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Tax competition between Regional Governments and National and Interregional economic growth

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Abstract

The purpose of this study is to examine a well-mentioned but rarely properly examined issue related to interregional tax competition and regional and national economic growth. We build an inter-regional neoclassical economic growth with regional governments' competition in taxation. We extend Solow-Uzawa's neoclassical growth model to any number of regions. The model treats wealth/capital accumulation, economic structures, factor distributions, interregional population distribution, amenity, regions' tax rates as endogenous variables. Firms' behavior is described by profit maximization, households' behavior by utility maximization, markets by perfect competition, and regional governments' behavior by choosing tax rates to maximize utility. We identify the existence of an equilibrium point and conduct comparative analysis to show how changes in, for instance, the utility elasticity of public goods, technologies, propensity to consume housing, and propensity to save, affect the long-run economic growth and structure.

Keywords: tax competition; Nash equilibrium; multi-region economic dynamics; factor distribution; regional disparities in wealth and income; wealth accumulation; amenity.

1. Introduction

This paper is concerned with the role of tax competition in interregional and national economic growth. The subject has been an important topic in the regional public economics literature (e.g., Wilson, 1986; Zodrow and Mieszkowski, 1986; Wildasin, 1988; Andersson and Forslid, 2003, Baldwin and Krugman, 2004, Bayindir-Upmann and Ziad, 2005, Borck and Pflüger, 2006; Ihori and Yang, 2009). This paper is to re-address the subject, with the usual neoclassical assumptions on the production technology and tax competition, but an alternative approach to behavior of household. The attempt is made to deal with the issue in a general equilibrium framework of a multi-regional economy, in which wealth accumulation is endogenous, capital and labor factors are freely mobile, and local public goods and local amenities are endogenous. We consider a Nash game in tax rates played between multiple regions with endogenous wealth accumulation.

Another issue we address is how strongly tax rates in different regions are related to rapid agglomeration observed in modern economies. Regional agglomeration has become increasingly more pronounced in different parts of the world. More and more people are moving to and living in a few metropolitan areas of the world are attracting more people. Regional agglomeration has caused attention of economists (Myrdal,

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1957; Hirschman, 1958; Kuznets, 1966; Bairoch, 1993). Earlier literature emphasizes dynamic interactions between industrial growth and the geographical concentration of industry. The contemporary literature on economic geography and economic development builds mathematical models to describe these dynamic processes (e.g., Krugman, 1991, Fujita et al, 1999, Forslid and Ottaviano, 2003, Zhang, 2008). Most of models in economic geography don't consider capital accumulation and tax competition. A unique contribution of this paper is to introduce tax competition into a neoclassical growth model with spatial agglomeration. concentrated on the study of interregional development with capital accumulation, taking account of factors such as environment and regional economic structure.

This study follows the neoclassical growth theory with wealth accumulation and amenity in regional growth and agglomeration. Although the so-called new economic geography (e.g., Krugman, 1993; Charlot, 2006; Bertoletti and Etro, 2015; Nocco, *et. al.*, 2017; Parenti, *et.al.*, 2017; and Picard and Zenou, 2018). In almost all the dynamic models of the new economic geography, regional amenities do not play a significant role in determining land rent and population mobility. To explain spatial economic agglomeration without taking account of spatial amenities and wealth accumulation may result in misleading results. Our study attempts to introduce wealth and amenity to spatial agglomeration theory. Moreover, as Tabuchi (2014: 50) observes, "The scopes of most of the theoretical studies published thus far have been limited to two regions in order for researchers to reach meaningful analytical results. The two-region NEG models tend to demonstrate that spatial distribution is dispersed in the early period (high trade costs or low manufacturing share) and agglomerated in one of the two regions in the late period (low trade costs or high manufacturing share). However, the two-region NEG models are too simple to describe the spatial distribution of economic activities in real-world economies. Since there are only two regions, their geographical locations are necessarily symmetric, and thus diverse spatial distributions cannot occur." Our model is developed for any number of regions.

Amenity is another important aspect of spatial agglomeration (e.g., Graves 1979; Roback 1982; Glaeser et. al. 2001; Partridge et al. 2008; Chen *et al.* 2013; Liu, et al. 2018; Tivadar and Jaye 2019). Zhang (1993) first introduced spatial amenity into utility in a general equilibrium framework. Zhang (1996) introduced spatial amenity into a formal regional growth model. The concept is an aggregated variable which is related to public services, local transportation systems, accessibilities, pollution, and human relations such as discrimination, and other factors. This study incorporates amenity into the consumer location decision by assuming that amenity is an endogenous variable. This paper is an extension of Zhang's previous models on interregional economic dynamics (Zhang 2009, 2018). The main extension is the introduction of local governments' tax competition with gaming approach. This rest of the paper is organized as follows. Section 2 develops the multi-regional model with capital accumulation, economic structure, and regional governments' tax competition. Section 3 identifies the existence of an equilibrium point. Section 4 carries out comparative static analysis with regards to the total factor productivities of the two sectors, the utility elasticity of public goods, the propensity to save, the propensity to consume housing, and the relative amenity. Section 5 concludes the study. Some of the results of section 3 are proved in the Appendix.

2. The Multi-regional Growth Model with Tax Competition

This paper is based on Zhang's dynamic interregional growth models (Zhang 1996, 2018). The main concern is to introduce tax competition (e.g., Wilson 1991) into the neoclassical growth model. The economy is composed of multiple regions and each region has a regional government. The sole role of the regional government is to provide public goods. Each region's financial resource is due to taxing the region's households. Households move freely between regions. Regional governments are competitive in taxation as they want to attract people by providing better public goods, but they cannot tax households arbitrarily as people can freely move between regions. There is competition in taxation between regions. The formal neoclassical trade theory is a mainstream in economic theory with a long and complicated history (Uzawa 1961; Oniki and Uzawa 1965; Brecher *et. al.* 2002; Sorger 2003; Zhang 2009). Following Uzawa (1961) and Zhang (1996), we consider that each region produces one goods and services. Most aspects of the two sectors are similar to the Uzawa two-sector growth model. Households own assets of the economy and distribute their incomes to consume and save. Production sectors or firms use capital and labor. Exchanges take place in perfectly competitive markets. Production sectors sell their product to households or to other sectors and households sell their labor and assets to production sectors. Factor markets work well; the available factors are fully utilized at every moment. Households undertake saving, which implies that all earnings of firms are distributed in the form of payments to factors of production. Firms use all savings volunteered by households.

