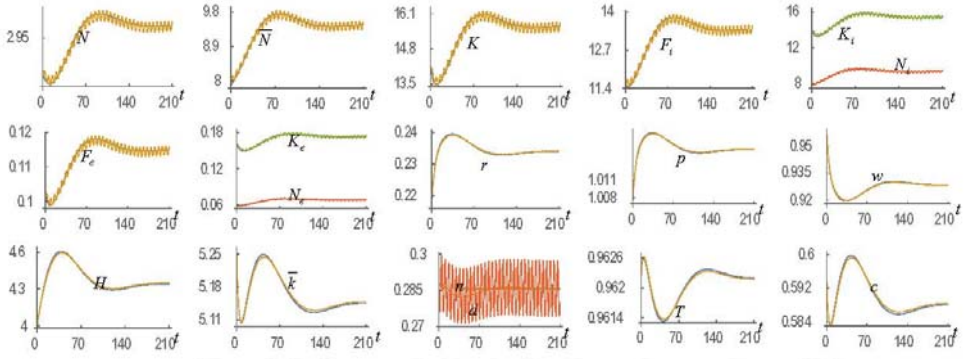


Figure 5. *Oscillations in the Mortality Rate Elasticity because of Disposable Income*

### Oscillations in the propensity to receive education

We consider the following fluctuations in the propensity to receive education

$$\eta_0(t) = 0.01 + 0.002\sin(t).$$

The fluctuations in the propensity to receive education cause oscillations in the time distribution. The birth rate is largely oscillated. The education sector's output and two inputs experience oscillations with large amplitudes. The amplitude of the oscillations in the death rate is negligible. The population, total labour force and the total physical capital fluctuate with small amplitudes. We see that the rate of interest, wage rate, human capital, wealth, and consumption are also oscillatory with small amplitudes.

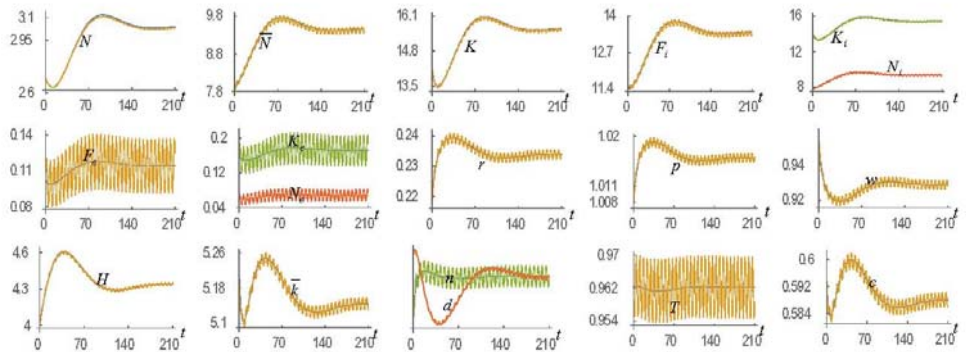


Figure 6. *Oscillations in the Propensity to Receive Education*

## Concluding Remarks

This paper was concerned with existence of business oscillations in the economic growth model with endogenous population growth and physical and human capital accumulation proposed by Zhang (2014). This study generalized Zhang's model by treating all the time-independent parameters as time-dependent parameters. The model is a synthesis of the Solow growth model, Uzawa-Lucas two-sector model, and the Haavelmo population model and the Barro-Becker fertility choice model. The model studies the dynamic interdependence between population change, wealth accumulation, and human capital accumulation. We simulated the model to demonstrate existence of business cycles under different periodic shocks.

## Appendix: Proving the Lemma

We now confirm the lemma. In the appendix we omit time in expressions when there is no confusion. By (5) and (7), we obtain

$$z \equiv \frac{r + \delta_k}{w} = \frac{\tilde{\alpha}_i}{k_i} = \frac{\tilde{\alpha}_e}{k_e}, \quad (\text{A1})$$

where  $\tilde{\alpha}_j \equiv \alpha_j / \beta_j$ . From (A1) we have

$$k_e = \alpha k_i, \quad (\text{A2})$$

where  $\alpha \equiv \alpha_e \beta_i / \alpha_i \beta_e$  ( $\neq 1$  assumed). From (5), we determine  $r$  and  $w$  as functions of  $k_i$ . From (A2), (5) and (7), we obtain

$$p = \beta_0 k_i^\beta, \quad (\text{A3})$$

where

$$\beta_0 \equiv \frac{\alpha^{\beta_e} \alpha_i A_i}{\alpha_e A_e}, \quad \beta \equiv \beta_e - \beta_i.$$

We determine  $p$  as a function of  $k_i$ . As  $k_i = \tilde{\alpha}_i / z$ , we determine  $k_i$ ,  $k_e$ ,  $p$ ,  $r$ ,  $w$ , and  $\bar{p}$  as functions of  $z$ .

From (A1) and (1), we solve the labour distribution as functions of  $k_i$  and  $k$

$$n_i = \frac{\alpha k_i - k}{\bar{\alpha} k_i}, \quad n_e = \frac{k - k_i}{\bar{\alpha} k_i}, \quad (\text{A4})$$

where  $\bar{\alpha} \equiv \alpha - 1$ . Insert (2) and  $\bar{k} = k T H^m$  in the definition of  $\bar{y}$  in (12)

$$\bar{y} = (1 + r)k T H^m + T_0 w. \quad (\text{A5})$$

From  $\bar{p} T_e = \eta \bar{y}$  in (14) and (A5), we have

$$\bar{p} T_e = (1 + r)\eta k T H^m + \eta T_0 w. \quad (\text{A6})$$

From (11) and (A6), we have

$$T = \frac{(\bar{p} - \eta w)T_0}{(1 + r)\eta k H^m + \bar{p}}. \quad (\text{A7})$$

Insert (A7) in (1)

$$\bar{N}(k, z, N, H) = \frac{(\bar{p} - \eta w)H^m N T_0}{(1 + r)\eta k H^m + \bar{p}}. \quad (\text{A8})$$

From (8) and (6), we have

$$T_e = A_e T n_e H^m k_e^{\alpha_e}. \quad (\text{A9})$$

From (A9) and (11), we have

$$T = \frac{T_0}{1 + A_e n_e H^m k_e^{\alpha_e}}. \quad (\text{A10})$$

From (A7) and (A10), we solve

$$n_e = \left( \frac{(1 + r)\eta k H^m + \bar{p}}{\bar{p} - \eta w} - 1 \right) \frac{1}{A_e H^m k_e^{\alpha_e}}. \quad (\text{A11})$$

From (A4) and (A11), we solve

$$k(z, N, H, t) = \left( \frac{A_e H^m k_e^{\alpha_e}}{\bar{\alpha}} + \frac{\eta w}{\bar{p} - \eta w} \right) \left[ \frac{A_e k_e^{\alpha_e}}{\bar{\alpha} k_i} - \frac{(1 + r)\eta}{\bar{p} - \eta w} \right]^{-1} H^{-m}. \quad (\text{A12})$$

We determine all the variables as functions of  $z(t)$ ,  $N(t)$ ,  $H(t)$ , and  $t$  at any point in time by the following procedure:  $k_i = \tilde{\alpha}_i / z$  by (A1)  $\rightarrow k_e$  by (A2)  $\rightarrow p$  by (A3)  $\rightarrow r$  and  $w$  by (5)  $\rightarrow \bar{p} = p + w \rightarrow k$  by (A12)  $\rightarrow T$  by (A7)  $\rightarrow T_e$  by (11)  $\rightarrow \bar{y}$  by (A5)  $\rightarrow c$ ,  $s$ , and  $n$  by (14)  $\rightarrow n_i$  and  $n_e$  by (A4)  $\rightarrow \bar{N}$  by (A1)  $\rightarrow N_i = n_i \bar{N} \rightarrow N_e = n_e \bar{N} \rightarrow K_i = k_i N_i \rightarrow K_e = k_e N_e \rightarrow F_i$  by (4)  $\rightarrow F_e$  by (6).

From this procedure, (9) and (18), it is straightforward to show that the motion of human capital and the population can be expressed as function of  $z(t)$ ,  $N(t)$ ,  $H(t)$ , and  $t$  at any point in time

$$\begin{aligned}\dot{H} &= \tilde{\Omega}_H(z, N, H, t), \\ \dot{N} &= \tilde{\Omega}_N(z, N, H, t).\end{aligned}\tag{A13}$$

We now show that change in  $z(t)$  can also be expressed as a differential equation in terms of  $z(t)$ ,  $N(t)$ ,  $H(t)$ , and  $t$ . From (19), we have

$$\dot{\bar{k}} = \Omega_0(z, N, H, t) \equiv \lambda \bar{y} - \bar{k}.\tag{A14}$$

Taking derivatives of  $\bar{k} = kTH^m$  with respect to time, we have

$$\frac{\dot{\bar{k}}}{\bar{k}} = \frac{1}{k} \frac{\partial k}{\partial t} + \frac{1}{T} \frac{\partial T}{\partial t} + \left( \frac{1}{k} \frac{\partial k}{\partial z} + \frac{1}{T} \frac{\partial T}{\partial z} \right) \dot{z} + \left( \frac{1}{k} \frac{\partial k}{\partial N} + \frac{1}{T} \frac{\partial T}{\partial N} \right) \tilde{\Omega}_N + \left( \frac{1}{k} \frac{\partial k}{\partial H} + \frac{1}{T} \frac{\partial T}{\partial H} + \frac{m}{H} \right) \tilde{\Omega}_H,\tag{A15}$$

where we also use (A13). From (A14) and (A15), we solve

$$\begin{aligned}\dot{z} &= \tilde{\Omega}_z(z, N, H, t) \equiv \left( \frac{1}{k} \frac{\partial k}{\partial z} + \frac{1}{T} \frac{\partial T}{\partial z} \right)^{-1} \\ &\left[ \frac{\Omega_0}{\bar{k}} - \frac{1}{k} \frac{\partial k}{\partial t} - \frac{1}{T} \frac{\partial T}{\partial t} - \left( \frac{1}{k} \frac{\partial k}{\partial N} + \frac{1}{T} \frac{\partial T}{\partial N} \right) \tilde{\Omega}_N - \left( \frac{1}{k} \frac{\partial k}{\partial H} + \frac{1}{T} \frac{\partial T}{\partial H} + \frac{m}{H} \right) \tilde{\Omega}_H \right].\end{aligned}\tag{A16}$$

The three differential equations (A13) and (A16) contain three variables  $z(t)$ ,  $N(t)$ , and  $H(t)$ . We thus proved the lemma.

## References

- Adsera, A. (2005) Vanishing Children: From High Unemployment to Low Fertility in Developed Countries. *American Economic Review* 95, 189-93.
- Alonso-Carrera, J. and Freire-Sere, M.J. (2004) Multiple Equilibria, Fiscal Policy and Human Capital Accumulation. *Journal of Economic Dynamics and Control* 28, 841-56.
- Azariadis, C. (1993) *Intertemporal Macroeconomics*. Oxford: Blackwell.
- Balestra, C. and Dottori, D. (2012) Aging Society, Health and the Environment. *Journal of Population Economics* 25, 1045-76.
- Barro, R.J. and Becker, G.S. (1989) Fertility Choice in a Model of Economic Growth. *Econometrica* 57, 481-501.
- Barro, R.J. and X. Sala-i-Martin (1995) *Economic Growth*. New York: McGraw-Hill, Inc.
- Becker, G. S. (1981) *A Treatise on the Family*. Cambridge, MA.: Harvard University Press.
- Blackburn, K. and Cipriani, G.P. (2005) A Model of Longevity, Fertility and Growth. *Journal of Economic Dynamics & Control* 26, 187-204.
- Bosi, S. and Seegmuller, T. (2012) Mortality Differential and Growth: What Do We Learn from the Barro-Becker Model? *Mathematical Population Studies* 19, 27-50.
- Boucekkine, R., de la Croix, D. and Licandro, O. (2002) Vintage Human Capital, Demographic Trends, and Endogenous Growth. *Journal of Economic Growth* 104, 340-75.
- Burmeister, E. and Dobell, A.R. (1970) *Mathematical Theories of Economic Growth*. London: Collier Macmillan Publishers.
- Chakraborty, B. and Gupta, M.R. (2009) Human Capital, Inequality, Endogenous Growth and Education Subsidy: A Theoretical Analysis. *Research in Economics* 63, 77-90.
- Chatterjee, B. S. and Ravikumar, B. (1992) A Neoclassical Model of Seasonal Fluctuations. *Journal of Monetary Economics* 29 (1), 59–86.
- Chu, A.C., Cozzi, G. and Liao, C.H. (2013) Endogenous Fertility and Human Capital in a Schumpeterian Growth Model. *Journal of Population Economics* 26, 181-202.
- De Hek, P.A. (2005) On Taxation in a Two-Sector Endogenous Growth Model with Endogenous Labor Supply. *Journal of Economic Dynamics and Control* 30, 655-85.
- De la Croix, D. and Licandro, O. (1999) Life Expectancy and Endogenous Growth. *Economics Letters* 65, 255-63.
- Doepke, M. (2004) Accounting for Fertility Decline During the Transition to Growth. *Journal of Economic Growth* 9, 347-83.
- Fanti, L. and Gori, L. (2011) Public Health Spending, Old-Age Productivity and Economic Growth: Chaotic Cycles under Perfect Foresight. *Journal of Economic Behavior & Organization* 78, 137-51.
- Gabaix, X. (2011) The Granular Origins of Aggregate Fluctuations. *Econometrica* 79, 733-72.
- Galor, O. (2005) From Stagnation to Growth: Unified Growth Theory, in *Handbook of Economic Growth*, edited by Aghion, P. and Durlauf, S.N. Amsterdam: North Holland.
- Galor, O. and Weil, D.N. (1996) The Gender Gap, Fertility, and Growth. *American Economic Review* 86, 374-87.
- Giovanni, J. Di., Levchenko, A., and Mejean, I. (2014) Firms, Destinations, and Aggregate Fluctuations. *Econometrica* 82 (4), 1303-40.



- Haavelmo, T. (1954) *A Study in the Theory of Economic Evolution*. North-Holland: Amsterdam.
- Hazan, M. and Zoabi, H. (2006) Does Longevity Cause Growth? A Theoretical Critique. *Journal of Economic Growth* 11, 363-76.
- Hock, H. and Weil, D.N. (2012) On the Dynamics of the Age Structure, Dependency, and Consumption. *Journal of Population Economics* 25, 1019-43.
- Jones, L.E., Manuelli, R.E., and Rossi, P.E. (1993) Optimal Taxation in Models of Endogenous Growth. *Journal of Political Economy* 101, 485-517.
- Lagerlof, N.P. (2003) From Malthus to Modern Growth: The Three Regimes Revisited. *International Review of Economics* 44, 755-77.
- Lancia, F. and Prarolo, G. (2012) A Politico-Economic Model of Aging, Technology Adoption and Growth. *Journal of Population Economics* 25, 989-1018.
- Lucas, R.E. (1977) Understanding Business Cycles. *Carnegie-Rochester Conference Series on Public Policy* 5, 7-29.
- Lucas, R.E. (1988) On the Mechanics of Economic Development. *Journal of Monetary Economics* 22, 3-42.
- Ludwig, A. and Vogel, E. (2009) Mortality, Fertility, Education and Capital Accumulation in a Simple OLG Economy. *Journal of Population Economics* 23, 703-35.
- Mino, K. (1996) Analysis of a Two-Sector Model of Endogenous Growth with Capital Income Taxation. *International Economic Review* 37, 227-51.
- Robinson, J.A. and Srinivasan, T.N. (1997) Long-term Consequence of Population Growth: Technological Change, Natural Resources, and the Environment, in *Handbook of Population and Family Economics*, edited by Rozenzweig, M.R. and Stark, O. Amsterdam: North-Holland.
- Sano, K. and Tomoda, Y. (2010) Optimal Public Education Policy in a Two Sector Model. *Economic Modelling* 27, 991-95.
- Schultz, P.T. (1993) Mortality Decline in the Low-Income World: Causes and Consequences. *American Economic Review* 83, 337-42.
- Schultz, P.T. (1998) Health and Schooling Investments in Africa. *The Journal of Economic Perspectives* 13, 67-88.
- Solow, R. (1956) A Contribution to the Theory of Growth. *Quarterly Journal of Economics* 70, 65-94.
- Stella, A. (2015) Firm Dynamics and the Origins of Aggregate Fluctuations. *Journal of Economic Dynamics and Control* (forthcoming).
- Lucas, R.E. (1988) On the Mechanics of Economic Development. *Journal of Monetary Economics* 22, 3-42.
- Stokey, N.L. and Rebelo, S. (1995) Growth Effects of Flat-Rate Taxes. *Journal of Political Economy* 103, 519-50.
- Tournemaine, F. and Luangaram, P. (2012) R&D, Human Capital, Fertility, and Growth. *Journal of Population Economics* 25, 923-53.
- Uzawa, H. (1965) Optimal Technical Change in an Aggregative Model of Economic Growth. *International Economic Review* 6, 18-31.
- Wang, P., Yip, C.K. and Scotese, C.A. (1994) Fertility Choice and Economic Growth: Theory and Evidence. *Review of Economics and Statistics* 71, 255-66.
- Yip, C. and Zhang, J. (1997) A Simple Endogenous Growth Model with Endogenous Fertility: Indeterminacy and Uniqueness. *Journal of Population Economics* 10, 97-100.
- Zhang, W.B. (1993) Woman's Labor Participation and Economic Growth – Creativity, Knowledge Utilization and Family Preference. *Economics Letters* 42, 105-110.
- Zhang, W.B. (1991) *Synergetic Economics*. Springer-Verlag, Heidelberg.

- Zhang, W.B. (2005) *Differential Equations, Bifurcations, and Chaos in Economics*. Singapore: World Scientific.
- Zhang, W.B. (2006) *Discrete Dynamical Systems, Bifurcations and Chaos in Economics*. Elsevier: Amsterdam.
- Zhang, W.B. (2014) Endogenous Population with Human and Physical Capital Accumulation. *International Review of Economics* 61(3), 231-52.

# THE FISCAL AND FINANCIAL CONTROL REFORM IN ROMANIA AND TURKEY: A COMPARATIVE STUDY<sup>1</sup>

**Luminița IONESCU**, Associate Professor Ph.D  
*Spiru Haret* University  
Faculty of Financial-Accounting Management  
lionescu.mfc@spiruharet.ro

**Sami BUHUR**, Lecturer Ph.D  
Ahi Evran University  
Department of Accounting and Tax Applications  
y.s.buhur@hotmail.com

## Abstract

*After Romania became a member of the European Union in 2007, *acquis communautaire* became part of the Romanian national legislation and although Turkey is not a member of the EU, the accession process as a candidate country covers many sectors, such as: taxation, statistic, environment, financial control, etc. Since 2007 Romania recorded a strong economic growth, making best use of EU structural funds to enhance investment, innovation, and employment. Turkey is a candidate country and a strategic partner for the European Union with a dynamic economy. Turkey applied to join the European Economic Community in 1987 and it was declared eligible to join the EU in 1997. Finally, the accession negotiations were opened with Turkey in October 2005 and in the last years many reforms have been implemented.*

*The aim of this paper is to present a comparative study between fiscal and financial control reform in Romania and Turkey, the evolution of fiscal and financial reforms in Romania, and the major problems seen in the public fiscal system in Turkey.*

**Keywords:** *financial reform, financial control, budget deficit*

**JEL Classification:** G<sub>17</sub>, H<sub>83</sub>, H<sub>62</sub>

## 1. Introduction

This paper seeks to present an analysis of the fiscal and financial control reform in two different countries, Romania and Turkey, the interaction between European reforms and the consequences of the international economic crisis.

In the last 25 years there have been many fiscal, administrative and social reforms in the East European countries. Between 1990 and 2000, Romania has

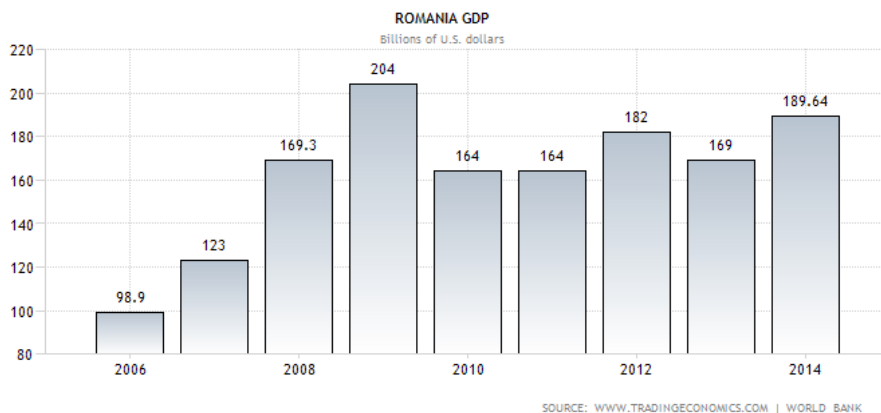
---

<sup>1</sup> This paper was presented at the conference *Management, Accounting and Management Information Systems MAMIS 2015*.

been characterized by significant transformational political and economic reforms. A new Constitution was adopted in December 1991, which set the groundwork for a democratic political system and for economic development. At the end of 2002, Romania was invited to become a NATO member, at the beginning of 2007 Romania became a member of the European Union and the economic reforms were accelerated. Before the crisis, Romania recorded high GDP growth rates, annual real GDP growth averaged 6.5 % in 2001-2008, mainly due to strong domestic demand (Country Report Romania 2015).

After a big contraction during the crisis, the economic growth recovered quickly, reached 2.9% in 2014 and is expected to continue its positive evolution.

Fig. no. 1. *The evolution of GDP in Romania 2006-2014*



Source: <http://www.tradingeconomics.com/romania/gdp>

In the Turkish public system we could observe a weak fiscal discipline until the 2000s. The public management was irregular, far from transparency, there was no control of public spending, the deficit was financed by public loans, there are no limits of public deficit etc. (Yükseler, 2010, p. 2).