The national economy consists of J regions, indexed by $j = 1, \ldots, J$. All the markets within each region and between regions are perfectly competitive. There are no barrier and transaction costs for trade in commodities. No transportation cost and free trade implies equal price of the commodity in all the regions. Services are consumed in the region where they are supplied. All prices are measured in terms of the commodity whose price is unity. We use $w_j(t)$ and $r_j(t)$ to denote wage and interest respectively in the jth region. The interest rate is equalized throughout the national economy, i.e., $r(t) = r_j(t)$. The population N is constant and homogenous. People move freely without any transaction costs between regions, choosing residential location, consumption bundles, and saving to maximize utility. Region j is endowed with fixed homogenous land L_j solely available for residential use. Each region's residential condition is described by an aggregated variable, amenity. As amenity and land are immobile, wage rates and land rent vary between regions. We use subscripts, i, s, to stand for the capital goods and services sectors, respectively. Let $F_{jq}(t)$ stand for the output levels of q's sector in region j at time t, $q = i, s$

Behavior of producers

Firms in each region employ capital $K_{jq}(t)$ and labor $N_{jq}(t)$ to supply with the following production functions:

$$F_{jq}(t) = A_{jq} K_{jq}^{\alpha_{jq}}(t) N_{jq}^{\beta_{jq}}(t), \quad j = 1, \ldots, J, \quad q = i, s. \text{ (1)}$$

We use $p_j(t)$ to stand for region j's services price. The marginal conditions imply:

$$r(t) + \delta_{kj} = \frac{\alpha_{ji} F_{ji}(t)}{K_{ji}(t)} = \frac{\alpha_{js} p_j(t) F_{js}(t)}{K_{js}(t)}, \quad w_j(t) = \frac{\beta_{ji} F_{ji}(t)}{N_{ji}(t)} = \frac{\beta_{js} p_j(t) F_{js}(t)}{N_{js}(t)}, \quad (2)$$

where δ_{kj} are depreciation rates of physical capital in region j. It should be noted that this study does not consider possible externalities on production due to production agglomeration and public goods and taxation on firms located in each region. It is important to take account of tax rates on production sides. As analysis is too complicated, this study is limited to the case that only consumers are subject to taxation. How to introduce taxes on production sides with tax competition is referred to, for instance, Wilson (1991) and Saez and Stantcheva (2018).

The household's current income, disposable income, and budget
In order to define incomes, it is necessary to determine land ownership structure. Land properties may be distributed in multiple ways under various institutions. To simplify the model, we accept the assumption of absent landownership, which means that the income of land rent is spent outside the economic system. A possible reasoning for this that the land is owned by the government, people can rent the land in competitive market, and the government uses the income for military or other public purposes. Consumers make decisions on choice of lot size, consumption levels of services and commodities as well as on how much to save. We describe behavior of households by Zhang's model (e.g., Zhang, 1993, 2005, 2008).

Let $\bar{k}_j(t)$ stand for the per household wealth in region j. Region $j's$ representative household has the following current income:

$$y_j(t) = \tau_j^k(t) r(t) \bar{k}_j(t) + \tau_j^w(t) w_j(t), \quad (3)$$

where $\tau_j^k(t)$ and $\tau_j^w(t)$ are respectively defined as follows:

$$\tau_j^x(t) = 1 - \bar{\tau}_j^x \tau_j(t), \quad x = k, w. \quad (4)$$

The terms $\bar{\tau}_j^k \tau_j(t)$ and $\bar{\tau}_j^w \tau_j(t)$ are respectively the tax rates on wealth income and wage in region j. For simplicity of analysis, we assume a constant co-relation between the tax rates in the same region, which are measured by two parameters, $\bar{\tau}_j^k$ and $\bar{\tau}_j^w$.

Hence, region $j's$ government determines a single variable $\tau_j(t)$ when making its optimal decision. Here, we assume that selling and buying wealth can be conducted instantaneously without any transaction cost. The disposable income is given by:

$$\hat{y}_j(t) = y_j(t) + \bar{k}_j(t). \quad (5)$$

The disposable income is used for saving and consumption. The value of wealth $\bar{k}_j(t)$ is a flow variable. At each point in time, the household distributes the total available budget between housing $l_j(t)$, saving $s_j(t)$, consumption of goods $c_{ji}(t)$, and consumption of goods $c_{js}(t)$. The budget constraint is thus as follows:

$$R_j(t)\,l_j(t) \;+\; c_{ji}(t) \;+\; p_j(t)\,c_{js}(t) \;+\; s_j(t) \;=\; \hat{y}_j(t), \quad (6)$$

where $R_j(t)$ is region j's land rent.

Utility, amenity and optimal behavior of the household
We assume that utility level $U_j(t)$ that the consumer obtains is dependent on the consumption levels of lot size, commodity, services, and saving. The utility level of the typical consumer in region j is:

$$U_j(t) \;=\; \theta_j(t)\,l_j^{\eta_0}(t)\,c_{ji}^{\xi_0}\,c_{js}^{\gamma_0}(t)\,s_j^{\lambda_0}(t), \quad \eta_0, \gamma_0, \xi_0, \lambda_0 > 0, \quad (7)$$

in which $\eta_0, \xi_0, \gamma_0,$ and λ_0 are the representative household's elasticity of utility with regard to lot size, commodity, services, and savings in region j. We call $\eta_0, \xi_0, \gamma_0,$ and λ_0 propensities to consume lot size, goods, and services, and to hold wealth (save), respectively. In (7), $\theta_j(t)$ is region j's amenity level. Amenities are affected by infrastructures, regional cultures and climates (e.g., Kanemoto, 1980; Diamond and Tolley, 1981; Blomquist, et al. 1988). In this study, we assume that amenity is affected by population and local public goods $G_j(t)$. We specify $\theta_j(t)$ as follows:

$$\theta_j(t) = \bar{\theta}_j\,N_j^d(t)\,G_j^{\bar{d}}(t), \quad j \;=\; 1,\dots,J, \quad (8)$$

where $\bar{\theta}_j(> 0), d, \bar{d} > 0$, are parameters and $N_j(t)$ is region j's population. We don't specify signs of d as population may have either positive or negative effects on regional attractiveness. As Chen *et al.* (2013: 269) observe: "The presence of both positive and negative population externalities suggests that the steady state (or competitive) pattern may differ from an optimal pattern in which all the external benefits and costs of households' migration decisions are internalized." It should be noted that through amenity we relate our approach to hedonic price modelling (e.g., Rosen, 1974; Helbich *et al.*, 2014). As shown late on we make it possible to relate environment and housing prices (Dubin, 1992; Can and Megbolugbe, 1997; Sheppard, 1997; Malpezzi, 2003; McMillen, 2010; and Ahlfeldt, 2011).

Maximizing $U_j(t)$ subject to the budget constraints (5) yields:

$$l_j(t)\, R_j(t) \;=\; \eta\, \hat{y}_j(t), \;\; c_{ji}(t) \;=\; \xi\, \hat{y}_j(t), \;\; p_j(t)\, c_{js}(t) = \gamma\, \hat{y}_j(t), \;\; s_j(t) \\ = \lambda\, \hat{y}_j(t), \quad (9)$$

where

$$\eta \;\equiv\; \eta_0\, \rho, \;\; \xi \;\equiv\; \xi_0\, \rho, \;\; \gamma \;\equiv\; \gamma_0\, \rho, \;\; \lambda \;\equiv\; \lambda_0\, \rho, \;\; \rho \;\equiv\; \frac{1}{\eta_0 + \xi_0 + \gamma_0 + \lambda_0}.$$

Wealth accumulation

According to the definitions of $s_j(t)$, the wealth accumulation of the representative household in region j is given by:

$$\dot{\bar{k}}_j(t) = s_j(t) - \bar{k}_j(t). \tag{10}$$

Equalization of utility levels between regions

As households are freely mobile between the regions, the utility level of people should be equal, irrespective of in which region they live, i.e.

$$U_j(t) \;=\; U_q(t), \;\; j, q \;=\; 1, \ldots, J. \tag{11}$$

We don't take account of possible costs for migration. Taking account of changes in houses makes it difficult to model the behavior of households. Wage equalization between regions is often used as the equilibrium mechanism of population mobility over space.

Demand and supply balances

The total capital stocks $K(t)$ employed by the production sectors is equal to the total wealth owned by the households of all the regions. That is

$$K(t) = \sum_{j=1}^{J} K_j(t) = \sum_{j=1}^{J} \bar{k}_j(t) N_j(t), \quad (12)$$

in which $K_j(t) \equiv K_{ji}(t) + K_{js}(t)$.

A region's supply of services is consumed by the region

$$c_{js}(t) N_j(t) = F_{js}(t). \quad (13)$$

Full employment of input factors

Each region's land is fully occupied by the region's population:

$$l_j(t) N_j(t) = L_j. \quad (14)$$

The assumption that labor force and land are fully employed is represented by

$$N_{ji}(t) + N_{js}(t) = N_j(t), \quad j = 1,\ldots,J, \qquad (15)$$

$$\sum_{j=1}^{J} N_j(t) = N. \quad (16)$$

The regional governments' budgets

As the tax income is solely spent on supplying public goods, we have the regional government budgets as follows:

$$\bar{Y}_j(t) = Y_j^0(t) \tau_j(t) N_j(t), \quad (17)$$

where

$$Y_j^0(t) \equiv \bar{\tau}_j^k \, r(t) \, \bar{k}_j(t) \, + \, \bar{\tau}_j^w w(t).$$

We assume that all the tax income is spent on public goods and the public sector receives no financial support from any other source. We thus have:

$$G_j(t) \, = \, \bar{Y}_j(t). \; (18)$$

Interregional tax competition
The local governments play a Nash equilibrium game in tax rates. We consider that each regional government maximizes the utility level that the representative household receives by choosing living and working in the region. From (7)-(9), we can write utility function as follows:

$$U_j\left(t,\left(\tau_j(t)\right)\right) \, = \, \bar{\theta}_j \, L_j^{\eta_0} \, \xi^{\xi_0} \, \gamma^{\gamma_0} \, \lambda^{\lambda_0} \, N_j^{d-\eta_0}(t) \, G_j^{\bar{d}}(t) \, p_j^{-\gamma_0}(t) \, \hat{y}_j^{\tilde{\rho}}(t). \; (19)$$

where we use (14) and

$$\tilde{\rho} \, = \, \gamma_0 \, + \, \xi_0 \, + \, \lambda_0.$$

Insert (15) and (16) in (17)

$$U_j\left(t,\left(\tau_j(t)\right)\right) \, = \, u_j(t) \, \tau_j^{\bar{d}}(t) \, \hat{y}_j^{\tilde{\rho}}(t), \; (20)$$

where

$$u_j(t) \equiv \bar{\theta}_j \, L_j^{\eta_0} \, \xi^{\xi_0} \, \gamma^{\gamma_0} \, \lambda^{\lambda_0} \, N_j^{d+\bar{d}-\eta_0}(t) \, Y_j^{0\bar{d}}(t) \, p_j^{-\gamma_0}(t).$$

From (5), we have

$$\hat{y}_j(t) = h_j(t) \, - \, Y_j^0(t) \, \tau_j(t), \; (21)$$

where

$$h_j(t) \equiv \bar{r}(t) + \bar{k}_j(t) + r(t)\bar{k}_j(t) + w_j(t).$$

Insert (21) in (20)

$$U_j\left(t, (\tau_m(t))\right) = u_j(t)\,\tau_j^{\bar{d}}(t)\left(h_j(t) - Y_j^0(t)\,\tau_j(t)\right)^{\tilde{\rho}}. \quad (22)$$

Region j' government maximizes $U_j\left(t, (\tau_m(t))\right)$ by choosing $\tau_j(t)$ with all the other region governments' $\tau_m(t)$ as given. Taking the partial derivative of $U_j\left(t, (\tau_m(t))\right)$ in $\tau_j(t)$ and the applying the marginal condition yields:

$$\tau_j(t) = \frac{\tilde{d}\,h_j(t)}{Y_j^0(t)}, \quad (23)$$

where $\tilde{d} = \bar{d}/(\tilde{\rho} + \bar{d})$. We have an equilibrium in government game when each government chooses its optimal tax rates, given the tax rates chosen by all the other governments. It should be noted that one might also consider some other strategic variables for the governments. For instance, Wildasin (1986, 1991) considers public expenditure levels as the strategic variables.

We have thus built the interregional growth model with endogenous capital accumulation, regional capital and labor distribution in a perfectly competitive economy with the government intervention.

3. Equilibrium Point

As shown in the Appendix, it is difficult to make a genuine dynamic analysis of the nonlinear system. For illustration, the rest of the study simulates the model. This section identifies the existence of an equilibrium point. The procedure to determine the equilibrium point is provided in the Appendix. We analyze equilibrium structure for a 3-region economy. We specify parameter values as follows:

$$N = 100, \ \lambda_0 = 0.75, \ \xi_0 = 0.1, \ \eta_0 = 0.07, \ \gamma_0 = 0.07, \ d$$
$$= -0.05, \ \bar{d} = 0.1;$$

$$\begin{pmatrix} A_{1i} \\ A_{2i} \\ A_{3i} \end{pmatrix} = \begin{pmatrix} 1.3 \\ 1.2 \\ 1.1 \end{pmatrix}, \begin{pmatrix} A_{1s} \\ A_{2s} \\ A_{3s} \end{pmatrix} = \begin{pmatrix} 1.2 \\ 1.1 \\ 1 \end{pmatrix}, \begin{pmatrix} \alpha_{1i} \\ \alpha_{2i} \\ \alpha_{3i} \end{pmatrix} = \begin{pmatrix} 0.32 \\ 0.31 \\ 0.3 \end{pmatrix}, \begin{pmatrix} \alpha_{1s} \\ \alpha_{2s} \\ \alpha_{3s} \end{pmatrix} = \begin{pmatrix} 0.32 \\ 0.32 \\ 0.32 \end{pmatrix},$$

$$\begin{pmatrix} L_1 \\ L_2 \\ L_3 \end{pmatrix} = \begin{pmatrix} 10 \\ 20 \\ 20 \end{pmatrix}, \begin{pmatrix} \bar{\theta}_1 \\ \bar{\theta}_2 \\ \bar{\theta}_3 \end{pmatrix} = \begin{pmatrix} 3.8 \\ 4.2 \\ 5 \end{pmatrix}, \begin{pmatrix} \bar{\tau}_{1k} \\ \bar{\tau}_{2k} \\ \bar{\tau}_{3k} \end{pmatrix} = \begin{pmatrix} 0.5 \\ 0.7 \\ 0.8 \end{pmatrix}, \begin{pmatrix} \bar{\tau}_{1w} \\ \bar{\tau}_{2w} \\ \bar{\tau}_{3w} \end{pmatrix} = \begin{pmatrix} 1 \\ 1 \\ 1 \end{pmatrix}, \begin{pmatrix} \delta_{k1} \\ \delta_{k2} \\ \delta_{k3} \end{pmatrix} = \begin{pmatrix} 0.04 \\ 0.05 \\ 0.06 \end{pmatrix}.$$

$$(24)$$

The population is fixed at $100.$ The propensities to save, to consume commodity, to consume housing, and to consume lot size are respectively $0.75, 0.1, 0.07$ and $0.07.$ The utility elasticity for the population is negative. The utility elasticity for public goods is $0.1.$