Until the 2000s, the major problems seen in the public fiscal system in Turkey are:

- high level of budget deficit and inflation rate,
- surplus of domestic and external debt,
- the deficit of the social security budget,
- state enterprises give recorded loss every year and this loss was covered from the general budget,
- financial problems of the local budgets,
- growing bureaucracy,
- wasting of public resources, etc.

During the 1990s, there are some economic developments, such as: Turkey's membership in the Customs Union and the acceptance as potential candidate for European Union (EU), after 1999, when the new coalition government won the

elections. By December 1999 a new Agreement was signed with IMF for a stabilization program. On 17 August 1999 the Marmara Earthquake had a significant influence on the deterioration of the public financial structure.

### **Literature review**

The paper has based its conclusions on the following papers and researches:

Radulescu (2011), in her book *The Fiscal Reforms and Flat Tax in Europe and CEE Countries*, presented the fiscal reforms and flat tax reform experiences of the EU Member States which implemented the flat tax and the impact of these reforms for fiscal policy making. (Radulescu, M., 2011) Romania adopted the fiscal tax reform, introduced by the Government at the beginning of 2005, and this modification brought Romania among the most competitive investment destinations in the region. Starting with 2005, following a successful model already introduced by other countries in the region, corporate and individual incomes are levied with a single tax rate of 16%. Even today, the Romanian single tax rate is competitive compared to the other countries' levels of taxation. She thinks that the causes of high budget and current account deficits in the CEE region are explained by excessive expenses generated by a lax monetary or fiscal policy.

Nica et al. (2014) presented in their research "The Role of Internal Control and Financial Audit in Implementing European Financed Projects from European Social Fund Category" the role and importance of the internal control and financial audit in implementing European financed projects from Community funds. They presented the types of internal control, internal control system, audit procedures, actual facts control elements, finalizing an audit mission, audit beneficiary, the work of an independent financial auditor, and actual facts report.

## **2. Fiscal and financial reforms in Romania and Turkey**

Many fiscal reforms have taken place in the European area in the last decades, and some of them are still continuing to be implemented in the European countries (Radulescu, 2011). Some countries, including those in Eastern Europe, have adopted some version of a flat tax in an attempt to boost economic growth. Among the new EU Member States, Estonia was the first one to adopt a flat income tax reform in 1994, then some other European countries adopted this fiscal reform, Slovakia imposed in 2004 a flat tax of 19%, and Romania adopted in 2004 the flat tax of 16% (Radulescu, 2011). It was a good decision of the government and strong fiscal reform with benefits for the state budget and the economic development because a country's tax system affects its government revenues. Also, the VAT rate adopted at that moment was 19% in order to encourage the investments and the economic transactions.

Reform of tax administrations at the organizational level continues to feature strongly in Member States' strategies (EU Tax Reform Report 2014) (Tax Reforms in EU Member States 2014). Romania has restructured its national agency for fiscal administration, setting up a new anti-fraud department. Regarding personal income tax, we noticed that the tax incentive for collective savings for housing was

abolished in 2013 and related to corporate income tax, we noticed that the additional tax deduction for expenses relating to qualifying research and development was increased from 20% to 50%, with effect from February 2013. In global crisis, the government of Romania was forced to increase the VAT rate from 19% to 24% to shrink the deficit this way budgetary (Stroe, 2011). Recently, the VAT rate was reduced to 9% for bread, flour and related products, with effect from September 2013. One of the weaknesses of fiscal and financial reform in Romania is the frequent changes of the fiscal legislation and the difficulties for the investors to plan the budgets and the development projects.

According to the EU country report *Romania 2015*, under successive assistance programs key macroeconomic imbalances in Romania concerning the current account and fiscal policy have been considerably reduced and financial sector stability has been maintained. “Although measures to increase the efficiency of the tax administration are being implemented, value added tax compliance is among the lowest in the EU and undeclared work weighs on budget revenues. Frequent changes to the tax system contribute to instability in the business environment.” (Country Report Romania 2015)

In Turkey there have been some measures in the financial reform after 2000. The absence of fiscal discipline, high public debt, large public spending, and high levels of inflation, during 2000-2001 crisis in Turkey, reveal the importance of fiscal reform. Between Turkey and IMF a stand-by agreement was signed 19 times so far. The last 19th stand-by agreement with IMF ended in May 2008. After this date no other stand-by arrangement has been concluded. Turkey started to implement fiscal rules with a virtually stand-by agreement (Saygılıoğlu, Erduran, 2011, p. 2). “Fiscal rules are imposed on financial variables legal limitations or imposed on fiscal policies permanent limitations” (Kopits and Symansky, 1998), pp. 1-5). The IMF agreements have become the main axis of fiscal policies in Turkey. The most important target was reducing the burden of public debt and budget deficit, avoiding big public spending, and increasing the public revenues. After 2000-2001 crises due to the Transition to Strong Economy Program, legal regulation has been made in four main areas (Işık, Sakal, Meriç, 2010, p. 16):

- restructuring of the financial sector,
- ensuring the government transparency and strengthening of public financing,
- increasing competition and the effectiveness of the economy,
- strengthening the social solidarity

Thus, implementing a strong monetary policy, and opening the inflation target, budget discipline and structural reforms, inflation rate has dropped to single digits since 2004 (Işık, Sakal, Meriç, 2010, p. 17). In the context of strong fiscal policy, increasing revenues, the new public spending policy, and improvements in public financial structure have been observed.

The Public Finance Management and Control Law no. 5018 adopted in 2003 implemented specific rules for public financial management and for the public finance, in order to ensure transparency and accountability in the public system.

According to the Law no. 5018 in public financial management, extra budgetary funds were transferred into the general budget, internal audit was

implemented, public institutions were divided according to a new classification under the Analytic Budget Classification, a medium-term expenditure strategy was adopted and the relations between the development plans and budgets were improved, strategic plan was implemented in all public entities, and more regular and detailed financial statistics were prepared for the public management (Yereli, 2010).

A new Law on Regulating Public Finance and Debt Management was introduced in 2002 in order to cut the growing public debt. With this law, Treasury can loan until budget deficit. After 2001 crisis in Turkey, with the Law of Central Bank Amending, Central Bank cannot finance other public institutions and Treasury (Meriç, Bülbül, 2013, p. 300).

In addition, according to the Municipality Law no. 5393, the external debt of local budget can be accepted in order to promote investment, but legal limitations have been introduced.

As a result of the above measures in the financial reform, Turkey's financial indicators have been significantly improved. Thus, the budget deficits to Gross Domestic Product (GDP) ratio have been reduced:

**Table no. 1: The Budget Deficit to GDP Ratio in Turkey**

<b>Years</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
(%)	-7.9	-11.9	-11.5	-5.5	-3.6	-1.4	-2.0	-2.2	-2.5

*Source:* Undersecretariat of Treasury, Turkey, <http://www.hazine.gov.tr/default.aspx?nsw=EilDPQez15w=H7deC+LxBI8=&mid=59&cid=12&nm=167>

The share of central government budget expenditures to GDP has declined almost 10 points from 2001 to 2014.

*Table no. 2: GDP Share of Central Government Budget Expenditures*

<b>Years</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
(%)	30.8	36.2	34.1	28.2	26.8	24.2	25.1	25.7	25.0

*Source:* General Directorate of Budget and Fiscal Control, Budget Aggregates and Budget Realizations, <http://www.bumko.gov.tr/TR,4534/merkezi-yonetim-butce-gelirleri-2006-2012.html>

On the other hand the ratio of central government debt has improved to almost 50%. This rate is around 74% in 2001 and decreased to 34% in 2014.

Table no. 3: **Central Government Debt Stock to GDP ratio**

Years	2000	2001	2002	2009	2010	2011	2012	2013	2014
(%)	38.2	74.1	69.2	46.3	43.1	39.9	37.6	35.9	34.1

Source: Undersecretariat of Treasury, Treasury Statistical Yearbook, Public Debt Management, <http://www.hazine.gov.tr/default.aspx?nsw=EilDPQez15w=H7deC+LxBI8=&mid=249&cid=26&nm=41>

### 3. Internal control in Romania and Turkey

According to the Committee of Sponsoring Organizations of the Treadway Commission (COSO), internal control is broadly defined as a process, effected by an entity's board of directors, management and other personnel, designed to provide reasonable assurance regarding the achievement of objectives in the following categories: Effectiveness and efficiency of operations, Reliability of financial reporting, Compliance with applicable laws and regulations. In the last decades, internal control has become an important instrument to manage the public revenues and public deficits.

In Romania, a new regulation was adopted in 2005 for approving the "Internal Control Code, comprising the internal management/control standards at the public entities" for the development of the managerial control systems. According to the commitments assumed by Romania within the framework of Chapter 28 "Financial control" of the negotiations with the European Union, the Romanian Government adopted on July 2005 a new legislation to reform the internal control. "The *acquis* under this chapter consists mostly of general internationally agreed and EU compliant principles of public internal financial control that need to be transposed into the control and audit systems of the entire public sector. In particular, the *acquis* requires the existence of effective and transparent financial management and control systems; functionally independent internal audit systems; central harmonization units for these two fields, responsible for the co-ordination and harmonization of methodologies; an independent external audit of the public internal financial control systems in the public sector (Supreme Audit Institution); an appropriate financial control mechanism for EU funds; and the administrative capacity to give effective and equivalent protection to EC financial interests."<sup>2</sup>

In the programs there have been comprised, distinctly, professional training actions, for persons with management positions, as well as for those with execution positions, by training sessions organized by the School of Public Finance and Customs, the National Institute for Administration or by other authorized organizations.

---

<sup>2</sup> **Chapter 28: Financial control**, the commitments assumed by Romania in the negotiations with the European Union.



In Turkey, in the area of public internal financial control (PIFC), the Ministry of Finance issued a circular on alignment with internal control standards and published a public internal control guidebook. The Central Harmonisation Unit for financial management and control has drafted a central harmonization guidebook. “With regard to internal audit, the Ministry of Finance issued a circular on the appointment of internal auditors and internal audit practices. The Internal Audit Coordination Board announced the 2014-16 internal audit strategy document. The appointment of internal auditors at central and local administration is yet to be completed. The revised PIFC policy paper, which will also need to clarify the role of internal auditors and ensure the compatibility of centralized financial inspection with managerial responsibility, needs to be finalized and adopted” (Turkey Progress Report 2014).

The enforcement of internal financial control could help the implementation of fiscal and financial reforms in all countries. In the last few years many positive results have been observed in the dynamic economies.

### **Conclusion**

In this research we presented the analysis of the fiscal and financial control reform in Romania and Turkey. We observed that significant reforms have been adopted in European and non-European countries, most of them accelerated by the economic growth after 2000. A remarkable economic growth was observed in Romania and structural funds significantly contributed to financing important investments in local economy. Despite important reforms, deficiencies in the business environment might threaten future investment in Romania and the development of small and medium enterprises. However, despite the contraction during the crisis, the Romanian economy is recovering quickly and the growth will remain positive in the next years.

We can observe a positive evolution of financial and fiscal reform in Romania, especially after 2005 when new regulation was adopted for approving the Internal Control Code, according to the EU legislation.

In Turkey there have been implemented important fiscal reforms and positive changes in the fiscal structure of Turkey were observed. Public expenditures, public debt and budget deficit as share of GDP decreased, but the international financial crisis had a negative impact on financial indicators of Turkey. The major problems seen in the public fiscal system in Turkey were until 2000s. In that period of time, we could observe the high level of budget deficit and inflation rate, financial problems of the local budgets, growing bureaucracy and wasting of public resources. But, in the last few years new reforms were implemented according to EU regulation and it is expected that in the next few years the Turkish economy will recover completely.

## References

- Ionescu, L. (2012), *Principles and Hypothesis on Bureaucracy and Corruption Phenomena*, Postdoctoral Research, Romanian Academy, Bucharest, 2012.
- Işık, A., Sakal M., Meriç M. (2010), *Constitutional Economics Theory and Financial Rules: Applicability in Turkey*, Suleyman Demirel University Journal of the Faculty of Economics and Administrative Sciences, Volume: 15, Issue: 2.
- Kopits, G., Symansky S. (1998), *Fiscal Policy Rules*, Occasional Paper 162, International Monetary Fund, Washington DC.
- Meriç M., Bülbül D. (2013), *Financial Structure*, Gazi Publications, Ankara.
- Nica at all (2012), *The Role of Internal Control and Financial Audit in Implementing European Financed Projects from European Social Fund Category*, Annals of Spiru Haret, Volume 3(12), issue 1, pages 37-50.
- Radulescu, M. (2011), *The fiscal reforms and flat tax in Europe and CEE countries*, Scientific Bulletin – Economic Sciences, Volume 10/ Issue 2.
- Saygılıoğlu, N., Erduran, Ç. A. (2011), *Fiscal Rules and the Efficiency Issue: The Case of Turkey*, Gazi University Faculty of Economics and Administrative Sciences, Economic Approaches Congress Series, Presented in VII'th.
- Stroe, M.A. (2011), *Comparative Analysis of Vat Evolution in the European Economic System*, LexEtScientia no. XVIII, vol. 1/2011, pages 223-236.
- Yereli A.B., (2010), *Six Year of 5018*, Presented at Panel of the Future of the Strategy Development Unit, Association of Fiscal Service Experts, Ankara.
- Yükseler Z. (2010), *Transition From Implicit Fiscal Rule to Open Financial Rules*, Central Bank, January 2010.
- <http://www.coso.org/documents/internalcontrol> – Internal Control – Integrated Framework 2013.
- [http://ec.europa.eu/enlargement/pdf/key\\_documents/2014/20141008-turkey-progress-report\\_en.pdf](http://ec.europa.eu/enlargement/pdf/key_documents/2014/20141008-turkey-progress-report_en.pdf)- Turkey Progress Report 2014
- [http://ec.europa.eu/europe2020/pdf/csr2015/cr2015\\_romania\\_en.pdf](http://ec.europa.eu/europe2020/pdf/csr2015/cr2015_romania_en.pdf) – Country Report Romania 2015

# CONSIDERATIONS REGARDING THE IMPACT OF LEGISLATIVE INFLATION ON ECONOMIC OPERATORS

**Claudiu Ramon D. BUTCULESCU**

*Spiru Haret* University, Bucharest  
„Acad. Andrei Rădulescu” Legal Research Institute

## **Abstract**

*This paper addresses the impact of legislative inflation upon the activities of the commercial agents. A clear and transparent legal framework is required in order for the economic system to be efficient and to grow. Unfortunately, the large amount of norms that come into force monthly, if not weekly and regulate the activities of the moral persons, and in particular, the activities of the economic agents determine a high grade of informational entropy at a systemic level. This study tackles the possibility of improving the legal communication of norms by reducing legislative inflation. Firstly, the communication stream is analysed, and then the possibilities for improving such communication are brought forward.*

**Keywords:** *legislative inflation, legal communication, information entropy, economic agents, fiscal regulations*

**JEL Classification:** *K100, K340, K400*

## **Introduction**

This paper covers the issue of legislative inflation. In the Romanian Legal System, as part of the Romanian Social Normative System, the need for clear regulations is high, seeing that Romania can be classified as a developing economy. For the past twenty-five years, multiple attempts have been made to transform the legal system into a coherent and transparent framework of law. The negative effects of legislative inflation are easy to observe within the Romanian economy. The vast multitude of laws and regulations that sometime address the same issue within social life only lead to confusion and ambiguity. The legal system must protect the *bona fide* economic agents, but also must prove itself nimble and flexible enough not to suffocate these agents, as the modern society is permanently changing, eliminating cultural and legal international barriers. (Ciongaru Emilian, 2012, p. 565) As the economic agents are the power that pushes forward the social system, the analysis of the negative effects of legislative inflation is certainly required. It may be that the inflation also produces a negative effect through poor legal communication, as the subjects of the law do not always understand properly the meaning of the laws. The laws themselves are sometimes unclear and ambiguous, adding to the uncertainty already in existence. The communication of law and the legislative inflation, as a problem in the

development of the economic domain has not been thoroughly addressed in the specialized literature and even less with regard to the economic agents. The massive quantity of laws that are enforced every year determine a poor understanding and acceptance of the law generally, which leads in return, among other things, to evasion, pecuniary and even penal sanctions for the economic agents. The communication of law may be split into two categories: formal communication of law and material communication of law. The formal communication of law is the process of communicating provisions and regulations from the authorities to the subjects of law. It is the expression of the formal sources of law, which include mainly the laws, provisions and regulations. (Niemesch Mihail, 2014, p. 92) The material communication of law, on the other hand, may be defined as the process through which the society itself communicates its needs to the legislator, being external realities (Tutunaru Mircea, 2014, p. 401) and social needs, which the system of law converts into regulations and provisions. The formal communication of law is relevant from the perspective of legislative inflation, because in the relation between the material and formal sources of the law, the latter shall always be limited, while the former are practically limitless.

### **Literature Review**

Within the specialized literature, the legislative inflation has been addressed. To this end, Professor Sofia Popescu showed that legislative inflation represents a potential danger to society (Sofia Popescu, 1998). The systemic approach to law and law as communication has also been studied in the specialized literature. As such, models of communication were developed by scholars of law. A relevant work in this field pertains to reputed scholar Jurgen Habermas. He underlined that there are three modes of communication: cognitive, interactive and expressive (Jurgen Habermas, 1979, p. 58). Also, he proposed a model of linguistic communication which shows that language may be considered as a medium for three interconnecting worlds seeing that every successful communication implies a tripartite relation between expression and a) the external world as a complex of factual status; b) own social order, as a whole of all interpersonal rules, regulated and considered legitimate in a given society and c) the internal world of the issuer as a complex of its internal experiences. (Jurgen Habermas, 1979, p. 66-67)

Another reputed scholar, Niklas Luhmann, believed that every communication process differentiates and synthesizes its own components, respectively information, expression and understanding. According to this scholar, these components must differentiate and synthesize simultaneously (Kathrin Maurer, 2010, p. 5). He considered that communication should not be understood as a process of transmission (Niklas Luhmann, 2012, p. 116), because symbolic systems like the system of law relate directly to the improbability of communication.

These elements acquire a punctual structure when they are coupled through a specific medium like law, theory et.al. In other words, law as a medium of communication represents a referential system in which all these elements, as

shown above, namely information, expressions and understandings become meaningful. Following the same direction, Romanian doctrine discussed the notion of “given” in the process of constructing the law (Anita M. Naschitz, 1969, p. 85).

Luhmann showed that differentiation is an important element in the conceptualization of communication, especially in distinguishing between information (*experience*) and expression (*action*) (Niklas Luhmann, 2012, p. 200).

Another theory regarding communication from the perspective of law was developed by Mark van Hoecke, which shows that human action involves interpersonal relations and by that communication. As such, law offers both a referential framework for human action as well as for communication between people (Mark van Hoecke, 2002, p. 7). The same author considered that law is essentially based on communication: between legislator and citizens, between courts and parties, between legislative power and the judiciary power, between the parties of any contract etc.

Moreover, the aspect of law as communication implies a rational dialogue between the operators of law, as a final means of protection for the just interpretation of the law. Van Hoecke does not propose a new model of communication related to the system of law, but rather discusses a new approach of legal theory concepts, from a communicational view.

Both national law and European Law have a profound and stern impact on companies. As such, the danger and costs generated by legislative inflations could be better understood if we explain further the negative effect on companies. Legislative inflation appears as an undesired effect of legal communication. Legal communication could be envisioned as a stream of legal messages, emitted by the public authorities and having a mandatory effect for the subjects of law, including companies. The components of the legal message that overload the capacity of understanding of the receiver, that is the subject of law, give birth to legislative inflation. On the other hand, the companies themselves, as business organizations, are entities formed for the purpose of carrying on commercial enterprise. (*Encyclopædia Britannica Online*) Thus, they need coherent and transparent provisions by which they efficiently may conduct their businesses. Legislative inflation leads to legal uncertainty which will affect the activities of the aforementioned companies, having a direct negative effect on their development. However, legislative inflation, also has an indirect negative effect on the society itself. A healthy economic environment can only be maintained if the companies that sustain that environment are themselves efficient.

In the specialized literature, with regard to legislative inflation, significant answers may be given by behavioral economics, which allow us to analyze the way in which information is presented and perceived. This area of study incorporates insights from psychology and other social sciences. (Bernheim B. Douglas, Rangel Antonio, 2007) Also, behavioral economics considers that increasing the realism of psychological elements of economic analysis will improve the field of economics, generating theoretical insights, better economic predictions and better policies. (Camerer Colin D., Loewenstein George, 2004, p. 3) No doubt that behavioral

economics could bring forth an entire new vision regarding the perception of legislative inflation by the economic agents.

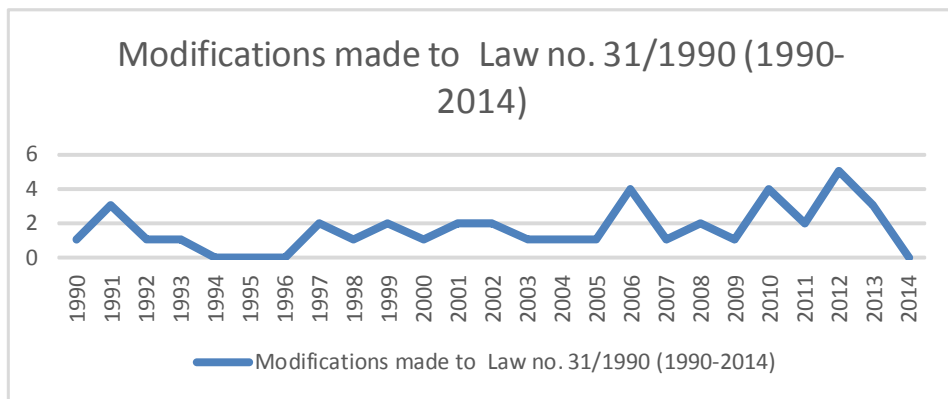
### **Theoretical Background**

From an economic perspective, inflation, in economics, is defined as collective increases in the supply of money, in money incomes or in prices (Encyclopædia Britannica Online). Within the system of law, legislative inflation may be defined as the increase of the quantity of law beyond the necessities of the system itself. In specialized literature, it has been shown that the causes of legislation are the same causes of legislative inflation. (Svein Eng, 2002) This paper aims to show that poor legal communication augments the negative effects of legislative inflation. The legal background regarding trading companies is composed of various regulations, of which some are drafted as laws, while others are emitted in the form of ordinances. Some of the most important regulations that govern the activities of companies in Romania are the Law no. 31/1990 regarding companies, the Fiscal Code, the Fiscal Procedure Code and the Civil Code.