Region 1's levels of productivity of the two sectors are highest; region 2's levels are the next; and region 3's levels of productivity of the two sectors are lowest. We specify values of α_{jk} close to $0.3.$ With regard to the technological parameters, for illustration what are important in our interregional study are their relative values. The presumed productivity differences between the regions are not very large. We have the regional GDPs and national GDP as follows:

$$Y_j = F_{ji} + p_j F_{js}, \quad Y = Y_1 + Y_2 + Y_3.$$

The simulation confirms that the system has an equilibrium point. We list the equilibrium values in (25):

$$Y = 183.96, \quad K = 361.4, \quad r = 0.115,$$

$$\begin{pmatrix} \tau_{1k} \\ \tau_{2k} \\ \tau_{3k} \end{pmatrix} = \begin{pmatrix} 0.198 \\ 0.27 \\ 0.302 \end{pmatrix}, \begin{pmatrix} \tau_{1w} \\ \tau_{2w} \\ \tau_{3w} \end{pmatrix} = \begin{pmatrix} 0.395 \\ 0.386 \\ 0.377 \end{pmatrix}, \begin{pmatrix} \bar{Y}_1 \\ \bar{Y}_2 \\ \bar{Y}_3 \end{pmatrix} = \begin{pmatrix} 30.9 \\ 10.1 \\ 10.9 \end{pmatrix}, \begin{pmatrix} Y_1 \\ Y_2 \\ Y_3 \end{pmatrix} = \begin{pmatrix} 110.5 \\ 35.5 \\ 37.9 \end{pmatrix},$$

$$\begin{pmatrix} N_1 \\ N_2 \\ N_3 \end{pmatrix} = \begin{pmatrix} 53.4 \\ 20.5 \\ 26.1 \end{pmatrix}, \begin{pmatrix} K_1 \\ K_2 \\ K_3 \end{pmatrix} = \begin{pmatrix} 228.4 \\ 67.1 \\ 65.9 \end{pmatrix}, \begin{pmatrix} \bar{K}_1 \\ \bar{K}_2 \\ \bar{K}_3 \end{pmatrix} = \begin{pmatrix} 212.6 \\ 70.1 \\ 75.8 \end{pmatrix}, \begin{pmatrix} F_{1i} \\ F_{2i} \\ F_{3i} \end{pmatrix} = \begin{pmatrix} 90.4 \\ 29 \\ 30.1 \end{pmatrix},$$

$$\begin{pmatrix} F_{1s} \\ F_{2s} \\ F_{3s} \end{pmatrix} = \begin{pmatrix} 18.6 \\ 6.06 \\ 6.55 \end{pmatrix}, \begin{pmatrix} N_{1i} \\ N_{2i} \\ N_{3i} \end{pmatrix} = \begin{pmatrix} 43.68 \\ 16.74 \\ 21.38 \end{pmatrix}, \begin{pmatrix} N_{1s} \\ N_{2s} \\ N_{3s} \end{pmatrix} = \begin{pmatrix} 9.72 \\ 3.73 \\ 4.76 \end{pmatrix}, \begin{pmatrix} K_{1i} \\ K_{2i} \\ K_{3i} \end{pmatrix} = \begin{pmatrix} 187.8 \\ 54.4 \\ 53 \end{pmatrix},$$

$$\begin{pmatrix} K_{1s} \\ K_{2s} \\ K_{3s} \end{pmatrix} = \begin{pmatrix} 41.6 \\ 12.7 \\ 12.9 \end{pmatrix}, \begin{pmatrix} p_1 \\ p_2 \\ p_3 \end{pmatrix} = \begin{pmatrix} 1.083 \\ 1.078 \\ 1.079 \end{pmatrix}, \begin{pmatrix} w_1 \\ w_2 \\ w_3 \end{pmatrix} = \begin{pmatrix} 1.41 \\ 1.19 \\ 1.01 \end{pmatrix}, \begin{pmatrix} R_1 \\ R_2 \\ R_3 \end{pmatrix} = \begin{pmatrix} 2.01 \\ 0.33 \\ 0.35 \end{pmatrix},$$

$$\begin{pmatrix} \theta_1 \\ \theta_2 \\ \theta_3 \end{pmatrix} = \begin{pmatrix} 4.39 \\ 4.55 \\ 5.39 \end{pmatrix}, \begin{pmatrix} \bar{k}_1 \\ \bar{k}_1 \\ \bar{k}_1 \end{pmatrix} = \begin{pmatrix} 4.04 \\ 3.42 \\ 2.9 \end{pmatrix}, \begin{pmatrix} l_1 \\ l_2 \\ l_3 \end{pmatrix} = \begin{pmatrix} 0.19 \\ 0.98 \\ 0.77 \end{pmatrix}, \begin{pmatrix} c_{1i} \\ c_{2i} \\ c_{3i} \end{pmatrix} = \begin{pmatrix} 0.54 \\ 0.46 \\ 0.39 \end{pmatrix},$$

$$\begin{pmatrix} c_{1s} \\ c_{2s} \\ c_{3s} \end{pmatrix} = \begin{pmatrix} 0.35 \\ 0.3 \\ 0.25 \end{pmatrix}. \quad (25)$$

Region 1's tax rate on wage is highest, but region 1's tax rate on wealth income is lowest. The household in region 1 has consumption levels of goods and services, highest wage rate, and wealth. The land rent in region 1 is highest and lot size and amenity are lowest. Region1 provides highest level of public goods. More than half of the population is attracted to region 1. Region 1 employs more capital stocks that the capital stocks owned by the region's population.

4. Comparative dynamic analysis

We found the equilibrium point in the previous sector. This section shows how the economic system reacts to changes in different parameters. Following the Lemma, we can give the equilibrium values of all the variables. In the rest of this study we use $\bar{\Delta}x_j$ to stand for the change rate of the variable x_j in percentage due to changes in a parameter value.

4.1. The utility elasticity for public goods is increased

We first examine how the equilibrium structure is affected by the following rise in the utility elasticity for public goods: $\bar{d} = 0.1$ to 0.102. We list the simulation result in (26):

$$\bar{\Delta}Y = -0.95, \quad \bar{\Delta}K = -3.64, \quad \bar{\Delta}r = 4.15,$$