### **Legislative inflation from the perspective of Law no. 31/1990 regarding companies**

The principal law that regulates the activities of trading companies is Law no. 31/1990 regarding companies. While in the past, its title mentioned trading companies, with the adoption of the actual Civil Code, the term “commercial” and other similar notions were removed and all commercial relations became civil relations, while the term “trading company” was change for “professional” or simply “company”. In addition to the above mentioned law, there are other sources of law that regulate this field.

Since its inception, the Law no. 31/1990 has suffered numerous changes and modifications. Thus, the abovementioned law was modified for 35 times since its entry into force, in the year 1990, which shows us that on average, this law was modified once every eight months. In fact, almost every year, the law was modified at least once, with a hiatus of three years, between 1994-1996 and also in 2014. The activity of companies must rely on a stable and predictable environment, both economic and legal. If the legal framework fluctuates so dramatically, it leads to informational entropy, thus to uncertainty. As such, an uncertain environment leads also to less productive activities for the companies, who permanently need to adapt to the new legislative modifications. The high frequency of changes in the law is also a form of legislative inflation, because the enormous amount of information that must be assimilated by companies directly affects their productivity, their profits and indirectly, the economic growth. Besides the Law no. 31/1990, more than 400 laws regulate commercial activities in Romania, which of course can only increase the amount of informational entropy within the economic system. Also, the legislation inflation in this area is growing, as shown below (number of modifications each year):

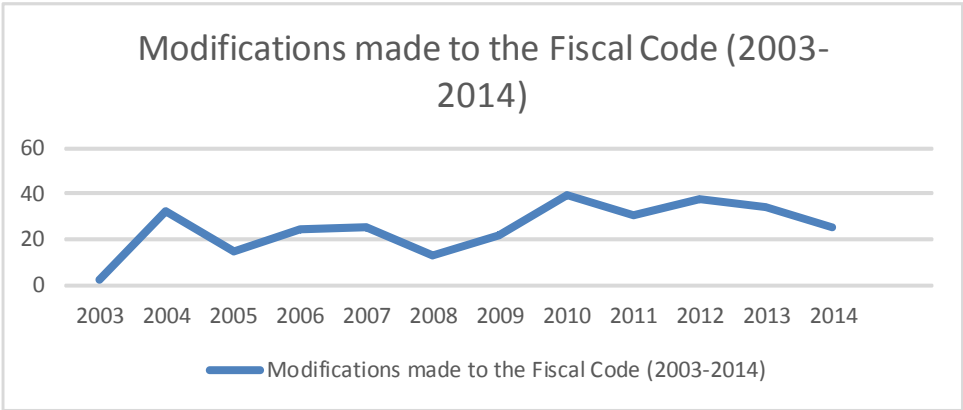


Thankfully, the last year no modifications were brought to the law, which contributed to a more predictable and stable legal framework. Even if these modifications are necessary, the law should be modified at longer intervals, to allow companies to adapt themselves to the new modifications. The legislative inflation also determines a poor communication of legal rules which adds to the already existent informational entropy. The managers and operators of Romanian companies must understand and comply with the legal rules newly introduced. Firstly, the rules must be understood, but for them to be understood, those rules must be clear and simple and as few as possible. A complicated framework increases the vulnerability of the companies in front of the authorities, which themselves become, at some points, entangled in these numerous and ambiguous rules. More important, many of these modifications did not have even the desired effect, as companies adapted themselves to elude such provisions. For example, the Emergency Ordinance no. 54/2010 stated that no transmission of share from a shareholder to a newcomer into the society can be made, before publication of the shareholders decision in the Romanian Official Journal. Also, for the cession to operate, a period of 30 days since publication must pass, without any creditor opposing the cession. Needless to say, workarounds for this issue were found and the provision itself nowadays does not constitute an absolute impediment to a possible cession. In other cases, the legislative inflation leads to cumbersome procedures that are difficult to follow by the companies. For example, if a person wants to found a new company, it has to complete a rather large file, being some time at the mercy of complete strangers. For example, the founder of a company needs to obtain the written consent of the blockhouse association where he wants to establish his official headquarters, as well as the written consent of the adjacent neighbours (the ones that have common walls with the space where the headquarter is located). All these provisions provide for uncertainty in the legal framework. The need for a certainty within a legal system is obvious, and legal certainty implies that a person knows or at least has the possibility of knowing the legal consequences when breaking the law (Alexandru Măgureanu, 2014, p. 275). The problem within legislative inflation is that there are so many norms, of which some regulate roughly the same area that both the natural and the moral persons may not

accurately know that they are breaking the law. In a system with a high rate of legislative inflation, there is a strong possibility that mandatory provisions may not be justly upheld. Even more serious is the problem of rules that regulate the same field. Not only they don't serve the purpose for which they were drafted, but they also negatively affect the activity of all subjects of law, including companies, both directly and indirectly.

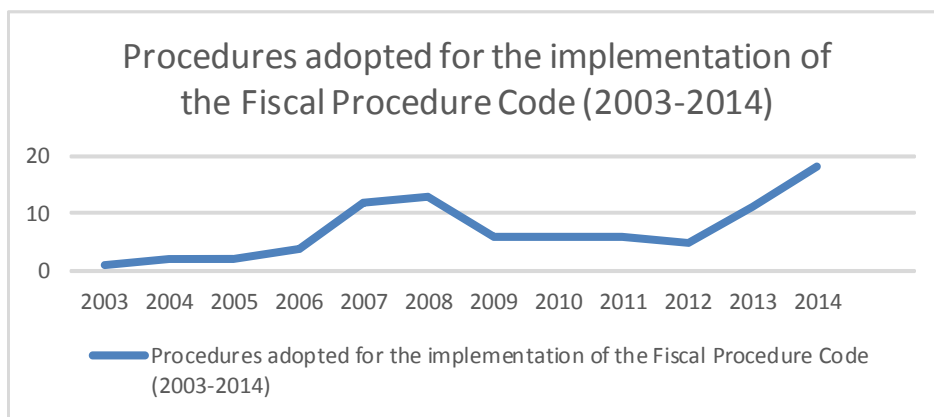
**Fiscal legislative inflation**

Fiscal regulations are essential for the proper development of the economy. However, in this legal area, the things are even more complicated. The Fiscal code and the Fiscal procedure code suffered far more modifications than Law no. 31/1990. As a matter a fact, the Fiscal code was modified 312 times, through other laws, ordinances or similar regulations, since its adoption, in 2003. That measures up to approximately one modification every month, which of course means a huge amount of provisions. Such a legislative inflation can only lead to serious repercussions on the companies, as the fiscal rules are almost entirely mandatory for all persons and failure to abide by them is drastically sanctioned. The number of modifications to the Fiscal code may be found within the following chart:



Interestingly enough, the Fiscal procedure code was modified only 28 times, from its entry into force, in 2003 and to the present day. However, legislative inflation is present, if we look at the amount of procedures enacted for the implementation of the Code, in the form of norms, instructions and the procedures which are over 100, which means that a very substantial amount of norms were imposed on both natural and moral persons. It is very easy to observe that such massive quantities of legal information could only lead to improper enforcement of the law. The number of norms imposed in every year, for the period 2003-2014 is shown in the bellow table:





As it may be observed, the legislative inflation in the fiscal area is quite high, and this produces negative effects for the companies who may find themselves lost in this ocean of regulations and for the state, as the amount of taxes is reduced by tax evasion. Again, there is a need for clear regulations and transparent provisions and all modifications should be made only when a reasonable period of time has passed, in order to allow companies to get accustomed to the new regulations.

From a comparative point of view, legislative inflation is an isolated issue specific only to the Romanian system of law. For example, in France, there were more the 10.000 pages of the Official Journal that were printed, between 1<sup>st</sup> of January 2014 and 30<sup>rd</sup> of June, the same year. ([www.lemonde.fr](http://www.lemonde.fr)) Also, in the doctrine it has been shown that normative complexity costs France 60 billion of euro annually, according to the OECD. (Duțu Mircea, 2015, p. 254) This shows, without any doubt that legislative inflation is a recurring problem in other countries as well. In the United States, the number of regulations rose from three volumes, containing 2.599 pages in 1936 to 36.487 pages in 1978, as it was measured by Milton Friedman. (Friedman Milton, Friedman Rose, 1979, p. 190-191) Although we have no concrete data at this moment on how the legislative inflation affects the activity of the companies and cannot give a specific number regarding costs and supplemental expenses made for the attenuation of legislative inflation, seeing that in France generates expenses of 60 billion euro annually, it is reasonable to believe that in a country with a more young and less developed legal framework, legislative inflation could produce significant economic damages. A further step in this field of research would be to continue and evolve from the theoretical premises included in this paper to a more empirical approach. Although at this moment there are no factual data regarding the losses that companies suffer as a negative effect of legislative inflation, through field research instruments such as interviews and surveys which will hopefully bring to light more information on the economic losses.

## Conclusions

In conclusion, the legislative inflation negatively affects the activities of the companies, both directly and indirectly. Of course, due to the dynamic evolution of the economic system and of the market itself, such inflation cannot be eliminated, but can be successfully alleviated, by drafting predictable and clear norms, which should enter into force after a reasonable period of time since the adoption of the law or since the previous modification of the law. If the laws that regulate the activity of companies would be drafted clearly and transparently, without ambiguous notions and will be limited to a certain amount of essential regulations, thus reducing legislative inflation, Romanian companies will be able to allocate more resources to their own development, instead of wasting such resource on attempts to clarify and interpret the law. Also, we believe that the public authorities should take into consideration, when elaborating and enforcing the regulations, the following aspects: a) creating means and instruments of control over the numbers of new regulations and provisions; b) preemptive evaluation of the impact of regulations and norms; c) periodical revision of the efficiency of norms and regulations; d) reducing and simplifying the regulations and provisions destined for SME (small and medium enterprises); e) improvement of the enforcement of legal measures, both by accurate and transparent information and by providing effective means of assistance for the enterprises; f) reduction of expenses for the implementation of European Union Regulations, Directives et.al. It is also important to consider attracting the participation of the general public to the legislative process, by publicly consulting the subjects of law before enacting and enforcing regulations that may affect their activities. It is also important to evolve, in the process of the participation of general public to the legislative process, from simple and passive public consultation, where state authorities just post on the web sites projects of regulations to effective consultations with the professional bodies and companies representative. To the same end, the communication between the Parliament and the subjects of law, in our case, the companies should improve, as to the practical effects of the laws that are drafted and later enforced. The approach of this paper represents only the beginning of a larger research, which will also try in later works, to assess economically and financially the effects of legislative inflation on companies, and as such, to provide better means and solutions for this problem.

This paper has been financially supported within the project entitled *“Horizon 2020 – Doctoral and Postdoctoral Studies: Promoting the National Interest through Excellence, Competitiveness and Responsibility in the Field of Romanian Fundamental and Applied Scientific Research”*, contract number POSDRU/159/1.5/S/140106. This project is co-financed by European Social Fund through Sectoral Operational Programme for Human Resources Development 2007-2013. **Investing in people!**

## References

- Bernheim B. Douglas, Rangel Antonio (2007), *Behavioral Public Economics: Welfare and Policy Analysis with Nonstandard Decision-Makers*, in ed. Peter Diamond, Hannu Vartianinen, Behavioral Economics and Its Applications, Princeton: Princeton University Press.
- Camerer Colin D., Loewenstein George (2004), *Behavioral Economics: Past, Present, Future*, in ed. Colin F. Camerer, George Loewenstein, Matthew Rabin, Advances in Behavioral Economic, Princeton: Princeton University Press.
- Ciongaru Emilian (2012), *Receptarea jurisprudenței Curții de Justiție a Uniunii Europene în procesul de codificare din statele membre, în Știință și Codificare în România*, Bucharest: Universul Juridic Publishing House.
- Duțu Mircea (2015), *Dreptul: între ipostaze teoretice și avatarurile modernizării*, Bucharest: Universul Juridic Publishing Press.
- Eng Svein (2002), *Legislative Inflation and the Quality of Law*, in ed. Luc Wintgens, *Legisprudence: A New Theoretical Approach to Legislation*, Oregon: Bloomsbury Publishing.
- Friedman Milton, Friedman Rose (1979), *Free to choose. A personal statement*, New York: Harcourt Inc.
- Habermas Jurgen (1979), *Communication and the Evolution of Society*, trans. Thomas McCarthy, Boston: Beacon Press.
- van Hoecke Mark (2002), *Law as communication*, Oregon: Hart Publishing.
- Luhmann Niklas (2012), *Theory of Society*, trans. Rhodes Barrett, vol. 1, Stanford: Stanford University Press.
- Maurer Kathrin (2010), *Communication and Language in Niklas Luhmann's Systems-Theory*, *Pandemonium germanicum*, 16: 1-21.
- Măgureanu Alexandru (2014), *Legal certainty and legitimate expectations*, in *The Proceedings of the International Conference Communication, Context and Interdisciplinarity*, Târgu-Mureș: „Petru Maior” University Press.
- Naschitz Anita M. (1969), *Teorie și tehnică în procesul de creare a statului și dreptului*, Bucharest: Romanian Academy Publishing House.
- Niemesch Mihail (2014), *Teoria generală a dreptului*, București: Hamangiu Publishing House.
- Popa Nicolae (2008), *Teoria generală a dreptului*, 3<sup>rd</sup> Edition, Bucharest: C.H. Beck Publishing House.
- Popescu Sofia (1998), *Statul de drept în dezbaterile contemporane*, Bucharest: Romanian Academy Publishing House.
- Teubner Gunther (1987), *Introduction to Autopoietic Law*, in *Autopoietic Law: A New Approach to Law and Society*, Berlin: de Gruyter.
- Tutunaru Mircea (2014), *Study on Real and Formal Sources of Law*, in *Challenges of the Knowledge Society*, Bucharest: Nicolae Titulescu Publishing House.
- Encyclopædia Britannica Online, s. v. "inflation", accessed iunie 11, 2015, <http://www.britannica.com/EBchecked/topic/287700/inflation>.
- Encyclopædia Britannica Online, s. v. "business organization", accessed iulie 05, 2015, <http://www.britannica.com/topic/business-organization/The-impact-of-the-large-company>.
- [http://www.lemonde.fr/les-decodeurs/breve/2015/01/26/l-inflation-legislative-depuis-40-ans-resume-en-un-graphique\\_4563734\\_4355770.html](http://www.lemonde.fr/les-decodeurs/breve/2015/01/26/l-inflation-legislative-depuis-40-ans-resume-en-un-graphique_4563734_4355770.html), accessed iunie 11, 2015.



# THE SOCIAL AND ECONOMIC FACTORS INFLUENCE UPON THE HEALTHCARE SERVICES CONSUMERS BEHAVIOR

**Daniel Adrian GÂRDAN**, Lecturer Ph.D.

*Spiru Haret* University, Faculty of Marketing and International Business  
postdoctoral student, Institute of World Economy-Romanian Academy  
E-mail: danielgardan@yahoo.com

**Iuliana Petronela GÂRDAN (GEANGU)**, Lecturer Ph.D.

*Spiru Haret* University, Faculty of Marketing and International Business  
postdoctoral student, Institute of National Economy-Romanian Academy  
E-mail: geangupetronela@yahoo.com

## Abstract

*The research in the field of healthcare services consumer behaviour represents a very complex task with multiple implications. The consumer behaviour is much nuanced depending on the type of services or products that we are referring on. In the case of healthcare services, the behaviour is more complex than other services and is influenced mainly by special motivations like the need for a proper health status or the need to recover from a certain disease. The present article is proposing a qualitative type research as an in-depth interview with dentists regarding their perception about the influence that social and economic factors can have upon the consumers' behaviour. The results of the research suggest that the influence of social factors is very complex, from the simple more intense concern related with dental hygiene and appearance of teeth up to anxious behaviour and isolation in the case of patients with severe dental diseases that have affected their face bones structure or the capacity to chew and speak. These findings shows that the consumers' behaviour can be shaped by the complex interaction of different factors, and the response from dentists and those in charge with the provision of dental healthcare services can make the difference between a sustainable consumption and a dramatic route of unsatisfied consumers' expectations.*

**Keywords:** *consumer behaviour, dental healthcare services, social norms, self-image*

**JEL Classification:** I<sub>10</sub>; I<sub>11</sub>; I<sub>15</sub>; M<sub>31</sub>

## Introduction

The study of healthcare consumer behaviour can be very useful in the context of the need to develop and improve the medical systems at the level of any economy. The process of delivering healthcare services is complex and it is depending on a multitude of factors, at macroeconomic and microeconomic level in the same time. Still, knowing how the consumer behaviour process is taking form

and what are the factors that are shaping this process can be of a great help to assure a higher efficacy of institutional and managerial decisions regarding the healthcare services provision.

The healthcare services consumption will be influenced by a complex layer of factors. Still we may identify three principal layers as follows (Rebhan P. David, 2008, p. 8)

- Health care access factors
- Culture related factors
- Social network related factors

From the category of health access related factors we may consider: economic factors, physical and social resources, geographic resources, diversity of health services in the area. It implies all the costs to access effectively the healthcare (the cost of the services itself, transportation, taxes, etc.)

From the category of culture related factors we may find: perception of illness, illness severity, confidence in effectiveness of a treatment,

In the category of factors related with social networks we may find the way that the individual is reporting himself to a heteronomous self-image or to an autonomous self-image. In completion, specialists talk about parochial social networks – the ones that are traditional, close in affiliation, reluctant to accept new information or cosmopolitan networks that are more open to new information, more progressive. An individual will consult his own social network being influenced in his decision about healthcare services utilization and even in the way that he or she conceptualize this consumption.

### **Literature review**

The different factors that are influencing and shaping the consumer behaviour have to be studied in an interconnected manner because different type of influences are manifesting in the same time and the consumers psyche is processing the stimuli in a random manner.

When we talk about social influences at the level of consumer behaviour we talk about product or services brands which provide in terms of consumer perception a certain social status and have the ability to communicate information about their owners and their capacity of social networking. Within social groups and not only, it is possible that each individual will assume different roles. This will result in different social statuses perceived as such by the ones around.

The social status is reflected in the unique role that the individual must play within the society. Each such role will include a series of activities that the other members of society expect from a person who has a certain status. Thus, each role assumed by an individual has a certain influence on consumer behaviour. The social status is also associated with a certain level of respect that other members of the society are willing to associate with. People will tend to consume products or services which are capable to highlight their status and function as true "messengers" of its value (Vigneron Franck, Johnson Lester, 1999, p. 3). So, when a person is accepting a certain status, regulatory pressure will have certain effects

on that person causing a certain behaviour and a number of specific actions. In order to understand the complexity of the phenomenon referring to the interpersonal relationship of the consumers with other persons, scientists have defined and used the concept of "self-consciousness", borrowed from the social psychology. This is seen as a consumer's response to social influence – a consistent trend of people to target their attention inward or outward (Allan Fenigstein, Michael F. Scheier, Arnold H. Buss, 1975, p. 526). From this perspective, people will be divided into two major types: people publicly self-conscious and people with self-consciousness. The first category will be particularly concerned about how they appear to others, while the second category will focus more on their own thoughts and feelings.

Studies have shown that consumer behaviour can vary according to their susceptibility to interpersonal influence (Bearden William, Netemeyer Richard G., Teel Jesse E., 1989, p. 473-481). Thus it becomes clear idea that status plays vital role in communicating information about its owners and their social relations. (Dittmar Helga, 1994, p. 561-585).

A number of authors have shown that, when talking about conspicuous consumption, usually associated with prestige products or services, it is strongly motivated by the desire of individuals to transmit their social status to the others. In this regard, since 1889, Thorstein Veblen argued in his works that conspicuous consumption is used by people to signal wealth and therefore power and status. (Vigneron Franck, Johnson Lester, 1999, p. 5).

Similarly, other studies have revealed that most consumers will use high prices as a reliable indicator of prestige associated with them. (Berkowitz Eric N., Kerin Roger A., Hartley Steven W., Rudelius William 1992, p. 37).

All these lead us to believe that in case of dental healthcare services consumption, a very high level of prices, combined with exclusive services (dental aesthetics, rhinestones fitting on teeth etc.) leads to the manifestation of a purchase behaviour and consumption oriented largely by ostentatious consumption wishing to assert also the social status of the person concerned.

Consumer motivations for dental health services, being in the field of the need to improve self-image, of the level of appreciation from others are also decisive for behaviours that become sometimes atypical (relative to purchasing power or other repetitive consumer decisions which the persons concerned can manifest).

Also, given the strong emotional involvement that dental healthcare services is about, consumers will tend to seek the approval of others and to integrate themselves from this perspective into the mainstream of opinion of the reference or membership groups.

In general, any medical service will be recorded in zone of consumer acts that are strongly influenced by family members or acquaintances opinions, because of the pressure manifested at the level of consumer decisions (advanced state of the disease, state of emergency, strong health implications etc.).

Thus the need for information from members of reference groups about their experiences of consumption is much higher than for other products or services. At

the same time, the connection to the norms and values of the group implies an intense communication with the group members and receipt of confirmation to assess the pertinence of the decisions taken.

Consumer behaviour is a complex mix of processes being interrelated with each other. Also it can be highlighted that it is the result of exogenous external factors from outside the individual, and in the same time internal ones, endogenous.

Processes such as perception, motivation, learning, attitudes formation and personality are interrelated and defining for the behaviour expression. Thus the deducted influences – family, belonging groups and reference groups, social class, culture and subculture, which are exogenous in nature will correlate with endogenous factors enumerated above.

Various economists have pointed out that social and economic systems will not only create products, services and perceptions related to them, but will “create and recreate individuals”.

These ones not only change their goals and consumption preferences but, due to the intense mediatic pressure and intense promotion will review their skills and perceptions in relation to their own needs. (Hodgson Geoffrey M., 2003, p. 164). It can be highlighted the fact that the learning process itself determine possible changes of individuals personality and how they perceive, understand and update their needs. Thus the consumer behaviour becomes a continuum that involves multiple transformations and a perpetual reporting to the environmental changes. As a result, social influences exerts its action on several fronts – exogenous through the direct influence upon individuals and their response to better integrate within all the rules of a group (belonging or reference one), endogenous through means of complex processes of changing preferences and needs, as an result of various pressures related with social conventions and joint action of cultural nature elements.

In terms of healthcare services consumption, these social interactions acquire new meanings, given by the specificity of healthcare services and the needs that are behind consumption motivations. The choices that healthcare services consumers do, the behaviour which relates to the influence groups, change and contribute in the same time to the evolution of medical system and institutions that are governing the provision of these services.

Thus, on long term, the consumption process will self-regulate, and the efficiency of provisions will increase towards the better serving of the social interest. All the spectacular transformation at the level of modern medical technologies, the methods and state of the art treatment techniques stand as a testimony to the way in which social needs combined with individual health care needs of individuals have shaped this area and continue to shape it.

### **Research methodology**

The research was a qualitative type survey, of an in-depth interview, taking into consideration a final sample of 28 respondents, selected with the help of a



selection questionnaire according to the in-depth interviews methodology. The respondents are dentists, in equally proportions regarding the sex, age and the managerial position within the dental office or clinique.

The interviews have been conducted in the doctors' offices due to respondent's lack of time and current tasks in which they are involved. Discussions have been recorded in order to obtain finally the information required for the content analysis and interview topics analysis.

The purpose of the in-depth interview was defined as being determining dentists' perception upon the changes of dental healthcare services consumer behaviour due to the influence of socio-economic factors. According to this purpose have been defined the following research objectives:

- Identifying dentists' opinions regarding the belonging and reference groups influence upon the consumers behaviour
- Determining the dentists' perception regarding the possible modifications of the consumer behaviour following the changes related with patients self-image
- Determining the dentists' perception regarding the influence given by the social class, social status and cultural customs upon dental healthcare services consumers
- Identifying the dentists' perception to the attitude changes of the patients undergoing a longer treatment
- Determining the dentists' opinion in relation with the influence that has on patients, the relationship with the doctors or other medical type staff categories.
- Determining the dentists perception on the effect of income, services access, education categories of economic factors upon patients

For every each objectives identified, was issued a discussion topic within the interview guide. The order of the topics during the interview was made in order to obtain a proper staging of the discussion and help the respondents to

### **Conclusions of research**

Analysing the information gathered through the interviews, the data collected was transformed in categorized information using the transcripts of video-audio recordings. Some general observations can be made: the vocabulary utilized by the doctors is specific to their professional orientation, it was observed a high availability for the interview, the majority of the respondents being cooperative and willing to talk deeply about the proposed topics. The doctors have been very malleable and specifically interested in the topics addressed.

In the following we will present some of the main research findings, organized by topics:

- The majority of respondents have considered that an influence of the family, friends or colleagues is present upon the patients' decision regarding the healthcare services consumption for a particular dental office. The most opinions have taken into consideration the influence the influence of the family seen as a direct result of the interaction with the life partner. A greater proportion of the doctors consider that the influence of wives upon their husbands is bigger than the

opposite. Besides this type of influence, doctors consider that the influence of an opinion leader from the group is also presented and also the influence of a person that is emotionally strong attached by the patients.

Little of the respondents agreed that is possible to exist an influence of an entire group upon a particular patient (meaning that if all members of the group are going to the same dental office, the patient that is a member of this group has also to comply with the group norms and take the decision to go to the same dental office)

– The situation in which an entire belonging group is the consumer of a certain dental office services is very isolated. From the total of 28 respondents, only three have said that have had cases in which all the family members come together to the check-ups.

– The way that patients are perceived by the other groups members is affecting differently the consumers behaviour, being possible to identify the following patterns:

✓ The case of patients with minor dental problems and that are coming in time to treatment – in this case the influence is minimal, being only the manifestation of a general opinion like "I am considered a more serious person that is concerned by his health"

✓ The case of patients which have medium dental problems, visible enough (yellowed teeth, missing teeth etc.). These are visible affected by the acquaintances opinion referring to their dental aesthetic, have communication and adaptation problems. There have been 6 respondents that said that they have had patients which they weren't involve in a dental long time treatment because of the psychological bad disposition induced by the persons from the close acquaintances. These patients have motivated through the lack of confidence in the treatment – mental state induced by the family members – according to the dentists.

✓ The case of patients with severe dental diseases (malformations, changes of the face bones structure etc.). The interviewed dentists said that, without exception, in these cases there are visible signs of isolation and adaptation difficulties of this patients to the interaction with other persons. Opinions and believes were expressed referring that the people are anxious, depressive and with relationship difficulties.

– From the perspective of influences given by the working colleagues regarding the aspect of the people that are attending dental offices, we can talk again about particular situations. The dentists surveyed consider that the patients that have a certain professional status – managers, management functions etc., are more influenced by peer opinion than others who do not have such positions. Also, this influence is maximal in the case of people engaged in public activities such as – actors, singers etc. People with more serious dental disease have difficulties adapting to their professional environment, being reported in these situations, cases of work abandonment. There were also respondents who said they could not provide any information related to this topic, which shows either communication difficulties from apart dentists or a high degree of frustration and isolation from apart the patients.

– Regarding the importance of self-image, dentists have found that, in most cases, this matter especially for younger people. Also people that are suffering from diseases at the level of the jaw are extremely affected and sensitive.

– Dentists believe that medical treatment could significantly improve the mental state of the patients. In the case of interventions specific to dental surgery, which restore up to 80-90 % of the chewing ability and talking ability also, the patients return to regular checks and keep in touch with doctors. Dentists believe that for more educated persons even less serious dental diseases causes a proactive behaviour, they begin to be interested in routine checks and possible complications. Also dentists were able to see an improvement in self-image, especially for women patients and for those with problems that are visible for the others (discoloured teeth, yellowed or missing teeth, difficulty in pronunciation). This indicates that, in fact, the patients' self-image is largely correlated with the perception of the other members of the social groups to which they belong.

– Referring to the social status of the patients and if this affect them regarding their consumption of dental healthcare services, a part of the dentists have declared that they cannot pronounced firmly not being preoccupied to observe this aspect. However, the vast majority believes that social status represents an important element for the high and very high income consumers segment and a level of education above average. In few isolated cases there have been reported patients who have chosen a particular dental office because „here comes the quality people” – which denotes a particular concern for affirming their own status.

– Some dentists have had difficulty in defining the concept of social class, considering that this concept is not applicable to Romanian society nowadays. Their perception is that there are no more very clearly defined social classes. The other respondents judge the existence of social classes through the level of income, education and occupation. From this perspective, all the dentists who thought that it was still possible to speak about a ”layering” of the population in social classes were of the opinion that the most important criterion that distinguishes dental healthcare services consumer behaviour is represented by education followed by occupation. Thus, patients with superior education are those most involved in routine checks and consider that the communication with the dentist is very important. Also, the occupations considered important have been the ones correlated with education: intellectuals, doctors, teachers, engineers and employers.

– Dentists have nuanced opinions about the attitude of patients after they participate to prolonged treatments. They assume in general that the long-term treatments have contributed decisively to the self-perception modification for the persons with serious illness and for children. It also revealed that women are more prone than man to change in a positive manner their perception after a longer treatment

– In line with the answers referring to the self-perception and attitude modification after a longer treatment, the behaviour changes of these patients are visible. Without exception, all respondents agreed that one can see significant changes in consumer behaviour which have made improvements about their oral health. The changes observed by dentists can be summarized as follows:

- better mental tone
- more confidence in themselves
- become more communicative with the dentist
- become very interested in dental treatment
- become influencers for people in the entourage (family, friends and colleagues)
- are willing to try new methods of oral hygiene and prevention recommended by the doctor

– The general view is that consumers have become lately more demanding and more sensitive to how the doctors are communicating with them in the dental office. In case of doctors coming from larger clinics, they are convinced that the dialogue between patient and front-desk is very important. Using a polite language with a professional attitude is considered by all the dentists a prerequisite for any cabinet or clinic. Some respondents said they have had patients that dropped the services of another dental office because medical staff communication and behaviour deficiencies.

– Vast majority of dentists surveyed consider that is very important in the present the relationship they are developing with patients. Dentists believe they mainly perform medical acts that have a profound human substrate, which involves paying attention to each patient and his problems. There were few responders who said that they had patients who were becoming very close and which are cultivating the human relationship beyond the professional status. Also there have been cases where patients are loyal to the doctor and they are asking for the dental services provided by him regardless the office in which the doctor is working currently. The patients that are attached to the relationship that they have with their doctor have declared to him that they tried to convince the family members or acquaintances to seek routine checks with a prevention role. This shows their willingness to take active social roles as a dental healthcare services consumers.

– As we show above dentists have reported changes in behaviour and attitude of consumers. They are more likely to try new forms of preventive treatment or sanitation, especially in more severe cases who participated in longer treatment under the supervision of the same dentist.

– When asked to what extent they tried to manage the consumer's behaviour, dentists said that they did not have a particular concern to influence the behaviour of their consumers. It seemed normal for them to have a professional dialogue if they were asked for additional information or advice in the administration of some adjuvant drugs for dental treatments.

– The general opinion regarding the influence of economic factors is clearly oriented toward a direct influence of them. Without exception, all respondents believe that the frequency and type of dental treatment consumed by the patients are extremely influenced by the income variation. More than half of the respondents said in the interview that they have seen a decrease in consumer demand, immediately after the onset of the financial crisis in late 2008 with improvements after 2010. At the same time, there are some people who said they

had patients who have expressly requested that the payment of benefits can be realized in instalments.

– Talking again about the influence related with the education upon the consumers' behaviour, most dentists have agreed that education remains one of the most important factors. People with higher education have a behaviour characterized by the need for additional information, preference for an active dialogue with the dentist, greater availability to listen to his advice and trying new treatment options if necessary.

– Although the most important factor in the economic category was considered as represented by consumer income, there were a number of respondents who completed with the job security, especially in the case of patients who were interested in phased payment of medical benefits.

– Overall economic conjuncture contributes indirectly to purchasing power and a certain behaviour of dental healthcare services consumers. Also, dentists have reported a few cases where, although the patient didn't have very high incomes, they have made substantial efforts to get appropriate treatment.

### **Future research directions**

Studying the influence of social and economic factors upon the consumer behaviour is a complex task that needs in our opinion a multidisciplinary research. The qualitative exploratory research presented within this article has succeeded to put into the light only some aspects, limited to the consumption of dental healthcare services. As someone would try to investigate other types of healthcare services, the factors and the implications at the level of consumer behaviour could become very different. We assume this because of the complex interaction between patients and different types of diseases, treatment schemes and medical technologies. Also if we resume only at the dental healthcare domain, in order to fully identify the effect of social factors, for example we believe that a longitudinal research effort is imposing. Individuals have to be observed along multiple social interactions and the dynamic of these interactions in time can offer new perspectives about the way in which the consumption behaviour is influenced. Also we consider that future research is needed in order to determine better the connections between social factors and culture of individual, the cultural traits and subculture customs that are defining the way in which an individual interact with the society in a particular geographical location.

This paper has been financially supported within the project entitled “*Horizon 2020 – Doctoral and Postdoctoral Studies: Promoting the National Interest through Excellence, Competitiveness and Responsibility in the Field of Romanian Fundamental and Applied Scientific Research*”, contract number POSDRU/159/1.5/S/140106. This project is co-financed by European Social Fund through Sectoral Operational Programme for Human Resources Development 2007-2013. **Investing in people!**

## References

- Bearden William, Netemeyer Richard G., and Teel Jesse E. (1989) "Measurement of Consumer Susceptibility to Interpersonal Influence", *Journal of Consumer Research*, Vol. 15, no. 4, p. 473-481.
- Berkowitz Eric N., Kerin Roger A., Hartley Steven W., and Rudelius William (1992), *Marketing*, 3<sup>rd</sup> ed., Irwin: Homewood IL.
- Bray Jeff P. (2008) *Consumer Behaviour Theory: Approaches and Models*. Discussion Paper, [http://eprints.bournemouth.ac.uk/10107/1/Consumer\\_Behaviour\\_Theory\\_-\\_Approaches\\_%26\\_Models.pdf](http://eprints.bournemouth.ac.uk/10107/1/Consumer_Behaviour_Theory_-_Approaches_%26_Models.pdf): 1-33.
- Cătoiu Iacob (coord.) (2009) *Cercetări de marketing – Tratat*, București: Editura Uranus.
- Chiu Yu-Jing, Hsiao-Chi Chen, Gwo-Hshiong Tzeng, and Shyu Joseph Z. (2006) "Marketing strategy based on customer behaviour for the LCD-TV." *International Journal of Management and Decision Making*, vol. 7, no. 2: 143-165.
- Cohen Joel B., and Areni Charles S. (1991) "Affect and consumer behavior", *Handbook of consumer behavior*, vol. 4, no. 7: 188-240.
- Dittmar Helga (1994), "Material Possessions as Stereotypes: Material Images of Different Socio-Economic Groups", *Journal of Economic Psychology*, vol. 15, no. 4: 561-585.
- Fenigstein Allan, Scheier Michael F., and Buss Arnold H. (1975) "Public and Private Self-Consciousness: Assessment and Theory", *Journal of Consulting and Clinical Psychology*, vol. 43, no. 4: 522-527.
- Hawkins I. Del, and Mothersbaugh L. David (2010) *Consumer behavior – building marketing strategy*, 11<sup>th</sup> edition, Boston: McGraw-Hill Irwin.
- Hodgson Geoffrey M. (2003) "The Hidden Persuaders: Institutions and Individuals in Economic Theory", *Cambridge Journal of Economics*, vol. 27, no. 2: 159-175.
- Howard John A. (1994) *Buyer behavior in marketing strategy*. 2<sup>nd</sup> edition, Englewood Cliffs, New Jersey: Prentice Hall.
- Howard John A., and Sheth Jagdish N. (1969) *The theory of buyer behavior*, New York: John Wiley & Sons Inc.
- Loudon David L., and Della Bitta Albert J. (1993), *Consumer behavior: Concepts and applications*, New York: McGraw-Hill.
- Malhotra K. Naresh, and Peterson Mark (2006) *Basic Marketing Research. A decision-making approach*, second edition, New Jersey: Pearson Education.
- Rebhan David P. (2008) "Health Care Utilization: Understanding and applying theories and models of health care seeking behaviour", *Case Western Reserve University*: 1-19.
- Sharma Kapil (2009) *Marketing management. How to create, win and dominate markets*, New Delhi: Global India Publications Pvt Ltd.
- Solomon Michael R., Rosemary Polegato, and Zaichkowsky Judith Lynne (2009), *Consumer behaviour: buying, having, and being*, Upper Saddle River, New Jersey: Pearson Prentice Hall.
- Vigneron Franck, and Johnson Lester W. (1999) "A review and a conceptual framework of prestige-seeking consumer behavior." *Academy of Marketing Science Review*, vol. 1, nr. 1: 1-15.

# COMPARATIVE STATISTICAL ANALYSIS OF GENDER EQUALITY ON THE LABOUR MARKETS OF ROMANIA AND EU28<sup>1</sup>

**Daniela PAȘNICU, Prof. PhD**

*Spiru Haret University*

National Scientific Research Institute for Labour and Social Protection

E-mail: danielapasnicu@yahoo.com

## **Abstract**

*To achieve the employment target set in the Europe 2020 Strategy is necessary that women's potential and talent to be used optimally. Increasing employment for both men and women is the main way to achieve autonomy, financial independence and poverty reduction.*

*This paper presents a comparative statistical analysis of gender equality on the labour markets of Romania and EU28 based on official statistics records and specific key labour market indicators. The aim was to highlight the gender gap on activity rates, employment rates by age, work time and unemployment rate, including long-term unemployment. The analyses undertaken shows that in the last ten years activity and employment rates of women in Romania had a slightly decreasing trend, while at the EU28 level had an upward trend, which led to the widening gap than the average EU28. The gender gap for the same indicators rose in the period under review, in the case of Romania, while at the EU28 level decreased.*

**Keywords:** *gender gap, gender equality, employment rate, unemployment rate, activity rate*

**JELL Classification:** J<sub>16</sub>, J<sub>21</sub>

## **Introduction**

European Union committed by the Treaty of Amsterdam (1999) to promote equality between women and men and to integrate it in the community activities at all levels. In the European Strategy for equality between women and men, for the period 2010-2015 are described concrete actions for each priority area, in a twin-track approach, combining mainstreaming equal opportunities with specific measures. The five priority areas of the strategy are: equal economic independence; equal pay for equal work and work of equal value; equality in decision-making; dignity, integrity and termination the gender-based violence; equality between women and men in external actions. In addition to the five priority areas in the Strategy are presented a series of cross-cutting issues, including the need to develop an annual report on gender equality. The equality of opportunity and

---

<sup>1</sup> This paper is supported by Project ProFemin, POSDRU/144/6.3/S/126567.

treatment between men and women means taking into account the capacities, needs and aspirations of different males, respectively, female and their equal treatment.

The presence of more women in the labour market may counterbalance the effects of the diminishing population of working age on the sustainability of social protection systems, enhancing in the same time human capital base and creating competitiveness. European employment objective of 75% of people aged between 20 and 64, set in the Europe 2020 strategy will can be achieved only if more women participate in the labour market. In order to increase their employment in the National Strategy for Equality between Women and Men for the period 2014-2017 it is outlined the need that policies to remain focused on the use of untapped potential, or under-exploited, of the women who are outside of the labour market or who do not exploit their full potential of the labour market. In Romania, equal opportunities and equal treatment between women and men is a fundamental principle of human rights, implemented at legislative and public policies level. This principle is established in Law no. 202/2002 on equal opportunities and equal treatment between women and men, republished in 2013, which governing measures for promoting equal opportunities and equal treatment between women and men in all spheres of public life from Romania.

### **Recent studies on the progress of gender equality**

The summary report on the impact of the economic crisis on gender equality (Francesca Bettio, Marcella Corsi, et other, 2012) identified four main conclusions, namely: 1) reduction in the recession period of the gender gap on employment, unemployment, wages and poverty, but without reflecting progress on gender equality as long as reducing the gender gap is based on lower employment rates, higher unemployment rates and lower earnings for both men and women; 2) during the economic crisis the behaviour of women on the labour market was similar to that of men; 3) reduction in the recession of the gender gap on poverty as a result of social transfers; 4) to most countries gender mainstreaming has not been implemented in the economic policies during the crisis period. In response to the economic crisis it is estimated that the impact of gender was taken into account at all stages of policy in about a tenth of policy initiatives implemented in the National Reform Programs.

In Report on progress on Equality between Women and Men in 2013 (European Commission, 2014) stresses that progress has been made in most areas, “but uneven year achieved at peace.” At this rate of change will take almost 30 years to achieve the target that 75% of women be employed in the labour market, over 70 years to make equal pay a reality, over 20 years to achieve parity in national Parliaments, over 20 years to reach equilibrium in the steering Committees of the largest companies in Europe and almost 40 years to achieve gender equality in solving housework.



## Evolution of activity rate, employment rate and unemployment rate by sex

### *Comparative analysis at Romania and EU28 level*

Analysing the data in Table 1, we see that activity rates for women are much lower in Romania than those recorded in the EU28, in 2013 they reached values of 66% in the EU28, and 56.5% in Romania. The gap between the activity rates of women registered in the EU28 and Romania increased in the period under review from 2.8 p.p. in 2002 to 9.5 p.p. in 2013. The gap between the activity rates of men from Romania and EU28 registered lower values compared to those of women, reaching a maximum of 7.9 p.p. in 2005 and a minimum of 5.3 p.p. in 2013. Evolution of the activity rate for women in Romania had a decreasing trend, reaching a decrease of 1.1 p.p. in the period under review. In the EU28 is recorded for the same period an increase in the activity rate for women by 6.7 pp. Regarding gender differences recorded in Romania and EU28, they have increased in Romania with 2.8 p.p., while in the EU28 they fell with 4,4p.p.

Female activity rate decreased between 2002 and 2013 in Romania, while in the EU28 increased by 5.6 p.p. For the other intervals analysed, namely 2008 to 2013 and from 2010 to 2013 activity rates increases in Romania for female were lower than those recorded in the EU, while the values recorded for increases of the male activity rate are superior in Romania's case.