$$\begin{pmatrix}\bar{\Delta}\tau_{1k}\\\bar{\Delta}\tau_{2k}\\\bar{\Delta}\tau_{3k}\end{pmatrix}=\begin{pmatrix}\bar{\Delta}\tau_{1w}\\\bar{\Delta}\tau_{2w}\\\bar{\Delta}\tau_{3w}\end{pmatrix}=\begin{pmatrix}2.4\\2.2\\2\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}\bar{Y}_1\\\bar{\Delta}\bar{Y}_2\\\bar{\Delta}\bar{Y}_3\end{pmatrix}=\begin{pmatrix}4.4\\-4.4\\-0.8\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}Y_1\\\bar{\Delta}Y_2\\\bar{\Delta}Y_3\end{pmatrix}=\begin{pmatrix}1.7\\-6.9\\-3.1\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}N_1\\\bar{\Delta}N_2\\\bar{\Delta}N_3\end{pmatrix}=\begin{pmatrix}3.2\\-5.7\\-2\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}K_1\\\bar{\Delta}K_2\\\bar{\Delta}K_3\end{pmatrix}=\begin{pmatrix}-1.3\\-9.6\\-5.7\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}\bar{K}_1\\\bar{\Delta}\bar{K}_2\\\bar{\Delta}\bar{K}_3\end{pmatrix}=\begin{pmatrix}2.3\\-6.5\\-2.8\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}F_{1i}\\\bar{\Delta}F_{2i}\\\bar{\Delta}F_{3i}\end{pmatrix}=\begin{pmatrix}1.6\\-7\\-3.2\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}F_{1s}\\\bar{\Delta}F_{2s}\\\bar{\Delta}F_{3s}\end{pmatrix}=\begin{pmatrix}2.3\\-6.5\\-2.8\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}N_{1i}\\\bar{\Delta}N_{2i}\\\bar{\Delta}N_{3i}\end{pmatrix}=\begin{pmatrix}3\\-5.8\\-2.1\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}N_{1s}\\\bar{\Delta}N_{2s}\\\bar{\Delta}N_{3s}\end{pmatrix}=\begin{pmatrix}3.8\\-5.3\\-1.6\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}K_{1i}\\\bar{\Delta}K_{2i}\\\bar{\Delta}K_{3i}\end{pmatrix}=\begin{pmatrix}-1.5\\-9.7\\-5.8\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}K_{1s}\\\bar{\Delta}K_{2s}\\\bar{\Delta}K_{3s}\end{pmatrix}=\begin{pmatrix}-0.8\\-9.1\\-5.3\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}p_1\\\bar{\Delta}p_2\\\bar{\Delta}p_3\end{pmatrix}=\begin{pmatrix}0\\0.04\\0.08\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}w_1\\\bar{\Delta}w_2\\\bar{\Delta}w_3\end{pmatrix}=\begin{pmatrix}-1.4\\-1.3\\-1.2\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}R_1\\\bar{\Delta}R_2\\\bar{\Delta}R_3\end{pmatrix}=\begin{pmatrix}2.3\\-6.9\\-2.7\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}\theta_1\\\bar{\Delta}\theta_2\\\bar{\Delta}\theta_3\end{pmatrix}=\begin{pmatrix}0.97\\0.28\\0.5\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}\bar{k}_1\\\bar{\Delta}\bar{k}_1\\\bar{\Delta}\bar{k}_1\end{pmatrix}=\begin{pmatrix}-0.84\\-0.8\\-0.77\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}l_1\\\bar{\Delta}l_2\\\bar{\Delta}l_3\end{pmatrix}=\begin{pmatrix}-3.1\\6.1\\2\end{pmatrix},\ \begin{pmatrix}\bar{\Delta}c_{1i}\\\bar{\Delta}c_{2i}\\\bar{\Delta}c_{3i}\end{pmatrix}=\begin{pmatrix}-0.85\\-0.78\\-0.73\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}c_{1s}\\\bar{\Delta}c_{2s}\\\bar{\Delta}c_{3s}\end{pmatrix}=\begin{pmatrix}-0.85\\-0.83\\-0.81\end{pmatrix}. \quad (26)$$

The positive utility elasticity for public goods implies that more public goods in one region will makes the region more attractive. Competition between the regional governments leads in that all the regions increase their tax rates. Region 1 attracts more people, while the other two regions lose people. As region has is more advanced than the other two regions in technology, the rise in elasticity implies that public investment is relatively more important than the other factors in amenity functions. Although it increases its tax rates more than the other regions, region 1 becomes more attractive as its tax income and public goods increases are more than the other two regions. The national capital and income are reduced in association with rises in the rate of interest. The prices of services are slightly increased. All the households have lower consumption levels of goods and services and less wealth. The amenity levels in all the regions are enhanced. The residential rent (lot size) is enhanced (reduced) in region 1 and reduced (lot size) in the other two regions.

4.2. The amenity elasticity for the regional population is increased

We study how the equilibrium structure is affected by the following rise in the amenity elasticity for the regional population: $d = -0.05 \text{ to} - 0.04.$ We list the simulation result in (27):

$$\bar{\Delta}Y = 3.39, \bar{\Delta}K = 3.81, \bar{\Delta}r = 1.99,$$

$$\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} 0.55 \\ 0.49 \\ 0.45 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}\bar{Y}_1 \\ \bar{\Delta}\bar{Y}_2 \\ \bar{\Delta}\bar{Y}_3 \end{pmatrix} = \begin{pmatrix} 30.8 \\ -46.2 \\ -26.8 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} 29.9 \\ -46.5 \\ -27.3 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} 30.8 \\ -46.2 \\ -26.8 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} 28 \\ -47.2 \\ -28.2 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} 30.8 \\ -46.2 \\ -26.8 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} 29.7 \\ -46.6 \\ -27.4 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} 30.8 \\ -46.2 \\ -26.8 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} 30.6 \\ -46.3 \\ -27 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} 31.7 \\ -45.8 \\ -26.4 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} 28.8 \\ -47.3 \\ -28.3 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} 28.9 \\ -46.9 \\ -27.7 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0.02 \\ 0.04 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} -0.69 \\ -0.62 \\ -0.56 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} 30.8 \\ -46.2 \\ -26.8 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} 5.8 \\ -0.7 \\ 1.4 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} -0.03 \\ 0.06 \\ 0.1 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} -23.6 \\ 85.8 \\ 36.7 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} -0.03 \\ 0.04 \\ 0.1 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} -0.03 \\ 0.02 \\ 0.06 \end{pmatrix}. \quad (27)$$

As the population influence on amenity is weakened, the population is more concentrated in region 1. The national development is encouraged. The national output and capital are enhanced. The rate of interest is reduced. The tax rates of all the regions are enhanced. Region 1 supplies more public goods and the other two regions' public goods are reduced. The other macroeconomic real variables in the three regions are affected similarly. Region 1 has higher levels of the total output, the output levels of the two sectors, and capital stocks and labor force employed by each sector. The same variables of the other two regions are reduced. The service prices are slightly increased. The wage rates are reduced. Region 2's amenity is reduced. The other two regions' amenity levels are enhanced. Region 1 has lower levels of consumption of goods and services. The other two regions' representative households consume more goods and services. Region 1's household pays higher rent and lives in smaller house.

4.3. Region 3's residential land is expanded

We study how the equilibrium structure is affected by the following expansion in region 3's residential land: $L_3 = 20$ to 21. We list the simulation result in (28):

$$\bar{\Delta}Y = -0.75, \ \bar{\Delta}K = -0.83, \ \bar{\Delta}r = -0.42,$$

$$
\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} -0.12 \\ -0.1 \\ -0.09 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}\bar{Y}_1 \\ \bar{\Delta}\bar{Y}_2 \\ \bar{\Delta}\bar{Y}_3 \end{pmatrix} = \begin{pmatrix} -4.09 \\ -4.83 \\ 12.12 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} -3.95 \\ -4.7 \\ 12.28 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} -4.1 \\ -4.83 \\ 12.15 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} -3.65 \\ -4.42 \\ 12.59 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} -4.09 \\ -4.83 \\ 12.12 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} -3.92 \\ -4.67 \\ 13.32 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} -4.09 \\ -4.83 \\ 12.13 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} -4.07 \\ -4.8 \\ 12.18 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} -4.23 \\ -4.96 \\ 11.99 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} -3.62 \\ -4.39 \\ 12.63 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} -3.79 \\ -4.55 \\ 12.44 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ -0.01 \\ -0.01 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} 0.15 \\ 0.13 \\ 0.12 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} -4.09 \\ -4.83 \\ 6.79 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} -0.21 \\ -0.25 \\ 0.57 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} 0.01 \\ -0.01 \\ -0.02 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} 4.27 \\ 5.01 \\ -6.37 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} 0.01 \\ -0.01 \\ -0.02 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} 0.01 \\ -0.01 \\ -0.01 \end{pmatrix}.
$$

$$(28)$$

The enlarged residential area attracts more people to region 3. The increased population is associated with increases in region 3's expenditures on public goods. This makes the region more attractive. At the new equilibrium, region 3's lot size per household is reduced irrespective of the region's expansion of residential land. As more people move to the lest productive region, the nation has lower income and less capital stocks. The rate of interest is reduced. The wage rates are enhanced. The prices of services are reduced slightly. Region 3's household enjoys higher amenity but pays higher rent and lives in smaller house. Region 3's other real macro-economic variables are augmented, while the corresponding variables of the other two regions are reduced. The regions' governments reduce the tax rates.