**Table 1. Evolution of activity rate for working age population (15-64 years) by gender, during 2002-2013 (%)**

Years	Activity rate											
	Romania				EU28				Gap to EU28			
	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap
2002	64,2	57,6	71,0	13,4	68,6	60,4	76,8	16,4	4,4	2,8	5,8	3,0
2003	63,4	56,7	70,2	13,5	68,9	61,0	76,8	15,8	5,5	4,3	6,6	2,3
2004	63,9	57,2	70,8	13,6	69,2	61,5	76,9	15,4	5,3	4,3	6,1	1,8
2005	62,3	55,3	69,4	14,1	69,7	62,2	77,3	15,1	7,4	6,9	7,9	1,0
2006	63,6	56,6	70,7	14,1	70,2	62,9	77,5	14,6	6,6	6,3	6,8	0,5
2007	63,0	56,0	70,1	14,1	70,4	63,2	77,6	14,4	7,4	7,2	7,5	0,3
2008	62,9	55,2	70,6	15,4	70,7	63,7	77,8	14,1	7,8	8,5	7,2	-1,3
2009	63,1	55,4	70,9	15,5	70,9	64,1	77,7	13,6	7,8	8,7	6,8	-1,9
2010	63,6	55,8	71,5	15,7	70,9	64,4	77,5	13,1	7,3	8,6	6,0	-2,6
2011	63,3	56,0	70,7	14,7	71,1	64,8	77,5	12,7	7,8	8,8	6,8	-2,0
2012	64,2	56,4	72,1	15,7	71,7	65,5	77,9	12,4	7,5	9,1	5,8	-3,3
2013	64,6	56,5	72,7	16,2	72,0	66,0	78,0	12,0	7,4	9,5	5,3	-4,2

**Source:** author processing based on Eurostat data, LFS, [lfsa\_argan]

Analysing the data in table 2 we see that employment rates in Romania both in total and by gender, are lower than those recorded in the EU28. The gap of activity rate for women recorded in EU28 and Romania, has increased significantly in the period under review, reaching in 2013 at 6.2 p.p., being higher than for men

(2.6 p.p.). Gender gaps in employment rate have increased in Romania, while it decreased in the EU. In Romania, the gender gaps reaching in 2013 at value of 14.2 p.p., with 3.6 p.p. higher than in the EU28. The decrease in the employment rate of women more than men in Romania can be observed especially after 2008, showing that women were more affected by the economic crisis compared with men.

Female employment rate in Romania recorded a decrease of 0.2 p.p. in the period 2013/2002, while in the EU28 level is a significant increase, with 4.4 p.p. In the period 2013/2008 there were not increases for the EU and for Romania the increases was insignificant, 0.1 p.p., a sign that the economic crisis has not yet been fully improved. In the period 2010-2013 is a slight increase of this in Romania and in EU 28. Male employment rate has been growing in Romania for all periods analysed, while in the EU it registered decreases, the most significant being the period 2013/2008. It can be concluded that economic crisis affected at the EU28 level mainly the male population, unlike the situation in Romania.

**Table 2. Evolution of employment rate for working age population (15-64 years) by gender, during 2002-2013 (%)**

Years	Employment Rate											
	Romania				EU28				Gap to UE28			
	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap
2002	58,6	52,8	64,5	11,7	62,3	54,4	70,3	15,9	3,7	1,6	5,8	4,2
2003	58,7	52,8	64,7	11,9	62,6	55,0	70,3	15,3	3,9	2,2	5,6	3,4
2004	58,7	53,5	64,1	10,6	62,7	55,3	70,2	14,9	4,0	1,8	6,1	4,3
2005	57,6	51,5	63,7	12,2	63,4	56,0	70,8	14,8	5,8	4,5	7,1	2,6
2006	58,8	53,0	64,6	11,6	64,3	57,2	71,6	14,4	5,5	4,2	7,0	2,8
2007	58,8	52,8	64,8	12,0	65,3	58,1	72,4	14,3	6,5	5,3	7,6	2,3
2008	59,0	52,5	65,7	13,2	65,7	58,8	72,7	13,9	6,7	6,3	7,0	0,7
2009	58,6	52,0	65,2	13,2	64,5	58,4	70,6	12,2	5,9	6,4	5,4	-1,0
2010	58,8	52,0	65,7	13,7	64,0	58,1	70,0	11,9	5,2	6,1	4,3	-1,8
2011	58,5	52,0	65,0	13,0	64,2	58,4	70,0	11,6	5,7	6,4	5,0	-1,4
2012	59,5	52,6	66,5	13,9	64,1	58,6	69,6	11,0	4,6	6,0	3,1	-2,9
2013	59,7	52,6	66,8	14,2	64,1	58,8	69,4	10,6	4,4	6,2	2,6	-3,6

**Source:** author processing based on data Eurostat, LFS, [lfsa\_ergan]

Analysing the data in Table 3 it can be seen that the unemployment rate is higher in the EU28, compared to that in Romania. The situation in Romania is slightly unusual, given that the employment rate among women is below average EU28 with 9.5 p.p., and the unemployment rate is also lower with 6.2 p.p. This means that a share important of women are housewives, went to work abroad or not appearing as people looking for a job. The gender gap in unemployment rate in Romania is higher than in the EU28, illustrating the limited employment opportunities for men. Unemployment increased in the EU 28 in all analysed periods, both women and men. A significant increase was recorded in EU in the period 2013/2008, respectively for men 3.3 p.p. and 4.3 p.p. for women. In Romania there have been increases both women and men only for the period

2013/2008, most significant for women and much lower than those recorded in the EU28. It can be seen that in Romania women were more affected by unemployment than men, while in the EU, men were more affected than women.

Table 3. **Evolution of unemployment rate for working age population (15-64 years) by gender, during 2002-2013 (%)**

Years	Unemployment rate											
	Romania				EU28				Gap to UE28			
	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap	Total	Women	Man	Gender gap
2002	8,8	8,3	9,1	0,8	9,1	10,0	8,4	-1,6	0,3	1,7	-0,7	-2,4
2003	7,4	6,8	7,8	1,0	9,2	9,9	8,6	-1,3	1,8	3,1	0,8	-2,3
2004	8,1	6,5	9,4	2,9	9,3	10,0	8,8	-1,2	1,2	3,5	-0,6	-4,1
2005	7,5	6,8	8,1	1,3	9,1	9,8	8,4	-1,4	1,6	3,0	0,3	-2,7
2006	7,6	6,4	8,5	2,1	8,3	9,1	7,7	-1,4	0,7	2,7	-0,8	-3,5
2007	6,8	5,7	7,6	1,9	7,2	8,0	6,7	-1,3	0,4	2,3	-0,9	-3,2
2008	6,1	5,0	7,0	2,0	7,1	7,6	6,7	-0,9	1,0	2,6	-0,3	-2,9
2009	7,2	6,2	8,0	1,8	9,0	9,0	9,1	0,1	1,8	2,8	1,1	-1,7
2010	7,6	6,9	8,2	1,3	9,7	9,7	9,8	0,1	2,1	2,8	1,6	-1,2
2011	7,7	7,1	8,2	1,1	9,8	9,8	9,7	-0,1	2,1	2,7	1,5	-1,2
2012	7,3	6,7	7,8	1,1	10,6	10,6	10,6	0,0	3,3	3,9	2,8	-1,1
2013	7,6	6,9	8,1	1,2	11,0	10,9	11,0	0,1	3,4	4,0	2,9	-1,1

Source: author processing based on data Eurostat, LFS, [lfsa\_urgan]

Gender gap curve of unemployment rate for Romania has a downward trend after 2008, explained by the sharp increase in the unemployment rate for women than men in this period. This can be explained by greater employment of women in jobs with a higher degree of volatility, due to the outbreak of the economic crisis which led to a deterioration of employment of women compared to men. We can see that despite the measures taken in the period under review to reduce the gender gap on employment, the employment gender gap is maximum values, marking a deterioration of labour market conditions for women.

### **Comparative analysis of the evolution of the employment rate by sex and age in the RO and EU28**

The values recorded for men and women employment rate in the three age ranges considered are superior at EU28 level, graph 1 and graph 2.

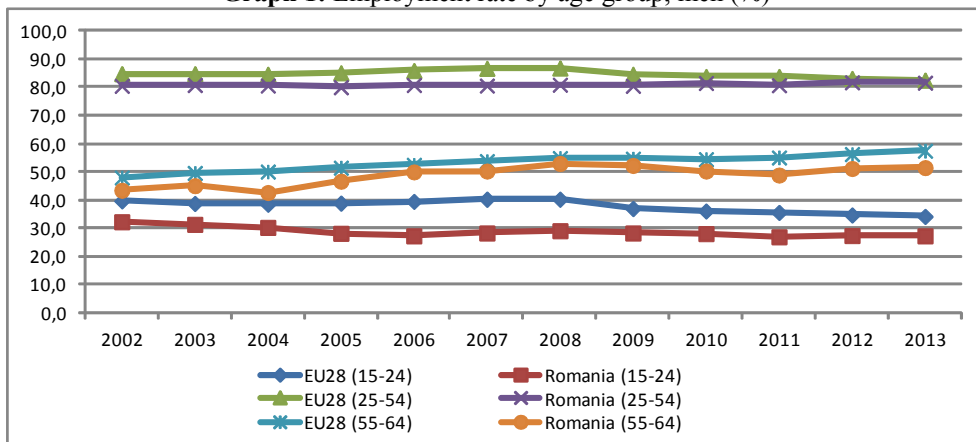
By age groups, the employment rate for men and women recorded the highest values for the age group 25-54 and lowest values for the age group 15-24 years. Man employment rate for the age group 25-54 years has approximately constant trend in the period considered, the values hovering between 80% and 81.7%, in 2013 reaching at 81.6%, with 0.9 p.p. under the value registered at EU level.

Men employment rate for the age group 55-64 records values in the range 42.7% and 53% for Romania and somewhat higher for EU, ranging between 48% and 57.5%. The trend is slightly upward curves for both Romania and the EU, with a maximum in 2008, in the case of Romania and in 2013, in the case of EU. The

fact that employment declined in Romania in the period 2008-2013 with 1.5 p.p., compared with EU level, where it increased with 2.6 p.p. indicates that the population of this category was most affected in Romania by economic crisis compared to the EU level. The same trends can be observed in the case of women, where the increase in EU 28 was 6.6 p.p. and decrease in Romania was 1.7 p.p.

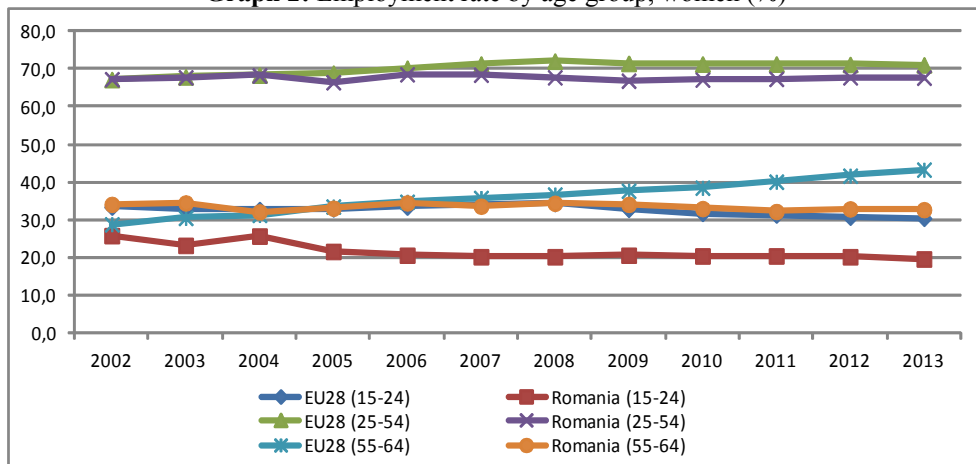
The values of men employment rate for the 15-24 age group are in the range 27.3% and 32.3% for Romania and between 34.2% and 40.3% for the EU. Both curves showed a downward trend in both periods 2002-2013 and 2008-2013 and, in the last case the decrease being 6.1 p.p. in the EU and 1.7 p.p. in Romania. The women employment rate has in 2008-2013 period a constant evolution for Romania and a decrease with 4 p.p. for EU 28.

**Graph 1: Employment rate by age group, men (%)**



Source: author processing based on data Eurostat, LFS

**Graph 2: Employment rate by age group, women (%)**

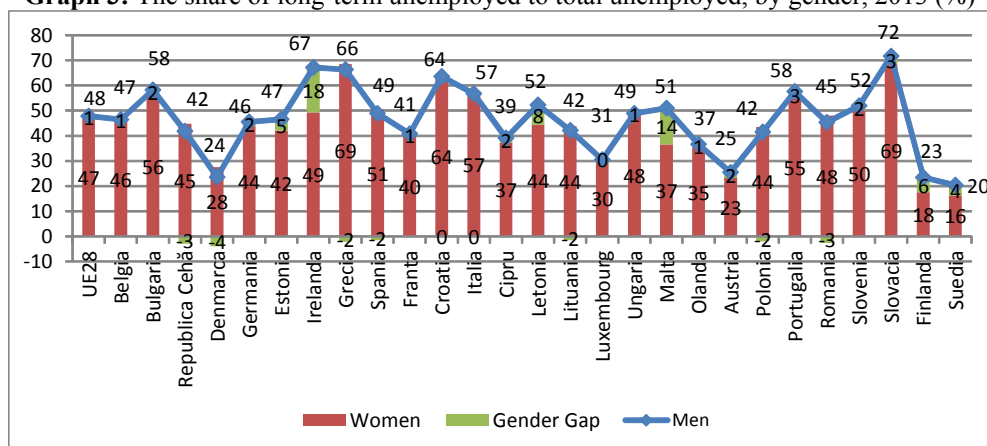


Source: author processing based on data Eurostat, LFS

### The share of long-term unemployed to total unemployed, by gender

In graph 3 we can see that in 2013 the top three countries with high share of long-term unemployed in total unemployed among both men and women were: Slovakia, Greece and Croatia. Countries with negative gender gap, i.e. with a higher share of long-term unemployment in total unemployment among women compared to men are: Denmark; Rep. Portugal, Romania, Greece, Spain, Lithuania and Poland. In the EU28, the share of long-term unemployed women in unemployed women was one per cent lower than that of men, while in Romania it was higher by 3 per cent compared with that of men.

**Graph 3:** The share of long-term unemployed to total unemployed, by gender, 2013 (%)

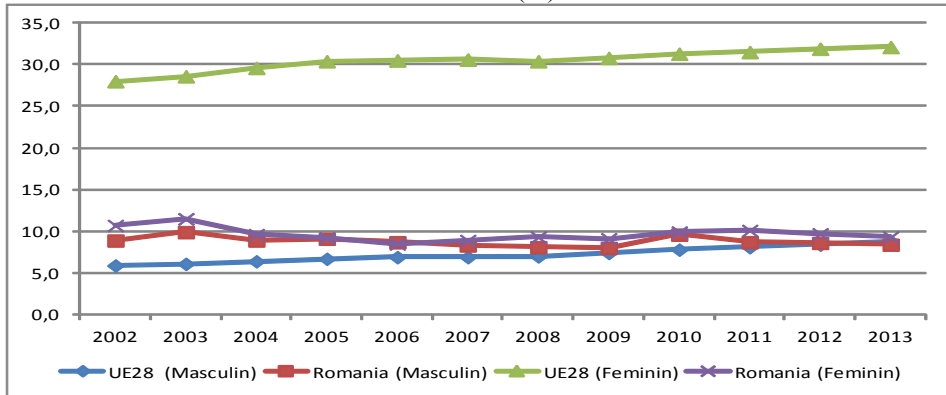


Source: author processing based on data Eurostat, LFS

### Evolution of the share of part-time employment and involuntary part-time employment in total employment by gender

In graph 4, it can be seen that in EU28 share of women employed part time in total female employment is far superior to men; the gender gap has high values during the analysed period, varying in the range of at least 22.1% in 2002 and less than 23.7% in 2005 and 2007. The share of women employed part-time in the EU28 is much higher than that recorded in Romania, the gap with an upward trend in the period under review, with a maximum of 22.8% recorded in 2013. This indicates greater flexibility of the labour market in the EU compared to that of Romania. In Romania, the share of women employed part time is slightly higher than the share of men employed part time, the gender gap being in the range from 0.1% in 2005 and 1.8% in 2002. The share of men employed part time in Romania is slightly higher than that recorded in the EU throughout the period considered, except in 2013.

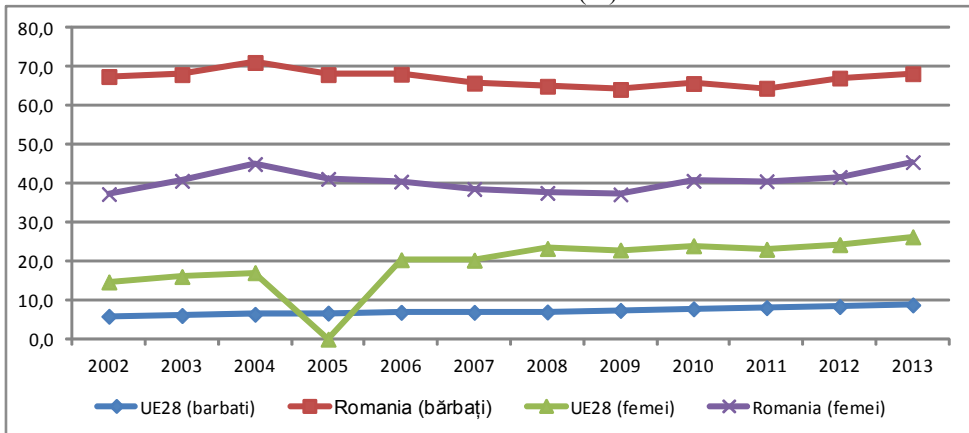
**Graph 4:** Evolution of the share of part-time employment on gender for Romania and EU28 (%)



Source: Eurostat, LFS

The proportion of men working part-time involuntarily in Romania has the highest values, ranging between 60% and 70% (Graph 5). Also, the share of women working part-time involuntarily is superior to those recorded in the EU28, throughout the period under review. It can be seen that the share of women working involuntarily EU28 is higher than that of men, while in Romania the situation is the reverse.

**Graph 5:** Evolution of the share of part-time involuntarily employment on gender, Romania and EU28 (%)



Source: Eurostat, LFS

Note: Data unavailable for part-time employment share of women in the EU in 2005

## Conclusions

Activity and employment rates in Romania are lower than the EU28 average for both women and men. In the last ten years, especially after the economic crisis, it appears that the gap between the values recorded for these indicators in Romania toward the average EU28, increased for women, while for men fell. This is explained by the fact that activity and employment rates of women in Romania had a slightly decreasing trend, while in the EU28 had an upward trend, which led to the widening gap as against EU28 average. Also, in the period under review, the gender gap for the same indicators increased in the case of Romania, while for EU28 fell. Regarding the gender gap on the activity rate in 2013, Romania is among the countries with high, after Malta, Italy and Greece, and on the employment rate after Malta, Greece, Italy and the Czech Republic.

Unemployment rate in Romania is higher for men, and the values recorded for both men and women are inferior to those of the EU28 average. Curve gender gap in unemployment rate for Romania has a downward trend after 2008, explained by the sharp increase in unemployment among women compared to men, in the period under review.

Employment rate recorded higher values for all three age groups in the EU28 compared to Romania for both men and women. The lowest values were recorded for the age group 15-24 years. The age group most affected by the economic crisis in Romania compared to the EU28 was 55-64 years old, both for men and for women. Employment trend curves for age group 15-24 was decreasing both in the range 2002-2013 and between 2008-2013, in the latter case the decline was 1.7 p.p. for EU28 and 6.1 p.p. for Romania.

In Romania, the share of long-term unemployed women was above average EU.28, being higher than that of men with 3 p.p.

The share of part-time employment of women in the EU28 is much higher than that of Romania. Gender gaps in the share of part time employment in 2013 reached 23.3% in the EU28 value, much higher than in Romania and 0.9%. This indicates a more flexible labour market in the EU28 compared to that of Romania.

## References

- Sănduleasa Andra-Bertha (2014), *Romanians attitudes towards mobility for work from a gendered perspective*, Annals of Spiru Haret University, vol. 5(14), issue 4: 29-36.
- Pașnicu Daniela, Mladen Luise (2011), *Analysis of gender gaps in profession, careers and pay*, Annals of Spiru Haret University, vol. 2(11), issue 3: 61-72.
- Bettio Francesca, Corsi Marcella et al. (2013), *The impact of the economic crisis on the situation of women and men and on gender equality policies*, European Union.
- \*\*\* *Legea nr. 202/2002 privind egalitatea de șanse și de tratament între femei și bărbați*, republicată 2013.
- \*\*\* *Planul general de acțiuni pentru perioada 2014-2017 pentru implementarea Strategiei*, aprobată prin hotărârea 1050.
- \*\*\* *Strategia națională în domeniul egalității de șanse între femei și bărbați pentru perioada 2014-2017*.

\*\*\* *Strategia Uniunii Europene pentru egalitate între femei și bărbați, 2010-2015.*

\*\*\* *The impact of the economic crisis on the situation of women and men and on gender equality policies, 2013.*

\*\*\*\* *Report on progress on equality between women and men in 2013, Brussels, 2014.*

<http://ec.europa.eu/eurostat>



# THE INFLUENCE OF EDUCATION AND TRAINING ON PRODUCTIVE SKILLS, NATURE OF WORK AND GENDER INEQUALITY

Eugen GHIORGIȚĂ, Associate Professor  
Spiru Haret University

## Abstract

*The present paper is a synthesis of researching the evolution of gender discrimination during 2002-2013, i.e. the inclusion of women in the three levels of the national education system and the effects of education materialized in the degree of female population insertion on the labour market at national and European level.*

*In order to grasp the still existing gender stereotypy and discrimination, it was necessary to analyze the evolution of the share of female population included in the three levels of the national education system (primary (elementary), secondary (lower and upper secondary) and tertiary (university), the correlation of the level of preparation of those graduating these three levels of the national education system with the branch structure of the employed population, respectively with the level of the average earnings (annual or monthly), at-risk-of-poverty rate by poverty threshold and education level, the identification of gender discrimination determined by gender role and gender wage disparity.*

**Keywords:** *gender discrimination, gender stereotypy, education attainment, activity rate, employment rate, at-risk-poverty rate.*

**JEL classification:** I21, I24, I32, J16

The challenges of the transition period towards market economy have generated often inconsistent structural changes and qualitative evolutions of the socio-economic systems and mechanisms.

The institutional changes have affected the behaviours of the economic agents and of the population in general destructuring the social and economic systems, insufficiently elaborated restructuring, and frequent returns on normative acts, attempts and sustained processes of assimilating some exogenous organization forms, in short, confusion.

The questionable effectiveness of *the restructuring, liberalization and privatization processes*, along the 25 years of return to the market economy has resulted in the disappearance of many jobs and the increase of the unemployment rate accompanied by the slow and unsystematic adaptation to new structures of the labour demand, despite the relative growth of the positive impact of national and European programs regarding the professional training and retraining.

The national education system has suffered, in its turn, major changes determined not only by the increased importance of the private education, but especially by the transitioning, since 2005, to the Bologna system, a process started in the absence of a promulgated organic law to govern the application of the new requirements. It goes without telling that the Organic Law of Education associated to the new system was promulgated with a delay of six years since its adoption.

On the background of the jobs offer diminution and of the changes in the structure of the labour demand, grew not only the unemployment rate, but also the labour emigration, the labour market in Romania not being capable of absorbing the “restructured” unemployed surpluses.

That is why one of the main challenges for the education system in Romania has remained the compatibility of the qualification structures with the new structures of the jobs offer. In this field also, the sheer character of the institutional changes has led to decisional gaps to higher levels, the efforts to adapt to the new conditions of the European labour market having results still far from covering the requirements.

The internal economic and social crisis specific to the transition period was all well largely aggravated by the European and global crisis felt since the last quarter of 2008.

The present paper is a synthesis of researching the evolution of gender discrimination during 2002-2013, i.e. the inclusion of women in the three levels of the national education system and the effects of education materialized in the degree of female population insertion on the labour market at national and Europe level.<sup>1</sup>

For this purpose, it was necessary the analysis of the evolution of the share of female population included in the three levels of the national education system (primary (elementary), secondary (lower and upper secondary) and tertiary (university), the correlation of the level of preparation of those graduating these three levels of the national education system with the branch structure of the employed population, respectively with the level of the average earnings (annual or monthly), the identification of gender discrimination determined by gender role and gender wage disparity.

## **1. Effects of women’s education on economic development<sup>2</sup>**

The literature dedicated to gender discrimination through education highlights the importance of investing the education of the female population. (Dollar David, Gatti Roberta, 1999; Schultz Paul T., 2001) The carried out analyses

---

<sup>1</sup> The detailed analysis of the topic was conducted under Chapter III of the research study *Gender-based segregation in terms of female occupation of some lower positions on the labour market* realized within the PROFEMIN Project, POSDRU/144/6.3/S/126567. The documentation of the observations in this article can be made consulting the tables contained in the cited study.

<sup>2</sup> See also the synthesis *Socioeconomic impact of female education* retrieved during August-November 2014 at: [http://en.wikipedia.org/wiki/Socioeconomic\\_impact\\_of\\_female\\_education](http://en.wikipedia.org/wiki/Socioeconomic_impact_of_female_education).

reject *ab initio* the idea that low investments in the education of the female population would be economically efficient. On the contrary, for some countries, the results of investing in girls' education were superior to those obtained from boys' education (for example, for the 1980-1981 period, in Thailand, the additional revenues obtained from girls' education represented 20.1% compared to 11.3% in the case of boys and in Côte d'Ivoire – 28.7% compared to 17.0%). (Paul T. Schultz, 1993)

Both individuals and countries benefit from women's education:

a. Individuals who invest in education receive a net monetary gain over the course of their lifetime. (Psacharopoulos, George, Patrinos Harry Anthony, 2004, p. 111-134) Some studies estimate that providing one extra year of education to girls increases their wages by 10-20%. This increase is 5% more than the corresponding returns on providing a boy with an extra year of schooling. (Ruth Levine, Cynthia Lloyd, Margaret Greene, Caren Grown, 2008)

b. The increase in the individual monetary incomes is explained by the productivity growth cumulatively generated at macro-economic level. In this sense, Harry Patrinos, World Bank's economist in charge of education enunciated one of the axioms of the effects of investment in *human capital*, "the profitability of education, according to estimates of private rate of return, is indisputable, universal, and global." (Harry A. Patrinos, 2008, p. 53-66)

Research conducted in the last two decades have shown more clearly the fact that social returns of women's school years are higher than for men.

The analyses carried out took into account surveys and censuses of the representative households. A series of papers (Boserup E., 1970; Schultz T. P., 1995; Behrman J. R., 1997; King Elizabeth M., Hill Anne M., 1998) intended to analyse the social impact of women's education highlights the inevitable *exceptions* compared to the prevailing models and empirical regularities:

- cultural diversity,
- differences in production techniques used in different stages of the economic development,
- diversity of available resources to ensure complementarity of men and women's work,
- significant differentiation of the skills resulting from the specialization that women and men follow in different parts of the world.

Although investment in women's education is not present everywhere, studies show that this decision of not investing, along with other failures to invest in women are not "an efficient economic choice for developing countries" and that "countries that under-invest grow more slowly." The effect of the educational gender gap is more pronounced when a country is only moderately poor. Thus, the incentive to invest in women goes up as a country moves out of extreme poverty. (Dollar David, Gatti Roberta, 1999, p. 1-50)

Looking holistically at the opportunity cost of not investing in girls, the total missed GDP growth is between 1.2% and 1.5%. (Jad Chaaban, Wendy Cunningham, 2011) Likewise, regional analyses estimate that about 0.4-0.9% of

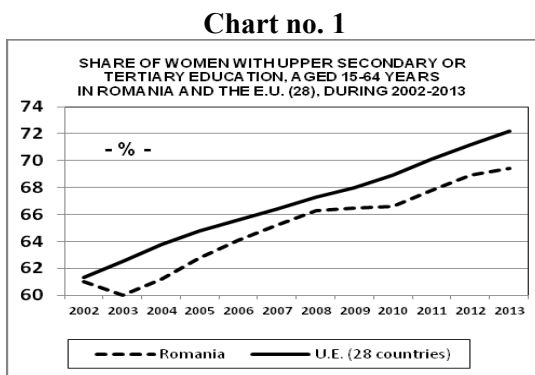
the difference in GDP growth is accounted for solely by differences in the gender gap in education. (Stephan Klasen, 2002, p. 345-373)

In addition to total economic growth, women’s education also increases the equitability of the distribution of wealth in a society. In this regard it is important the increase of women's education as it targets the impoverished women, a particularly disadvantaged group/segment. There is also evidence that lower gender disparity in educational attainment for a developing country correlates with lower overall income disparity within society. (Kabeer Naila, 2005, p. 13-24)

Another significant finding is the fact that as the gender gap regarding the access to education diminishes in a developing country, the Ginni coefficient’s values reduce, reflecting a reduction in income disparity. (Hanushek Eric, 2008, p. 23-40)

## 2. The level of the female population’s education in Romania and Europe during 2002-2013

Access to primary (ISCED 1 and 2), middle (ISCED 3 and 4) or higher education (ISCED 5 and 6) levels is conditioned by the institutional environment in each country: on the one hand, by the incentive character of the social policies and on the other hand, by the restrictive nature of some cultural traditions preserved at the mentality level.



Regarding the values of the *Share of women with secondary and higher education* indicator, during 2002-2013, Romania was under the European average. For the age group 15-64 years, the European average has increased from 61.3% in 2002 to 72.2% in 2013. (Chart no. 1 and Table no. 1) Although at the beginning of the period the value of the indicator for Romania – 61% – was very close to the European one, by 2013 the gap reaches almost three per cent, despite the increasing of the share to 69.4%.

It is remarkable the performance of the Baltic countries which stood constantly on the first three to four places over the analysed period. The maximum values (for Estonia) have increased from 81.6% to 87.4%. (Chart no. 2 and Chart no. 3).

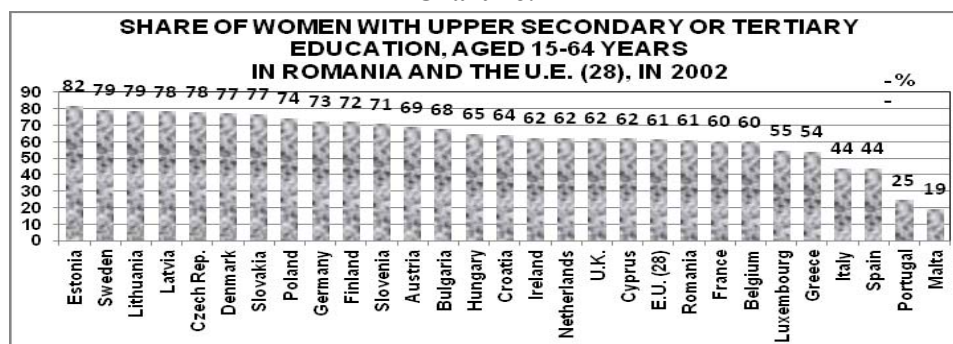
Table no. 1. **The share of women with secondary and higher education in the total female population aged 15-64 years in Romania and the EU (28) during 2002-2013**

-%-

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Romania	61.0	60.0	61.2	62.8	64.1	65.2	66.3	66.5	66.6	67.8	68.9	69.4
E.U.(28countries)	61.3	62.5	63.8	64.8	65.6	66.4	67.3	68.0	68.9	70.1	71.2	72.2

Source: Eurostat

Chart no. 2

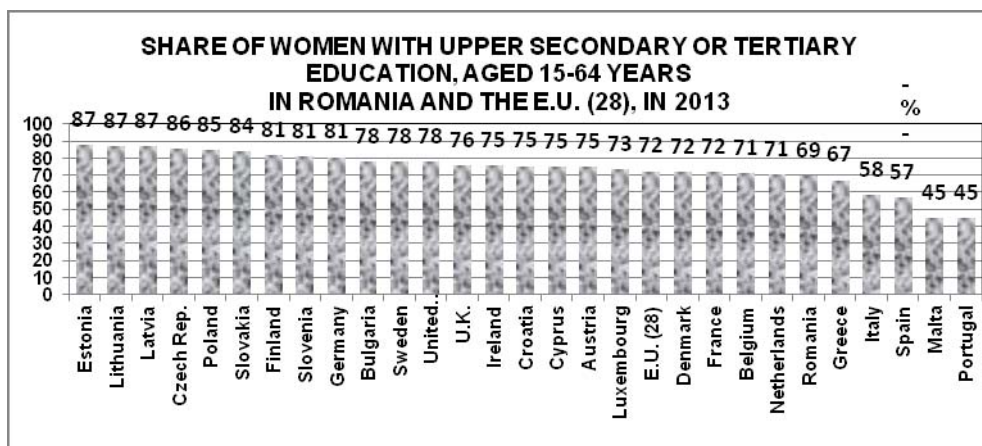


Apparently surprising, in 2002, under the European average there were countries with high levels of socio-economic development (Luxembourg, France, and Belgium).

In their turn, the Nordic countries were at the beginning of the period well above the European average as, from 2006 to 2007, to fall even below the European average (Denmark, 2013).

At the minimum levels have remained along the period the southern countries of the continent (Greece, Italy, Spain, Portugal and Malta).

Chart no. 3



Source: Eurostat

### 3. Gender discrimination by level of education in Romania during 2002-2013

The level of women's education taken as an indicator by itself was considered irrelevant in the specialty literature of the past 20 years. Generally, the initially used indicators aimed the gap between the education levels of the total population and of the women.

Unlike some analyses, mostly unilateral, comparing the levels of education of both genders facilitates the distinction between the effects of education on women by the effects of education in general. (King Elizabeth M., Hill Anne M., 1998; Psacharopoulos George, Patrinos Harry Anthony, 2004, p. 111-134)

In Romania, over the period considered is notable the relative reduction of gender discrimination for the population with secondary and higher education studies in the age group 15-64: the share of the female population increased by 9.4% from 61% in 2002 to 69.4% in 2013, while the increase of the share of male population grew by only 4.6%, from 69.8% to 74.4%.

It is significant that, in terms of higher education graduates, for the age group considered, starting with 2009, the gender discrimination has passed to positive values the female population share, increasing from 7.5% to 14.7%, compared with the evolution of the male population share, from 8.5% to 13.1%. The positive nature of discrimination appears even more evident in the case of graduates of secondary school studies, from the beginning the percentage of female population is higher than of male (in 2002, 39% versus 30.2%), emphasizing positive discrimination until 2013 (30.6% compared to 25.6%). It is notable the decline in the share of persons of both sexes included in this group from 34.7% in 2002 to 28.1% in 2013.

In detail, for the age group 20-24, the discrimination appears positive for female graduates of secondary and higher education studies and negative for secondary school studies graduates. Data show that although the share of girls included in secondary education was lower than the share of boys, girls has shown more persistence in continuing secondary and higher education studies than boys. It is reported also the increasing share of the two sexes within ISCED 3-6 levels during 2002-2013 along with the diminishing share of those enrolled in secondary education.

The apparent gender discrimination has decreased gradually after 2008 for the 25-34 age group for graduates of secondary and higher education studies, respectively it has recorded a positive constant positioning in the case of the other two categories of graduates.

An interesting evolution marks the share of the female population with higher studies in the age group 25-64, exceeding, starting with 2008, the share of male population, given that, in the larger group of the population with secondary and higher education studies, it can be notice a constant superiority of the male population.

The segment of the population over 64 years in the age group “over 25” negatively influences the share of women with secondary and higher education studies maintaining an increased gap compared to male population with secondary or higher education studies. A similar evolution is found in the female population with higher education studies, who after 2008 did not recover the difference from the male population, as it was the case for the age group “25-64”. Explanation consists in the more restricted access to higher education studies of the female population contained in the aged segment over 64 years.

Despite the presence of the same difference to the detriment of the female population with secondary and higher education studies, the 30-34 years age group presents the highest percentage of female persons that have higher education compared with other age groups considered, evolving from a slight inferiority in the first two years of the period to a positive discrimination in the other years of the reference period.

For the age group 35-44 a relative inferiority of the female population share compared to the share of the male population with secondary and higher education studies is preserved, being confirmed the increase of the share of women that have higher education studies starting from 2005 with positive discrimination trends.

For the age groups over 45 it is obvious the lower inclusion of the female population in secondary and higher education studies, while for the secondary school studies this category still maintains the superiority.

Diminishing the integration of female population at levels 3-6 ISCED of the education is characteristic to the age group 45-64, with a tendency to reduce the gap compared to the share of male population: from about 20% in 2002 to 13% in 2013 for secondary and higher education studies, respectively, from 3.4% in 2002 to 1.6% in 2013 for higher education studies.

For the last analysed category of population, gender discrimination remains positive for the population with secondary school studies, respectively negatively emphasized with regard to secondary and higher education graduates.

The analysis of gender discrimination by level of attained education provides the following conclusions:

- the female population share enrolled in levels 0-2 ISCED (secondary education) in all age groups is greater than the share of the male population;

- the lower enrolment of women in secondary and university education levels (levels 3-6 ISCED) is specific to the wider age groups, being determined by the older age segments (over 45 years), cases in which we can speak of the effects, largely attenuated in the meantime, of the gender stereotypy;

- a sensitive modification of the inclusion of the female population in secondary and higher education is noticeable between 2004-2008, particularly for younger age groups (20-34 years).

Overall, it is obvious the tendency to increase of the positive discrimination regarding the inclusion of the female population in the 3-6 ISCED education levels.

The trends resulting from the data presented by *Eurostat* comply with those from the National Institute of Statistics for the 2003-2011 period.

For the secondary level it is visible a slight superiority of the enrolment degree of the male population, while secondary and higher education graduates are characterized by a greater degree of coverage of the female population. It is notable the gender gap in favour of women for the age group 19-23, respectively for the 5-8 ISCED levels.

#### 4. The activity rates of the female population by age groups and attained educational level in Romania and the European Union

##### *Age group 15-39*

a) The activity rate of the female population graduates of the education system up to the *secondary level* for the age group 15-39 years increased slightly in Romania, from 32.8% in 2002 to 33.3% in 2013, below the European average which was down from 42.3% to 39.2%. Way above the EU average are situated countries such as Spain, the Netherlands, Denmark, Portugal, and at the lower pole Slovakia, Poland, Croatia.

The trend of diminishing the share of the female population from this group was specific not only to some developed countries (Great Britain, France, the Nordic countries, Austria, Italy, Belgium, Netherlands and Luxembourg), but also to the Czech Republic, Ireland, Greece, Portugal, Slovenia, Croatia, Hungary, Slovakia, Poland, Bulgaria, Lithuania. On the other hand, Estonia, Latvia, Germany, Spain recorded slightly positive evolutions.

It should be noted that for the same age group, in the case of the *male population*, the average employment rates at the European level dropped from 61.8% to 56.4%, while for Romania has ranged between 41% and 48%, with 13-15 per cent gaps compared to the activity rates of the female population:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	45.1	44.1	45.3	41.7	43.6	44.5	45.5	47.2	48.0	45.7	47.6	48.7
E.U. (28)	61.8	61.0	60.4	60.0	59.6	59.3	59.0	58.0	57.0	57.9	57.3	56.4

b) By a slightly better situation have benefited the female persons graduating the *upper secondary education*, the activity rates exceeding 60% in Romania in the analysed period. The values were below the European average, which went down from 70% to 67.7%, and they followed, however more pronounced (from 67.4% to 60%), the declining trends of the European average.

The population with secondary studies has a high activity rate in countries such as the Netherlands, Austria, Sweden, Denmark (between 79% -85%) and below the European average in Greece, Italy and Spain. The 2008 crisis seems to have not decisively affected the activity rate, the decreasing trend being specific from the very beginning of the period both to Romania (with one slight recovery in 2004) and to the European average.

A downward trend has registered as well the activity rate of the male population in Romania, but at a higher level of absorption of the labour market (from 83.9% to 77.2%). Compared with the rates activity of the *male population*, the gap was within 13-17% at the expense of the female population:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	80.7	79.9	80.7	78.0	76.9	75.0	73.8	73.5	75.4	76.1	76.7	77.2
E.U.(28)	83.4	82.9	82.9	82.7	82.7	82.4	82.4	81.7	81.3	81.0	81.0	80.5



c) The highest levels of activity rates were specific to the women graduates of *Bachelor, Master or PhD* studies. For Romania, the evolution is downwards, from one of the highest rates in the European Union in 2002 (92.3%), the activity rate reaching the EU average in 2013 (85.6%).

High levels of activity rates of the female population graduating the Bachelor, Master or Doctorate programs are as well seen in Denmark, Croatia, Slovenia, Poland, and Netherlands. However, all these countries present the same downward trend throughout the entire analysed period.

Generally, the series do not show significant fracturing at the time of the crisis, as is the case of Romania (from 92.4% in 2007 to 90.5% in 2009 and 88.5% in 2010).

Somewhat surprisingly, below the European average are situated countries such as Czech Republic and Estonia, which hold leading positions regarding the share of female population graduating secondary and higher education studies. In the case of the *male population*, it is noticeable a slight superiority of the activity rates for the same category of personnel:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	93.5	95.1	95.1	94.4	94.1	94.0	92.3	92.9	91.2	90.3	90.3	90.7
E.U. (28)	92.8	92.5	92.5	92.4	92.5	92.5	92.5	92.3	92.1	91.8	91.8	91.8

d) For the female population from the same age group 15-39, graduating *all levels of education*, Romania has lower activity rates to the European average, with a gap growing from five per cent in 2002 to eight per cent in 2013. The trend of reduction is sharp at the beginning of the period, the activity rate reaching a minimum value in 2008 (54.7%), so that a slight recovery (56.4%) in 2013 to be observed.

High levels of activity rates for the female population from the same age group, graduating all ISCED11 levels of education, more than 8-10% above the European average present the Nordic countries (Denmark, Finland, Sweden) as well as the Netherlands and Austria. The lowest values characterize Hungary, Malta (however increasing from a minimum of 51.8% in 2002 to 63.4% in 2013).

Both the European average and the data for Romania indicate a negative difference to the detriment of the female population in age group 15-39 compared with the activity rates for graduate male population of all levels of ISCED education below:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	70.5	68.9	70.0	67.5	67.8	67.5	67.1	67.4	68.6	68.3	69.4	70.2
E.U. (28)	76.6	76.1	76.0	76.0	76.1	76.0	76.1	75.5	75.2	75.0	75.0	74.8

*Age group 15-59*

a) For the age group 15-59, the level of inclusion of the female population enrolled in 0-2 ISCED levels (up to *secondary level*) versus the age group 15-39 is about 10% cent higher in the case of Romania and about 5-10% higher in the case of the European average. As for Romania, there is a tendency of reduction of about five per cent until 2013, while in the European Union's case an increase by three percentage points.

The Nordic countries (Denmark, Sweden, Finland), as well as Portugal and the UK have a higher absorption capacity than the European average on the labour market of this segment of the female labour force, compared with Malta, Italy, Lithuania, Poland or Ireland which are situated 10-15 per cent below the European average.

Activity rates of the *male population* are higher than those for the female population, with 10-16% for Romania, respectively by about 20% for the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	54.3	53.8	53.3	50.8	52.4	53.4	54.7	56.1	56.3	52.7	54.6	56.1
E.U. (28)	68.8	68.6	68.0	67.9	67.9	67.8	68.0	67.5	67.0	67.7	67.7	67.1

b) The activity rates of the female population in age group 15-59 with *secondary and post-secondary education studies* are somewhat higher than those of the age group 15-39, reflecting the reduced importance of the 39-59 years segment. The indicator shows decreasing trend until 2009, with a slight recovery in the coming years, compared with a slightly permanent increase of the European average.

A high degree of inclusion is specific to Denmark and Sweden (over 80%), Finland, Germany and Austria, below the European average standing Greece, Italy and Poland.

Activity rates of the *male population* for education levels 3-4 were 13-18% higher than in the case of the female population from Romania, respectively 11 to 13% for the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	79.8	79.5	79.8	77.9	78.3	76.8	76.6	77.0	78.6	78.7	80.0	80.6
E.U. (28)	84.8	84.5	84.5	84.6	84.7	84.7	84.9	84.7	84.6	84.6	84.8	84.6

c) Compared to the age group 15-39 for 5-8 *ISCED levels*, the activity rates of the female population aged 15-59 years in Romania are slightly lower in the first part of the period (87.6% vs. 92.3% in 2002).