4.4. Region 3's amenity parameter is increased

We study how the equilibrium structure is affected by the following rise in region 3's amenity parameter: $\bar{\theta}_3 = 5 \text{ to } 5.1$. We list the simulation result in (29):

$$\bar{\Delta}Y = -0.43, \ \bar{\Delta}K = -0.48, \ \bar{\Delta}r = -0.24,$$

$$\begin{pmatrix}\bar{\Delta}\tau_{1k}\\\bar{\Delta}\tau_{2k}\\\bar{\Delta}\tau_{3k}\end{pmatrix}=\begin{pmatrix}\bar{\Delta}\tau_{1w}\\\bar{\Delta}\tau_{2w}\\\bar{\Delta}\tau_{3w}\end{pmatrix}=\begin{pmatrix}-0.07\\-0.06\\-0.05\end{pmatrix},\begin{pmatrix}\bar{\Delta}\bar{Y}_1\\\bar{\Delta}\bar{Y}_2\\\bar{\Delta}\bar{Y}_3\end{pmatrix}=\begin{pmatrix}-2.36\\-2.79\\7\end{pmatrix},\begin{pmatrix}\bar{\Delta}Y_1\\\bar{\Delta}Y_2\\\bar{\Delta}Y_3\end{pmatrix}=\begin{pmatrix}-2.28\\-2.72\\7.09\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}N_1\\\bar{\Delta}N_2\\\bar{\Delta}N_3\end{pmatrix}=\begin{pmatrix}-2.36\\-2.79\\7.01\end{pmatrix},\begin{pmatrix}\bar{\Delta}K_1\\\bar{\Delta}K_2\\\bar{\Delta}K_3\end{pmatrix}=\begin{pmatrix}-2.1\\-2.55\\7,26\end{pmatrix},\begin{pmatrix}\bar{\Delta}\bar{K}_1\\\bar{\Delta}\bar{K}_2\\\bar{\Delta}\bar{K}_3\end{pmatrix}=\begin{pmatrix}-2.36\\-2.79\\7\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}F_{1i}\\\bar{\Delta}F_{2i}\\\bar{\Delta}F_{3i}\end{pmatrix}=\begin{pmatrix}-2.26\\-2,7\\7.11\end{pmatrix},\begin{pmatrix}\bar{\Delta}F_{1s}\\\bar{\Delta}F_{2s}\\\bar{\Delta}F_{3s}\end{pmatrix}=\begin{pmatrix}-2.36\\-2.79\\7\end{pmatrix},\begin{pmatrix}\bar{\Delta}N_{1i}\\\bar{\Delta}N_{2i}\\\bar{\Delta}N_{3i}\end{pmatrix}=\begin{pmatrix}-2.35\\-2.77\\7.03\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}N_{1s}\\\bar{\Delta}N_{2s}\\\bar{\Delta}N_{3s}\end{pmatrix}=\begin{pmatrix}-2.44\\-2.87\\6.93\end{pmatrix},\begin{pmatrix}\bar{\Delta}K_{1i}\\\bar{\Delta}K_{2i}\\\bar{\Delta}K_{3i}\end{pmatrix}=\begin{pmatrix}-2.09\\-2.53\\2.28\end{pmatrix},\begin{pmatrix}\bar{\Delta}K_{1s}\\\bar{\Delta}K_{2s}\\\bar{\Delta}K_{3s}\end{pmatrix}=\begin{pmatrix}-2,18\\-2.63\\7.17\end{pmatrix},\begin{pmatrix}\bar{\Delta}p_1\\\bar{\Delta}p_2\\\bar{\Delta}p_3\end{pmatrix}=\begin{pmatrix}0\\-0.002\\-0.005\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}w_1\\\bar{\Delta}w_2\\\bar{\Delta}w_3\end{pmatrix}=\begin{pmatrix}0.09\\0.08\\0.07\end{pmatrix},\begin{pmatrix}\bar{\Delta}R_1\\\bar{\Delta}R_2\\\bar{\Delta}R_3\end{pmatrix}=\begin{pmatrix}-2.36\\-2.79\\7\end{pmatrix},\begin{pmatrix}\bar{\Delta}\theta_1\\\bar{\Delta}\theta_2\\\bar{\Delta}\theta_3\end{pmatrix}=\begin{pmatrix}-0.12\\-0.14\\0.54\end{pmatrix},\begin{pmatrix}\bar{\Delta}k_1\\\bar{\Delta}k_1\\\bar{\Delta}k_1\end{pmatrix}=\begin{pmatrix}0.01\\0\\-0.01\end{pmatrix},$$

$$\begin{pmatrix}\bar{\Delta}l_1\\\bar{\Delta}l_2\\\bar{\Delta}l_3\end{pmatrix}=\begin{pmatrix}2.42\\2.97\\-6.55\end{pmatrix},\begin{pmatrix}\bar{\Delta}c_{1i}\\\bar{\Delta}c_{2i}\\\bar{\Delta}c_{3i}\end{pmatrix}=\begin{pmatrix}0.005\\-0.004\\-0.01\end{pmatrix},\begin{pmatrix}\bar{\Delta}c_{1s}\\\bar{\Delta}c_{2s}\\\bar{\Delta}c_{3s}\end{pmatrix}=\begin{pmatrix}0.01\\0\\-0.01\end{pmatrix}. \quad (29)$$

As region 3 becomes more attractive (with all the other variables fixed) for living, the region has more people. Due to the competition, the governments reduce the tax rates. The enlarged residential area attracts more people to region 3. The increased population is associated with increases in region 3's expenditures on public goods. At the new equilibrium, region 3's lot size per household is reduced. As more people move to the lest productive region, the nation has lower income and less capital stocks. The rate of interest is reduced. The wage rates are enhanced. The prices of services are reduced slightly. Region 3's household enjoys higher amenity but pays higher rent and lives in smaller house. Region 3's other real macro-economic variables are augmented, while the corresponding variables of the other two regions are reduced.