After 2009, up to 2013, the trends are reversed, the share of graduates in the age group 15-59 exceeding the rate of those in the age group 15-39 (87.6% versus 85.6%). The data reflect the enrolment process in higher education, starting with

the 2006-2007 academic year, and the coming under “bachelor degree”, after 2009, of a higher share of women aged 40-59 than those in the age group 15-39.

Over the entire period the indicator values for Romania stood above the European average with about 0.5-5 per cent.

Graduates with higher levels of education maintain the highest activity rates in most European countries, above the European average standing Portugal, Slovenia, Lithuania, Denmark and Sweden. Less inclusive of this category of persons were Spain, Luxembourg, Czech Republic.

Clearly, the activity rates for the *male population* are higher than in the case of the female population, both for Romania and for to the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	91.5	90.4	92.9	91.5	92.5	92.1	91.5	91.6	91.0	90.7	90.9	91.3
E.U. (28)	93.2	93.1	93.2	93.1	93.2	93.3	93.4	93.4	93.4	93.3	93.4	93.4

d) In the case of the age group 15-59, the activity rates of women graduates of *all education levels* are higher by two to three per cent compared with the age group 15-39 in case of Romania, respectively one to five per cent in the case of the European average. Thus, the 40-59 years segment of population contributes, although in a small measure, in increasing employment rates.

The Nordic countries continue to hold preponderance with activities rates around 80% (Denmark, Sweden and, by three per cent less, Denmark), while in opposite side are Malta, Italy, Ireland, Greece.

A spectacular increase in activity rates was recorded in Spain, from 56.3% in 2002 to 72.1% in 2013.

The activity rates of the *male population* have values by 13-15% higher than in the case of female population from Romania, while between the European averages of the two categories the differences are situated within the 11-16% interval to the detriment of the female population:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	73.5	72.8	73.3	71.5	72.7	72.3	72.6	73.1	74.1	73.4	75.0	75.8
E.U. (28)	80.4	80.3	80.3	80.4	80.6	80.8	81.1	80.9	80.9	80.9	81.2	81.1

## **5. Women employment rates by age groups and attained educational level in Romania and the European Union**

### *Age group 15-39*

a) Compared with the activity rates of the female population in age group 15-39 corresponding to *educational levels 0-2*, the European averages of the women employment rates in this group were lower by about 7%-11%, with a downward trend after 2009. In other words, one of the consequences of the crisis felt from 2008 onwards was the decrease in the employment level for the women with studies up to the secondary level.

High levels of employment rate have recorded Denmark (increase from 52% in 2002 to 62.2% in 2008 and decline to 47.4% in 2013), the Netherlands and the UK. The hardest is to find jobs for the lower educated women in Slovakia, Poland, Bulgaria and the Baltic countries.

For Romania, contrary to the general trend, from 2008 onwards, the employment rate increases by almost two per cent up to 2013, when has exceeded by almost 2% the European average.

The employment rate for the *male population* is higher than that of the females with about 10%-12% for Romania, respectively by 14%-18% for the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	38.7	38.5	36.8	36.2	36.8	38.2	38.5	40.1	42.1	39.2	41.0	42.1
E.U. (28)	53.3	52.4	51.6	51.1	51.2	51.4	50.3	46.4	44.7	45.2	43.3	42.1

For *women graduates of 3-4 ISCED levels*, the European averages of the employment rates for the age group 15-39 were 9%-11% lower than the activity rates. Compared with the employment rates of the female population with secondary school studies, the activity rates of the women graduates of secondary education were higher by 25% in 2002, respectively almost two times higher in 2013 (58% against 28.6%).

The highest level of the employment is presented by Netherlands with diminishing trends from 80.3% to 75.5%, on the opposite side being Greece (45.2% in 2002 and respectively 33.5% in 2013).

Regarding the employment rate of this category in Romania, the inferiority compared to the European average has increased from 2.1% in 2002 to 4.2% in 2013.

In the case of the *male population*, the employment rate is superior to women employment rate with about 12%-15% both for Romania and the European average:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	71.8	72.4	71.6	70.1	68.9	68.2	68.0	66.5	67.2	68.0	68.9	68.6
E.U. (28)	74.9	74.3	74.2	74.4	75.4	76.2	76.5	73.3	72.3	72.0	71.1	70.3

c) The highest employment rate is held by the category of women graduating from *university bachelor, masters and doctorate studies*, whose average at European level has evolved tortuous, from 79.5% in 2002 to a peak of 81.3% in 2008, dropping to 77.4%, below the initial level, in 2013. The average rates of employment at the European level for women university graduates (bachelor, master and doctorate) are 17-18 per cent higher than those of women graduates of secondary education. A remarkable level was recorded by Slovenia (90.5%) in 2002, followed however by a decline of almost nine per cent up to 2013 (81.8%).

An employment rate of over 85% was specific to the Netherlands and Denmark, below the European average standing Spain, Italy, Czech Republic and Greece.

In the case of Romania, the employment rate for the female population in age group 15-39, for the education levels 5-8 was above to the European average over the entire presented period, with a maximum of 88.7% in 2007 and a loss of ten per cent (78.7%) up to 2013. Significant is the difference from the employment rates of the female graduates with secondary studies (26%-27%).

Gender differences are 7%-8% for the European averages, respectively 3%-5% for Romania, in favour of the *male population*:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	90.2	90.2	90.3	89.5	89.3	90.5	89.2	87.4	84.3	84.4	83.5	83.6
E.U. (28)	88.1	87.4	87.3	87.3	87.8	88.5	88.6	86.5	85.8	85.6	84.8	84.5

d) For *all levels of education* of the age group 15-39, although below the European averages, the employment rates are closer to the activity rates in the Romanian case (difference of 5%-7%) compared with the European averages (differences of 8%-9%).

The highest employment rates for all levels of education were recorded by the Netherlands (73%-77%), Denmark (67%-74%) and Sweden (63%-67%), in contrast, below the European average standing Greece (37%-48%), Italy (41%-48%) and Hungary (46%-48%).

As for Romania, for the age group 15-39, it is notable the absence of fluctuations (the maximum of 52.7% in 2004, compared to a minimum of 50.1% in 2005) and a slight recovery after 2009, from 50.5% to 51.2% in 2013.

The European employment rates' average of the *male population* for the same age group, all ISCED levels of education, are about 10%-13% higher than the female population employment rates, as against 10%-11% for Romania:

	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	62.7	62.2	61.4	60.6	60.5	61.1	61.2	60.5	61.3	61.0	62.1	62.4
E.U. (28)	68.8	68.2	67.9	68.2	68.9	69.7	69.6	66.6	65.8	65.6	64.7	64.3

#### *Age group 15-59*

a) Compared to the age group 15-39, the female population aged 15-59 years employment rates, *0-2 ISCED levels of education*, show lower differences at the beginning than at the end of the reviewed period. In the case of the European averages, in 2002 the difference was of 5.6% reaching 10.5% in 2013, given that the European average for the age group 15-59 has decreased by only 1.6%. The reduction by 5.1% in 2007-2013 in the employment rate for the age group 15-39 indicates the fact that the female population in this group lost more jobs than.

As for Romania, the employment rate's evolution reflects the decrease of the 49-59 age segment share, whereas for the age group 15-39 the employment rate

had scored a slight increase from 29.4% to 30.5%, while for the age group 15-59 the same indicator showed a reduction from 41.3% to 36.8%.

The employment rates for the *male population* are higher by 7%-14% in the Romanian case, respectively by 14%-23% for the European average. As in the case the age group 15-39, for age group 15-59 the employment rate presents slight increase trends after 2011:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	48.2	48.4	45.7	45.3	45.6	47.0	47.8	49.2	50.8	46.5	48.5	50.0
E.U. (28)	61.3	60.9	60.0	60.1	60.4	60.9	60.3	57.2	55.9	56.1	54.7	53.5

b) Female employment rate for the age group 15-59, 3-4 *ISCED education levels*, for Romania is below the European average, with a slight decrease trend compared with the growth trend of the European average. Worthy to remember is the significant reduction in the employment rate for the age group 15-39 for the same education levels (from 59.2% to 53.8%) reflecting the fact that, since 2006, this latter age segment has been affected more.

At the European level, a high level of employment for the females with secondary studies in the age group 15-59 is held by the Nordic countries (71%-83%), the Netherlands (74%-81%), Austria and Germany, the Southern countries (Greece, Spain and Italy) maintaining a lower position.

Characteristic to the *male population* is a higher employment rate than that of the female population from the same age group (15-59 years), the differences from the European averages being significantly close: 10%-15% for Romania compared to 11%-14% in the case of the European averages:

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	72.0	73.0	72.4	71.3	71.6	71.0	71.6	71.0	71.8	72.2	73.8	73.9
E.U. (28)	77.3	76.9	76.8	77.2	78.2	79.3	79.8	77.6	77.1	77.2	76.8	76.3

c) The category of female persons with *higher education studies (bachelor, master, doctorate degree)* from Romania is the only one that, in the case of the age group of 15-59 as well, shows higher levels of employment rates than the European averages. The differences from the activity rates are similar for Romania and the European average (4%-5%).

An interesting situation results while comparing the evolution of the employment rates to the age group 15-39. The fluctuation in employment rates for this age group is higher than for the age group 15-59: if in 2002 the employment rate for the age group 15-39 was higher than the age group 15-59 (8.9% versus 83.8%), in 2013 the situation is reversed, the age group 15-59 appearing as favoured (82.3%) compared to the age group 15-39 (78.7%), 40-59 age segment maintaining a higher level of employment.

Denmark and Sweden retain their leading position at European level with employment rates between 84%-90%, while Greece and Spain remain on the last positions.

*Male population* employment rate in the age group 15-59 is superior to the female population employment rate for persons with higher education studies, the gender gap being higher for the European average (6%-9%) compared to Romania (2%-4%):

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	87.9	86.8	89.8	88.3	89.3	89.4	89.1	87.5	86.0	86.3	86.0	86.1
E.U. (28)	89.4	88.9	88.9	88.8	89.3	90.0	90.2	88.9	88.5	88.4	88.1	87.8

d) Overall, *for all levels of education*, female employment rate of the age group 15-59 in the Romanian case (53%-56%) is below the European average (57%-62%).

The Nordic countries and the Netherlands hold the leading positions with females' employment rates varying between 70% and 79%.

Compared with activity rates, the employment rates show approximately the same differences for Romania and the European averages (4%-6%).

Continuing the comparison with the age group 15-39, for all educational levels, age segment 40-59 is more favoured in case of the European average as compared to employment rates in Romania.

Over the analysed period, the employment rates of the *male population* compared to females' employment rates in the age group 15-59, for all levels of education, show close differences in the Romanian case (12%-14%) compared to the European averages (10%-16%):

<b>Male</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Romania	66.6	66.8	66.2	65.6	66.3	66.7	67.4	67.1	67.9	67.3	68.9	69.4
E.U. (28)	73.6	73.3	73.1	73.6	74.4	75.3	75.6	73.5	72.9	73.0	72.5	72.1

The data presented, centralized at *Eurostat* level, reflect aspects of gender discrimination in terms of *Activity rates and Employment rates of the female population*.

Both activity and employment rates of the female population in Romania are situated, for most of the age groups and levels of education considered, under the European averages, a situation characteristic as well to the male population in Romania.

Exception makes the population category enrolled in education levels 5-6 (respectively 5-8) ISCED, where activity rates and employment rates are close to the European averages, with a decreasing trend for Romania in 2013 as compared to 2002.

For Romania, the gender differences are noticeable, women's activity and employment rates being below the activity rates corresponding to the male

population on average by 10 to 17 per cent for 0-4 ISCED levels, respectively 2-6 per cent for 5-8 ISCED levels.

In its turn, the indicator *Employed population by educational level, age groups and sex* **provided by the National Institute of Statistics** reflects the differentiation trends between the two genders.

a) For *university graduates* it is visible the trend of reversing the majority shares during 2003-2013: between 2003-2008 men's share was dominant, 2009 being the moment when women started to represent more than half of the employed population with higher education studies.

Employed women from 15-24 and 25-34 age groups held the majority in the total of the age group along the entire period. Except the age group 65 and above, all other age groups present a clear tendency of female population shares to become majority. In the case of age groups 35-49 and 50-54 since 2009, respectively 2011, the share of women with higher education studies has become majority, as against men's share.

b) Regarding the *employed secondary education graduates*, the data indicate a sharp decline starting with 2009 (49.2%) of the women's share. After being positively discriminated during 2003-2008 (from 51.7% to 50.2%), the employed women started to be negatively discriminated representing only 46.8% of the total of secondary school graduates in 2013.

The decisive contribution to reducing the share of employed women belonged to the age groups corresponding to the 15-49 age segments. A better situation is characteristic to employed women with secondary studies from the age group 50-54, whose share has preserved a slight majority (excepting 2012) than the share of the male population. A first explanation of this phenomenon is the growing share of women who have continued their studies, becoming now graduates of higher education, compared with male persons.

Employed female population having completed *specialized or technical secondary education* shows a significant increase in the overall employment rate as compared to that of the male population starting with 2008 (from 49.3% to 52.5% in 2013).

An overwhelming contribution to increasing the share of employed women had the 25-34 and 35-49 age groups. It should be noted as well the women's dominant share of the 15-24 age group, which was however in decline along the analysed period (from 73.9% to 51.8%). Although with a lower specific weight in total of the employed population graduating specialized, secondary studies, the age groups corresponding to 55-64 age segments have also recorded increases.



It is clear that this level of training corresponding to level 4 ISCED is an alternative to women's access to levels 5-6, increasing for the age group 35-49 (Chart 4), and decreasing in absolute value (number of persons) for the 15-24 and 25-34 age groups.

An obvious gender differentiation is specific to the employed women, graduates of specialized or technical secondary education.

The share of women in this category is less than one third of the total for each age group.

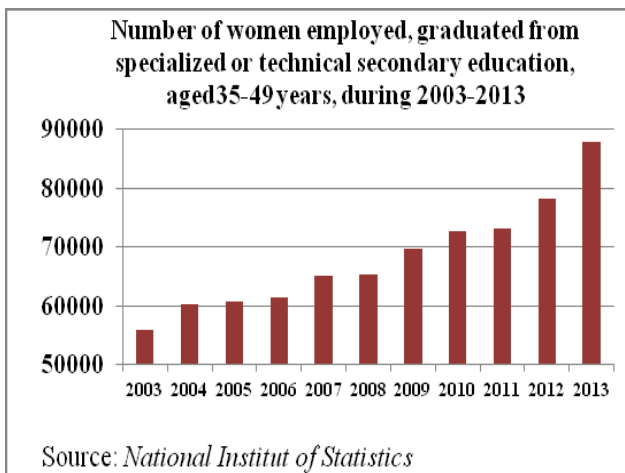
The low degree of enrolment of the some groups of employed women in the category of specialized or technical post-secondary education graduates is also the consequence of gender stereotypy, given the technical specific of the post-secondary schools, traditionally designed primarily for the male population.

The data presented regarding the employed population by education level reflects the growth trends, significant in some cases, of including the female population in the traditional training forms.

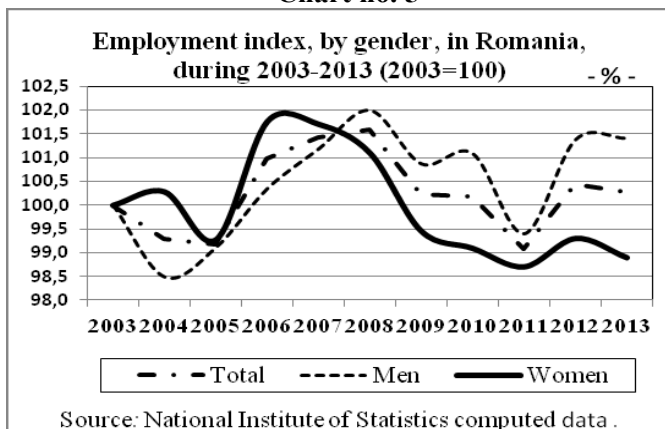
The enrolment in growing number of women in various forms of training is due as well to age segments over 34, which, given the structural changes in labour demand, attend masters or doctoral post-secondary or postgraduate courses increasing their empowerment on the labour market.

Moreover, the total employed population *dynamics* during 2003-2013 (Chart no. 5) highlights the more pronounced decline of women employment.

**Chart no. 4**



**Chart no. 5**



The age groups that have had higher values for the women employment index than those of male employment index were “15-24”, “50-54”, “65 and older”. The evolution for the first age group’s indices, although reflects a positive discrimination of the female population, marks the steepest decline during the analysed period, not only for the women employed, but also for men representing, in 2013, only 63%-64% of 2003’s level.

The permanent reduction, from year to year, of the employed population indices for the “15-24” age group and, to a lesser extent, of the “25-34” age group reflects the worsening imbalances between the structure of the educational qualifications and structure of the labour demand. Indeed, the evolution of the age group “25-34” shows a smaller decline than the first age group. Also, except for the age group “50-54” for which the indices of the employed population have evolved tortuously (growth until 2008 followed by decline up to 2013), the upwards evolution of the indices for the age groups “35-49”, “55-59” and “60-64” reflect a normalization of the employment rate.

Positive growth of the employment levels observed in the age groups “35-49” and “55-59”, even when we talk of discrimination to the detriment of women, suggests stages of employment *stabilization*.

Gender discrimination is more evident when we consider the *share of employed women* compared to the share of employed male, in total employed population, on age groups.

Except the age group “65 or older”, all other age segments reflect women negative discrimination.

The analysis of the indicator *Employed population* in Romania, also taking into account the evolution of *The activity rates* and of *The employment rates* according to the level of training highlights the fact that, despite female population access to education, there is still the persistence of some gender stereotypes (“Woman’s purpose is to take care of the house”), respectively of some serious distortions on the labour market regarding the correspondence between the structure of qualifications and the structure of the labour demand.

It must not be forget the fact that the signalled imbalances together with the prolonged effects of the crisis experienced since 2008 have affected both female population and the male population. At the same time, the two categories of population equally feel the effects of the nominal average earnings disparities between the levels achieved in other European Union countries and those from Romania, as it will be seen below.

## **6. Gender wage discrimination in the European Union in 2010-2013**

a) In the case of the population enrolled in *0-2 ISCED levels of education* (up to the secondary level), the equalled average annual net income has registered slight reduction tendencies to the level of the EU average in the four years taken into account from 13959 euros to 13715 euros.

The average of male wages marks a slight increasing difference compared to those of women, from about 500 euros in 2010 to almost 800 euros in 2013.

The equalled net incomes for lower levels of education have recorded the highest values in the case of Luxembourg (oscillating around 29,000 euros) and the Nordic countries (among which Denmark stands out with averages of 25,000 to 26,000 euros).

In terms of dynamics, Sweden recorded significant increases between 2010-2013, while in Greece the equalled net income decreased to about 60% in the same period. Opposed to the high-income countries are situated Romania and Bulgaria.

The differences between the average incomes of both sexes are minor, with slight negative gender discrimination tendencies in general, but also with positive discrimination in case of Romania, Croatia, Greece, Poland.

b) For *secondary or post-secondary graduates*, the European average of the equalled net incomes was about 30% above the income average of those enrolled in lower levels of education.

The European average reflects a slight gender discrimination, with differences of 200-300 euros in favour of male population incomes. Moreover, in each country there are not notable significant stable differences between sexes.

It remains extremely large the difference between equalled average net incomes, six to seven times lower in Romania compared to the European average. In the Romanian case, a slightly positive discrimination is noticeable as well in favour of the female population.

c) In the case of the equalled net incomes of the persons enrolled in *levels 5-6 of the educational systems* (bachelor and master) gender discrimination appears obvious.

The European averages of the incomes show differences of 3,000-4,000 euro in favour of men (annual average of 26,000-27,000 euros, compared with 23,000-23,500 euros).

The greatest discrepancies are preserved between the incomes from developed and less developed parts of Europe: the Nordic countries preserve the leading positions, average net income over 30,000 euros (higher in the case of Denmark – 32,000-36,000 euros). Thus, the gap from the last ranked, Romania, remains of 7-7.5 times.

In the Romanian case as well it is obvious a slight manifestation of gender discrimination, the incomes of the male population with higher education studies being with about 200-300 euros higher than the incomes of the female population.

Thus, the *Equivalised average net income by level of education* indicator highlights the differences in favour of men population only for the 5-6 ISCED level, respectively for male and female graduates of higher education. As regards 0-2 and 3-4 education levels, respectively lower and upper secondary cycles, the differences recorded during 2010-2013 present evolutions in the equivalised net income of the female population slightly superior to those of the male population.

National Institute of Statistics provides data on the average net nominal monthly earnings by activities of the national economy (at the level of CAEN rev. 2 Section) for 2011-2013, which partially confirm the Eurostat's data.