4.5. Region 1's total factor productivity of the industrial sector is augmented

We study how the equilibrium structure is affected by the following rise in region 1's total factor productivity of the industrial sector: $A_{1i} = 1.3$ to 1.31. We list the simulation result in (30):

$$\bar{\Delta}Y = 3.5, \ \bar{\Delta}K = 3.84, \ \bar{\Delta}r = 1.6,$$

$$\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} 0.49 \\ 0.4 \\ 0.36 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}\bar{Y}_1 \\ \bar{\Delta}\bar{Y}_2 \\ \bar{\Delta}\bar{Y}_3 \end{pmatrix} = \begin{pmatrix} 24.03 \\ -27 \\ -25.12 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} 23.38 \\ -27.38 \\ -25.51 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} 22.7 \\ -27 \\ -25.16 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} 21.94 \\ -28.18 \\ -26.28 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} 24.04 \\ -27 \\ -25.12 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} 23.24 \\ -27.47 \\ -25.6 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} 23.09 \\ -27.01 \\ -25.14 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} 22.53 \\ -27.11 \\ -25.26 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} 23.33 \\ -26.63 \\ -24.78 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} 21.79 \\ -28.27 \\ -26.37 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} 22.58 \\ -27.8 \\ -25.89 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} 0.77 \\ 0.02 \\ 0.03 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} 0.57 \\ -0.5 \\ -0.45 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} 24.04 \\ -27 \\ -25.12 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} 1.14 \\ -1.56 \\ -1.43 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} 1.11 \\ 0.03 \\ 0.08 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} -18.49 \\ 37.03 \\ 33.65 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} 1.11 \\ 0.03 \\ 0.08 \end{pmatrix}, \ \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} 0.33 \\ 0.01 \\ 0.05 \end{pmatrix}. \quad (30)$$

The national output and capital stocks are increased. The rate of interest is increased. The government raise the tax rates. More people work in region 1. The region's wage rate is increased. Region's lot size is reduced. The region's rent is increased. The region's total tax income is increased. The amenity level is enhanced. Due to the reduced tax incomes, the two other regions provide less public goods, which reduce the regional attractiveness. It should be mentioned that there are different approaches to explaining wage disparities between regions (e.g., Glaeser and Maré 2001; Duranton and Monastiriotis 2002; Combes *et al* 2003; Rey and Janikas 2005; Candelaria *et.al.* 2015). The previous studies identify many factors, such as spatial differences in education opportunities, innovation and knowledge diffusion, skill composition of the workforce, local interactions, regional amenities, as well as non-human endowments. Our simulation result shows that technological change in one region may encourage wage disparity. This also implies that if technological differences between regions are not large, wage rates may tend to converge if the other factors weakly affect the differences.

4.6. Region 1's total factor productivity of the services sector is augmented

We study how the equilibrium structure is affected by the following rise in region 1's total factor productivity of the service sector: $A_{1s} = 12 \text{ to } 12.1$. We list the simulation result in (31):

$$\bar{\Delta}Y = 0.15, \bar{\Delta}K = 0.16, \bar{\Delta}r = 0.09,$$

$$
\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} 0.02 \\ 0.02 \\ 0.02 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} 1.24 \\ -1.5 \\ -1.36 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} 1.21 \\ -1.53 \\ -1.39 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} 1.24 \\ 1.5 \\ -1.36 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} 1.14 \\ -1.59 \\ -1.44 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} 1.24 \\ -1.5 \\ -1.36 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} 1.2 \\ -1.53 \\ -1.39 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} 2.08 \\ -1.5 \\ -1.36 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} 1.24 \\ -1.51 \\ -1.37 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} 1.27 \\ -1.47 \\ -1.33 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} 1.14 \\ -1.6 \\ -1.45 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} 1.17 \\ -1.56 \\ -1.42 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} -0.83 \\ 0.001 \\ 0.002 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} -0.03 \\ -0.03 \\ -0.02 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} 1.24 \\ -1.5 \\ -1.36 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} 0.06 \\ -0.08 \\ -0.07 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} -0.002 \\ 0.002 \\ 0.004 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} -1.23 \\ 1.52 \\ 1.38 \end{pmatrix},
$$

$$
\begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} -0.002 \\ 0.001 \\ 0.004 \end{pmatrix}, \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} 0.83 \\ 0.001 \\ 0.002 \end{pmatrix}. \quad (31)
$$

As in the previous case, the national output and capital stocks are increased, and the rate of interest is increased. The government raise the tax rates. More people work in region 1. The wage rates are reduced.

4.7. The propensity to consume housing is enhanced

We deal with how the equilibrium structure is affected by the following increase in the population's propensity to consume housing: $\eta_0 = 0.07 \text{ to } 0.072$. We list the simulation result in (32):

$$\bar{\Delta}Y = -1.05, \quad \bar{\Delta}K = -1.71, \quad \bar{\Delta}r = 0.32,$$

$$\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} -0.55 \\ -0.56 \\ -0.57 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}\bar{Y}_1 \\ \bar{\Delta}\bar{Y}_2 \\ \bar{\Delta}\bar{Y}_3 \end{pmatrix} = \begin{pmatrix} -7.41 \\ 8.17 \\ 6.29 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} -6.91 \\ 8.76 \\ 6.86 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} -6.8 \\ 8.87 \\ 6.96 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} -7.13 \\ 8.51 \\ 6.63 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} -7.69 \\ 7.96 \\ 6.07 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} -6.75 \\ 8.94 \\ 7.04 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} -7.59 \\ 7.95 \\ 6.07 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} -6.65 \\ 9.05 \\ 7.13 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} -7.49 \\ 8.06 \\ 6.17 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} -6.97 \\ 8.7 \\ 6.81 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} -7.81 \\ 7.72 \\ 5.85 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ 0.003 \\ 0.006 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} -0.11 \\ -0.01 \\ -0.09 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} -4.95 \\ 11.04 \\ 9.1 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} -0.42 \\ 0.36 \\ 0.27 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} -0.85 \\ -0.84 \\ -0.82 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} 7.3 \\ -8.14 \\ -6.51 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} -0.85 \\ -0.84 \\ -0.82 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} -0.85 \\ -0.84 \\ -0.82 \end{pmatrix}. \quad (32)$$

As the propensity to consume housing is increased, some people move away from region 1 to the other two regions as region 1's land is relatively fully occupied. The reduced labor force in region 1 leads to national economic decline in terms of output and wealth (excluding land). Region 1 has less tax income and lower amenity, while the other two regions experience the opposite changes. All the households have less wealth and lower levels of consumption of goods and services. Region 1's lot size rises, but the other two regions' lot size is reduced. The wage rates are reduced. The prices of services change slightly. The values of region 1's real macro-economic variables are lowered, while the corresponding variables of the two regions are enhanced.

4.8. The propensity to consume housing is enhanced

We analyze how the equilibrium structure is affected by the following increase in the population's propensity to save: $\lambda_0 = 0.075$ to 0.0752. We list the simulation result in (33):

$$\bar{\Delta}Y = 0.32, \quad \bar{\Delta}K = 0.59, \quad \bar{\Delta}r = -0.22,$$