Table no. 2. **Average net nominal monthly earnings by activities of the national economy**

- lei -

<b>Activities of the national economy (CAEN Rev. 2)</b>		<b>2011</b>	<b>2012</b>	<b>2013</b>
A Agriculture, forestry and fishing	Total	1044	1093	1179
	Male	1053	1105	1190
	Female	<b>1012</b>	<b>1055</b>	<b>1141</b>
B Extractive industry	Total	2577	2786	2943
	Male	2553	2756	2909
	Female	<b>2705</b>	<b>2946</b>	<b>3113</b>
C Manufacturing industry	Total	1324	1393	1466
	Male	1479	1554	1633
	Female	<b>1153</b>	<b>1212</b>	<b>1283</b>
D Production and supply of electricity, gas, hot water and air conditioning	Total	2787	2904	2917
	Male	2816	2925	2950
	Female	<b>2690</b>	<b>2836</b>	<b>2816</b>
E Water distribution sewerage, waste management and remediation activities	Total	1333	1388	1427
	Male	1332	1389	1384
	Female	<b>1337</b>	<b>1386</b>	<b>1548</b>
F Constructions	Total	1247	1193	1191
	Male	1215	1165	1158
	Female	<b>1450</b>	<b>1374</b>	<b>1398</b>
G Wholesale and retail trade; repair of motor vehicles and motorcycles	Total	1227	1305	1293
	Male	1355	1447	1398
	Female	<b>1103</b>	<b>1176</b>	<b>1192</b>
H Transport and storage	Total	1580	1624	1629
	Male	1591	1606	1606
	Female	<b>1550</b>	<b>1677</b>	<b>1700</b>
I Hotels and restaurants	Total	841	850	898
	Male	893	911	960
	Female	<b>808</b>	<b>811</b>	<b>857</b>
J Information and communications	Total	2965	2992	3067
	Male	3117	3119	3233
	Female	<b>2744</b>	<b>2799</b>	<b>2815</b>
K Financial intermediations and insurances	Total	3435	3587	3645
	Male	4167	4292	4488
	Female	<b>3094</b>	<b>3263</b>	<b>3257</b>
L Real estate transactions	Total	1268	1248	1349
	Male	1352	1256	1356
	Female	<b>1159</b>	<b>1238</b>	<b>1341</b>
M Professional, scientific and technical activities	Total	2061	2216	2351
	Male	2126	2268	2434
	Female	<b>1990</b>	<b>2156</b>	<b>2255</b>
N Activities of administrative services and activities of support services	Total	966	1030	1132
	Male	903	946	1044
	Female	<b>1105</b>	<b>1222</b>	<b>1326</b>
O Public administration and defence; social insurance from the public system	Total	1909	2102	2420
	Male	1841	2021	2321

<b>Activities of the national economy (CAEN Rev. 2)</b>		<b>2011</b>	<b>2012</b>	<b>2013</b>
	Female	<b>1961</b>	<b>2163</b>	<b>2494</b>
	Total	1316	1371	1533
P Education	Male	1450	1500	1701
	Female	<b>1254</b>	<b>1314</b>	<b>1461</b>
	Total	1210	1315	1456
Q Health and social care	Male	1324	1446	1627
	Female	<b>1181</b>	<b>1281</b>	<b>1414</b>
	Total	1076	1148	1216
R Arts, entertainment and recreation	Male	1113	1216	1290
	Female	<b>1049</b>	<b>1099</b>	<b>1163</b>
	Total	852	929	991
S Other service activities	Male	979	1065	1158
	Female	<b>754</b>	<b>819</b>	<b>861</b>
	Total			

Source: *National Institute of Statistics*

The activities showing a positive gender discrimination in favour of the female population are the following: „Extractive industry”, „Water distribution sewerage, waste management and remediation activities”, „Construction”, „Transport and storage” (for 2012 and 2013), „Public administration and defence; social insurance from the public system”, „Activities of administrative services and activities of support services”.

The simple browsing of the activities listed suggests, by virtue of gender stereotypes, some incompatibility, seemingly paradoxical, between the nature of the activities mentioned and the female population. In other areas, such as “Education”, „Health and social care”, “Arts, entertainment and recreation”, apparently more suitable for women and where they are present in a greater number than men, women’s earnings are lower than those of the male population.

The efficient analysis of the causes of gender discrimination requires the availability of the data corresponding to the path after obtaining the qualification. Such statistical evidence (like ALUMNI) would allow to outline the effectiveness of the educational system by identifying the number of people who are not employed according to qualifications acquired within the national education system or retraining programs.

## **7. Consequences of gender wage discrimination, by level of education**

### *The risk of poverty or social exclusion for the age group 18-64*

a) Considering the categories enrolled in *all levels of education*, the average risk of poverty or social exclusion at the European level has marked a slight increase in 2010-2013 from 23.5% to 25%, with a slight discrimination in favour of the male population.

The lowest levels of risk of poverty or social exclusion are specific to the Nordic countries (Sweden and Finland in the first place), the Czech Republic, the Netherlands, Austria, Slovenia and Slovakia. At the opposite side are Bulgaria,

Romania and Latvia. More exposed appears to be the female population in Italy, Cyprus, the Netherlands, Austria, and the U.K. In Romania the differences to the detriment of the female population (39.5%) are minimal, as compared to the male population (38.4%).

b) The categories most exposed to the risk of poverty or social exclusion are represented by the population enrolled in *the lower educational levels*. The European average evolutions reflect a slight worsening of the overall situation (from 37.6% to 42.4%) and, especially, for women (from 39.4% to 44.1%).

Less impacted by risks appear to be the same northern area countries, Finland, Denmark and Sweden, with a gender discrimination greater for the last, respectively the Netherlands and Austria. Most exposed are some countries from Central and South-Eastern Europe such as Hungary and Croatia, as well as the Baltic countries (primarily Lithuania and Latvia).

The most exposed are Bulgaria (72%-77%) and Romania (63%-67%), with a slight positive discrimination in favour of the female population, in the Romanian case.

A higher degree of exposure to the risk of poverty or social exclusion is specific to categories of persons enrolled in the lower levels of education for which the labour market offers fewer alternatives and less flexibility of jobs' supply.

c) To a lower risk are exposed the persons enrolled in *educational levels 3-4 ISCED* respectively high school or post-secondary graduates.

The European average of the risk of poverty or social exclusion for the persons enrolled in 3-4 educational levels is about 30-35% lower than the average of the population enrolled in the 0-2 levels (22-25% compared to 35-40%).

Besides the Nordic countries, compared to the European average, a reduced risk characterizes as well secondary education graduates in Austria, the Netherlands, Slovakia and Luxembourg.

To a higher risk than in the Romanian case are exposed the persons enrolled in the 3-4 ISCED levels from the Baltic countries (Latvia and Lithuania) and Bulgaria, where gender discrimination to the detriment of the female population is more pronounced.

d) As expected, the category least exposed to risk of poverty is represented by *university graduates* (bachelor, master), respectively those included in 5-6 ISCED levels. The European average is one third of the average risk secondary education graduates are exposed to, being six times below the level of secondary school studies graduates.

Romania presents a risk of exclusion for higher education graduates close to the European average, being notable a level of gender discrimination to the detriment of women by 3%-7%.

Truly remarkable are the reduced averages of poverty risk registered in Luxembourg, Finland, Slovenia and Czech Republic. Malta, Estonia, Portugal and Poland, associated with slight gender discrimination (except Portugal). More exposed appear to be the categories of university graduates in Bulgaria, Ireland, Latvia and Lithuania, countries which also present significant discrepancies in the sense of gender discrimination.

Although Eurostat data for Romania show a slight positive discrimination of the employed women incomes corresponding to 0-4 education levels, the female population enrolled in 5-6 education levels appears negatively discriminated both in terms of incomes and exposure to poverty risk or social exclusion.

## 8. Effects of the economic crisis on gender differentiation, according to the level of training

The data presented regarding the enrolment of the female population in the educational system, activity and employment rates according to the level of education reflect the evolutions determined since 2008 by the economic crisis.

For this reason, as shown by other studies as well (for example, the bulky report of the European Commission *The Impact of the Economic Crisis on the situation of Women and Men and on Gender Equality Policies*”, European Commission, December, 2012), the positive evolutions reported towards reducing the gender gap or even the manifestation of positive gender discrimination in 2009-2013 should be understood especially in the context of the crisis.

The reduction of the wage gap between men and women after 2008 is explained primarily by the consequences of the austerity policies that have determined the reduction of incentives contained before especially in the salaries of men. Secondly, an important role was played by the differentiated share of women in the economic sectors: in public administration activities, for example, the number of the female staff is larger and the wage differences are smaller as compared to men, while in other sectors of the economy, even if women incomes are lower, the presence of women is as well lower compared to that of men.

On the other hand, austerity caused by the crisis led to job cuts, most affected being the male population rather than the female one.

The data provided by the National Institute of Statistics and Eurostat, although different as annual average values, reflect the lowest level of unemployment in the case of the female population:

Table no. 3. **The evolution of unemployment in Romania, by gender, during 2002-2013**  
- % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	8.4	7.4	6.3	5.9	5.2	4.0	4.4	7.8	7.0	5.2	5.4	5.7
Male	8.9	7.8	7.0	6.4	5.7	4.2	4.4	8.4	7.6	5.5	5.9	6.2
Female	7.8	6.8	5.6	5.2	4.6	3.9	4.4	7.1	6.3	4.9	4.9	5.1

Source: *National Institute of Statistics*

Table no. 4. **The evolution of unemployment in Romania, by gender, during 2002-2013**  
- % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	8.3	7.7	8.0	7.1	7.2	6.4	5.6	6.5	7.0	7.2	6.8	7.1
Male	8.8	8.3	8.9	7.7	8.1	7.2	6.5	7.3	7.6	7.7	7.4	7.7
Female	7.8	7.0	6.8	6.4	6.0	5.2	4.4	5.4	6.2	6.5	6.1	6.3

Source: *Eurostat*

The diminishing unemployment rate trends previous to the crisis (for 2008 both sources indicate a minimum rate of 4.4% unemployed women) have been replaced by resuming the uptrend, up to 5.1% according to NIS, respectively 6.3% according to Eurostat in 2013. Between the female population unemployment rate and that of the male population the gap has remained in the margins of 1%-1.4%, recording positive gender discrimination.

Moreover, the crisis has not affected more or less the female population compared to the male one, but in a differentiated manner. Job reduction has mainly affected women who, at returning from maternity leave, failed to resume their activity.

On the other hand, the persons who have completed higher levels of education have managed to keep their jobs to a greater extent than the category of those graduating lower levels of training.

**Table no. 5. The evolution of youth unemployment rate from the age group 18-34, in Romania, by gender, during 2002-2013**

Education levels 0-4 ISCED (1-3 years after graduation) - % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	32.8	31.3	28.7	26.9	27.8	24.5	20.2	24.4	28.9	32.5	30.9	33.4
Male	33.0	31.4	34.2	28.5	28.9	25.8	20.7	25.7	29.1	32.5	30.1	33.7
Female	32.6	31.1	22.8	24.9	26.2	22.7	19.3	22.3	28.6	32.6	32.1	33.0

Source: Eurostat

**Table no. 6. The evolution of youth unemployment rate from the age group 18-34, in Romania, by gender, during 2002-2013**

Education levels 3-8 ISCED (1-3 years after graduation) - % -

Genders	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total	25.2	24.9	22.5	21.4	21.1	18.0	13.7	18.6	22.7	24.4	23.8	25.7
Male	24.9	27.0	27.2	22.6	23.5	20.6	15.2	20.9	23.9	24.8	24.4	26.5
Female	25.6	22.5	18.0	20.1	18.6	15.3	11.9	16.1	21.5	23.9	23.2	24.9

Source: Eurostat

The female population in the age group 18-34 appears positively discriminated in terms of the level of unemployment rate: in 2007 the minimum level of women unemployment rate was of 22.7%, as compared to 25.8% for the male population enrolled in ISCED 0-4 levels of education, respectively 15.3% compared to 20.6% for 3-8 ISCED levels of education.

On the other hand, against the background of the economic crisis, the unemployment rate increased during 2007-2013 to 10.3% for the female population, compared to only 7.9% for the male population (Table no. 5) and 6.3%, compared to 5.9% (Table no. 6).

In these circumstances, it can be assumed with good reason that the number of women who have accepted part-time paid jobs or jobs from the “not taxed area” of the economy increased compared with that of men.



## **Conclusions regarding the effects of education on gender discrimination in Romania**

1. Statistical data confirm the disadvantaged status of women enrolled in the lower levels of education, in terms of activity and employment rates compared to that of the male population.

2. The female population appears favoured in case of 4-8 ISCED levels, the trend being favourable to employment and job maintaining for secondary and post-secondary schools graduates, respectively, for women graduates of higher education studies.

3. As far as the equalized average net income indicator is regarded, the female population enrolled in higher levels of education appears to be disadvantaged, while lower levels of education graduates would be slightly favoured compared to the male population.

4. A major difficulty in conducting fundamental analysis is the absence of data regarding the transition from school to active life, respectively the extent to which the obtained qualification as a result of the studies is confirmed throughout the activity performed in the economic and social sectors. A large number of middle and higher education graduates continue to activate in other fields than those for which they acquired skills during schooling.

## **REFERENCES**

- Schultz Paul, T., "Investment in the Schooling and Health of Women and Men; Quantities and Returns", *Economic Growth Center Discussion Paper (702)*, Yale University, 1993.
- Behrman, J. R., *Mothers Schooling and Child Education*, 1997, Mimeo, University of Pennsylvania, PA.
- Birdsall, Nancy, Ruth Levine, and Amina Ibrahim, "Towards Universal Primary Education: Investments, Incentives, and Institutions," *European Journal of Education* 40, no. 3 (2005): 337-349.
- Boserup, E., *Womens Role in Economic Development*, 1970, London, St. Martin's Press.
- Chaaban, Jad, Cunningham Wendy, *Measuring the Economic Gain of Investing in Girls: the Girl Effect Dividend*, Washington, D.C.: The World Bank, 2011.
- Corleto Buquet, Ana, Cooper Jennifer A., Loredo Rodriguez Hilda, *Sistema de indicadores para la equidad de género en instituciones de educación superior*, Universidad Nacional Autónoma de México, Instituto Nacional de las Mujeres, 2010.
- Dollar, David, Gatti, Roberta, *Gender Inequality, Income, and Growth: Are Good Times Good for Women?*, Washington D.C.: The World Bank, 1999.
- Fuchs G., Füller E., Lask S., *Zahlen? Bitte*. Gleichstellungsbüro Basel-Stadt, Basel, 2004.
- Hanushek, Eric, "Schooling, Gender Equity, and Economic Outcomes." *In Girls' Education in the 21<sup>st</sup> Century: Gender Equality, Empowerment, and Economic Growth*, Washington DC: World Bank, 2008. 23-40.

- Kabeer, Naila, "Gender Equality and Women's Empowerment: A Critical Analysis of the Third Millennium Development Goal," *Gender & Development* 13, no. 1 (2005): 13-24.
- Kimmel, Michael S., Aronson, Amy, *The Gendered Society Reader*, New York: Oxford UP, 2011.
- King, Elizabeth M., Hill, Anne M., *Women's Education in Developing Countries Barriers, Benefits, and Policies*, Baltimore. Volume edited for the World Bank, Johns Hopkins University Press, 1998.
- Klasen. Stephan. "Low Schooling for Girls, Slower Growth for All? Cross-Country Evidence on the Effect of Gender Inequality in Education on Economic Development," *The World Bank Economic Review*, 16, no. 3 (2002): 345-373.
- Levine, Ruth, Lloyd, Cynthia, Greene, Margaret, Grown, Caren, *Girls Count: a Global Investment & Action Agenda*, Washington, DC: Center for Global Development, 2008.
- Moretti, Enrico, "Estimating the social return to higher education: evidence from longitudinal and repeated cross-sectional data," *Journal of Econometrics*, 121, 2004, p. 175-212.
- Nussbaum, Martha, *Creating Capabilities: The Human Development Approach*, Cambridge, Mass.: Belknap Press of Harvard University Press, 2011.
- Patrinos, Harry, "Returns to Education: The Gender Perspective," in *Girls' Education in the 21st Century: Gender Equality, Empowerment, and Economic Growth*. Washington DC: World Bank, 2008. 53-66.
- Psacharopoulos, George, Patrinos, Anthony Harry, "Returns to Investment in Education: A Further Update," *Education Economics* 12, no. 2 (2004): 111-134.
- Schultz, Paul T., *Why Governments Should Invest More to Educate Girls*, New Haven, CT: Economic Growth Center, Yale University, 2001.
- Schultz, T. P., "Human Capital and Development", in Peters, G. H. et al. (Eds.), *Agricultural Competitiveness*, 22nd International Conference of Agricultural Economics, Aldershot, England, Dartmouth, 1995.
- Schultz Paul, T., "Investment in the Schooling and Health of Women and Men; Quantities and Returns", *Economic Growth Center Discussion Paper (702)*, Yale University, 1993.
- Sen, Purna, "Enhancing Women's Choices in Responding to Domestic Violence in Calcutta: A Comparison of Employment and Education", *The European Journal of Development Research* 11, no. 2 (1999): 65-86.
- \* \* \* "Raport de cercetare privind discriminarea de gen în piața muncii", Proiect POSDRU: ESTHR – pachet integrat de acțiuni pentru dezvoltarea rolului femeii în societatea românească, Blocul Național Sindical, 2009.
- \* \* \* *Diferențele bazate pe gen în ceea ce privește profesiile, cariera și veniturile*, elaborat în cadrul Proiectului POSDRU ProFeminAntrep Editura Fundației România de Măine, București, 2011.
- \* \* \* *EU Gender Equality Law*, European Communities, 2008.
- \* \* \* *Eurostat*, [http://epp.eurostat.ec.europa.eu/portal/page/portal/employment\\_social\\_policy\\_equality/education\\_training](http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/education_training)
- \* \* \* *Gender-based segregation in terms of female occupation of some lower positions on the labour market - Segregarea bazată pe gen din perspectiva ocupării de către femei a unor poziții inferioare pe piața muncii*, Proiect PROFEMIN/POSDRU/144/6.3/S126567.

- \* \* \* *GHID pentru promovarea egalității între femei și bărbați pe piața muncii*, Proiect POSDRU, ANOFM.
  - \* \* \* Legea nr. 202/2002 privind egalitatea de șanse dintre femei și bărbați, *Monitorul Oficial*, Partea I, nr. 301, 8 mai 2002.
  - \* \* \* *Studiu privind segregarea de gen pe piața muncii*, elaborat în cadrul Proiectului POSDRU ProFeminAntrep, Editura *Fundației România de Mâine*, București, 2012.
  - \* \* \* *The Current Situation of Gender Equality in Romania – Country Profile*, Romania, Comisia Europeană, 2012.
  - \* \* \* *The Impact of the Economic Crisis on the Situation of Women and Men and on Gender Equality Policies*”, European Commission, December, 2012.
- [http://ec.europa.eu/justice/gender-equality/equality-pays-off/index\\_en.htm](http://ec.europa.eu/justice/gender-equality/equality-pays-off/index_en.htm)  
[http://en.wikipedia.org/wiki/Socioeconomic\\_impact\\_of\\_female\\_education](http://en.wikipedia.org/wiki/Socioeconomic_impact_of_female_education)  
<http://epp.eurostat.ec.europa.eu/portal/page/portal/education/data/database>  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/employment\\_social\\_policy\\_equality/education\\_training](http://epp.eurostat.ec.europa.eu/portal/page/portal/employment_social_policy_equality/education_training)  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/all\\_indicators](http://epp.eurostat.ec.europa.eu/portal/page/portal/sdi/indicators/all_indicators)  
[http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search\\_database](http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/search_database)  
<http://www.insse.ro/cms/>



## **BOOK REVIEW**



**THOMAS PIKETTY**  
**Capital in the Twenty-First Century**  
**Litera Publishing, Bucharest, 2015**  
**Translation from French by Irina Brateş and Lucia Popovici**

Thomas Piketty's book, *Capital in the Twenty-First Century*, appeared in France in 2013 and translated into Romanian in 2015 is a book about inequality. Although voluminous, it can be summed up in few words. Throughout the four parts and sixteen chapters, the author (scientific director of the School of Higher Studies in Social Sciences and professor at the Paris School of Economics) makes an analysis of the long term distribution of income and assets. The analysis is based on a huge amount of data collected mainly in the United States but also in France, Britain, Japan, Germany and many other countries, data obtained from the income statements, national accounts and inheritance taxes (succession fiscality). Therefore, the conclusions drawn by Piketty gain high credibility.

The first conclusion is that "the history of the distribution of wealth has always been deeply political, and it cannot be reduced to purely economic mechanisms" (Thomas Piketty, p. 69). There is no natural and spontaneous process that would lead either to increasing or to reducing the inequalities. There are both mechanisms that lead to income convergence (the process of dissemination of knowledge and investment in skills and training or replacing "the war of classes" with "the war of ages") as well as mechanisms that lead to income divergence. The second conclusion and the main thesis of the book is that economic growth alone is not enough to oppose the mechanisms that lead to greater inequalities. These mechanisms are three in number:

1) The historic trend by which the return on capital ( $r$  – which brings capital during one year in the form of dividends, interest, rents, etc.) is strongly and durably higher than the growth rate ( $g$  – the annual growth of income and production). Consequence of the fact that  $r > g$  is an inherent domination of the inherited patrimonies over the patrimonies established in a lifetime.

2) The increased disparity between wages as a result of the very rapid growth of the wages of the persons in higher positions (a recent phenomenon dating from the 1980s).

3) An even more recent inequality between the financial incomes that directly correlates  $r$  to the initial size of the investment portfolio. In other words, the higher the initial investment the higher is the return on capital.

In the end, Piketty also provides solution to this problem of growth inequality to incompatible levels with the meritocratic values and the principles of social justice that are the basis of the modern democratic societies. Mainly, he proposes an annual progressive taxation on capital established at a globally rate accepted. But the author himself acknowledges that such a taxation may seem a utopia, since it implies "a very high level of international cooperation and regional political integration".

22.06.2015  
Cristian UȚĂ, Lecturer PHD  
Spiru Haret University

Redactor: Mihaela N. ȘTEFAN  
Tehnoredactor: Marcela OLARU  
Coperta: Magdalena ILIE

---

Bun de tipar: 26.06.2015; Coli tipar: 6  
Format: 16/70×100

---

Editura Fundației *România de Mâine*  
Str. Fabricii nr. 46G, București, Sector 6  
Tel./Fax: 021/444.20.91; [www.spiruharet.ro](http://www.spiruharet.ro)  
e-mail: [editurafrm@spiruharet.ro](mailto:editurafrm@spiruharet.ro)