$$\begin{pmatrix} \bar{\Delta}\tau_{1k} \\ \bar{\Delta}\tau_{2k} \\ \bar{\Delta}\tau_{3k} \end{pmatrix} = \begin{pmatrix} \bar{\Delta}\tau_{1w} \\ \bar{\Delta}\tau_{2w} \\ \bar{\Delta}\tau_{3w} \end{pmatrix} = \begin{pmatrix} 0.02 \\ 0.02 \\ 0.03 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}\bar{Y}_1 \\ \bar{\Delta}\bar{Y}_2 \\ \bar{\Delta}\bar{Y}_3 \end{pmatrix} = \begin{pmatrix} 1.56 \\ -0.51 \\ -2{,}5 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}Y_1 \\ \bar{\Delta}Y_2 \\ \bar{\Delta}Y_3 \end{pmatrix} = \begin{pmatrix} 1.56 \\ -0.51 \\ -2{,}5 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_1 \\ \bar{\Delta}N_2 \\ \bar{\Delta}N_3 \end{pmatrix} = \begin{pmatrix} 1.48 \\ -0.58 \\ -2.56 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_1 \\ \bar{\Delta}K_2 \\ \bar{\Delta}K_3 \end{pmatrix} = \begin{pmatrix} 1.72 \\ -0.36 \\ -2.36 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}\bar{K}_1 \\ \bar{\Delta}\bar{K}_2 \\ \bar{\Delta}\bar{K}_3 \end{pmatrix} = \begin{pmatrix} 1.85 \\ -0.23 \\ -2.22 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}F_{1i} \\ \bar{\Delta}F_{2i} \\ \bar{\Delta}F_{3i} \end{pmatrix} = \begin{pmatrix} 1.55 \\ -0.52 \\ -2.51 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}F_{1s} \\ \bar{\Delta}F_{2s} \\ \bar{\Delta}F_{3s} \end{pmatrix} = \begin{pmatrix} 1.58 \\ -0.49 \\ -2.48 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}N_{1i} \\ \bar{\Delta}N_{2i} \\ \bar{\Delta}N_{3i} \end{pmatrix} = \begin{pmatrix} 1.47 \\ -0.59 \\ -2.57 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}N_{1s} \\ \bar{\Delta}N_{2s} \\ \bar{\Delta}N_{3s} \end{pmatrix} = \begin{pmatrix} 1.5 \\ -0.56 \\ -0.54 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_{1i} \\ \bar{\Delta}K_{2i} \\ \bar{\Delta}K_{3i} \end{pmatrix} = \begin{pmatrix} 1.72 \\ -0.36 \\ -2.36 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}K_{1s} \\ \bar{\Delta}K_{2s} \\ \bar{\Delta}K_{3s} \end{pmatrix} = \begin{pmatrix} 1.74 \\ -0.34 \\ -2.34 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}p_1 \\ \bar{\Delta}p_2 \\ \bar{\Delta}p_3 \end{pmatrix} = \begin{pmatrix} 0 \\ -0.002 \\ -0.004 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}w_1 \\ \bar{\Delta}w_2 \\ \bar{\Delta}w_3 \end{pmatrix} = \begin{pmatrix} 0.08 \\ 0.07 \\ 0.06 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}R_1 \\ \bar{\Delta}R_2 \\ \bar{\Delta}R_3 \end{pmatrix} = \begin{pmatrix} 1.58 \\ -0.49 \\ -2.48 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}\theta_1 \\ \bar{\Delta}\theta_2 \\ \bar{\Delta}\theta_3 \end{pmatrix} = \begin{pmatrix} 0.08 \\ -0.02 \\ -0.12 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \\ \bar{\Delta}k_1 \end{pmatrix} = \begin{pmatrix} 0.37 \\ 0.36 \\ 0.35 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}l_1 \\ \bar{\Delta}l_2 \\ \bar{\Delta}l_3 \end{pmatrix} = \begin{pmatrix} -1.46 \\ 0.59 \\ 2.63 \end{pmatrix},$$

$$\begin{pmatrix} \bar{\Delta}c_{1i} \\ \bar{\Delta}c_{2i} \\ \bar{\Delta}c_{3i} \end{pmatrix} = \begin{pmatrix} 0.01 \\ 0.09 \\ 0.09 \end{pmatrix}, \quad \begin{pmatrix} \bar{\Delta}c_{1s} \\ \bar{\Delta}c_{2s} \\ \bar{\Delta}c_{3s} \end{pmatrix} = \begin{pmatrix} 0.01 \\ 0.09 \\ 0.09 \end{pmatrix}. \quad (33)$$

As the propensity to save is increased, some people move to region 1 from the other two regions. The increase of labor force in region 1 leads to national economic development in terms of output and wealth (excluding land). Region 1 has more tax income and higher amenity, while the other two regions experience the opposite changes. All the households have more wealth and higher levels of consumption of goods and services. Region 1's lot size falls, but the other two regions' lot size is augmented. The wage rates are enhanced. The prices of services change slightly. The values of region 1's real macro-economic variables are enhanced, while the corresponding variables of the two regions are decreased.

5. Conclusions

This paper studied an inter-regional economic growth with regional governments' competition in taxation. We built the model by extending Uzawa's two-sector growth model to any number of regions. The model treats wealth/capital accumulation, economic structures, factor distributions, interregional population distribution, amenity, regions' tax rates as endogenous variables. The model is built on micro-economic foundation in the sense that firms' behavior is described by profit maximization, households' behavior by utility maximization, markets by perfect competition, and regional governments' behavior by choosing tax rates to maximize utility. We identified the existence of an equilibrium point and carried our comparative analysis with regards to different parameters. As the model is structurally general, it is possible to deal with various national as well as regional growth issues. It is straightforward to analyze behavior of the model with other forms of production or utility functions. We may also introduce heterogeneous households and imperfect competition to the system. There are many other issues, such as national and regional debts, related to tax competition between regions.

Appendix: Proving the Lemma

We now show a procedure to determine the dynamics of the system in two differential equations with general production functions. First, from equations (2) we obtain:

$$z_j \equiv \frac{r + \delta_k}{w_j} = \frac{a_j \, N_{ji}}{K_{ji}} = \frac{b_j \, N_{js}}{K_{js}}, \quad (A1)$$

where

$$a_j \equiv \frac{\alpha_{ji}}{\beta_{ji}}, \quad b_j \equiv \frac{\alpha_{js}}{\beta_{js}}.$$

Insert $z_j / a_j \equiv N_{ji} / K_{ji}$ in $r + \delta_{kj} = \alpha_{ji} F_{ji} / K_{ji}$ from (1):

$$r(z_j) = \frac{\alpha_{ji} \, A_{ji}}{a_j^{\beta_{ji}}} z_j^{\beta_{ji}} - \delta_{kj}, \quad j = 1, \dots, J. \quad (A2)$$

From (A2) we get:

$$z_j(z_1) = a_j \left(\frac{r + \delta_{kj}}{\alpha_{ji} \, A_{ji}} \right)^{1/\beta_{ji}}, \quad j = 2, \dots, J. \quad (A3)$$

From (A1) and (A2), we have:

$$w_j(z_1) = \frac{r + \delta_k}{z_j}. \quad (A4)$$

From $z_j = b_j N_{js}/K_{js}$ and (1), we have:

$$p_j(z_1) = \frac{b_j^{\beta_{js}} (r + \delta_k)}{\alpha_{js} A_{js} z_j^{\beta_{js}}}. \quad (A5)$$

From (11) and $p_j c_{js} = \gamma \hat{y}_j$ we have:

$$\gamma \hat{y}_j N_j = p_j F_{js}. \quad (A6)$$

Insert (1) in (A6):

$$\gamma \hat{y}_j N_j = \frac{w_j N_{js}}{\beta_{js}}. \quad (A7)$$

Insert (23) in (21):

$$\hat{y}_j = \frac{\tilde{\rho} h_j(t)}{\tilde{\rho} + \bar{d}}. \quad (A8)$$

From (9) and (14). We have:

$$R_j = \frac{\eta \hat{y}_j N_1}{L_1},$$

Apply $U_j = U_q$ to (20):

$$\bar{\theta}_j L_j^{\eta_0} N_j^{d+\bar{d}-\eta_0} Y_j^{0\bar{d}} p_j^{-\gamma_0} \tau_j^{\bar{d}} \hat{y}_j^{\tilde{\rho}} = \bar{\theta}_q L_q^{\eta_0} N_q^{d+\bar{d}-\eta_0} Y_q^{0\bar{d}} p_q^{-\gamma_0} \tau_q^{\bar{d}} \hat{y}_q^{\tilde{\rho}}. \quad (A9)$$

Solve (A9)

$$N_j = \Lambda_j N_1, \ j = 2, ..., J, (A10)$$

where

$$\Lambda_j\left(z_1,\left(\bar{k}_q\right)\right) \equiv \left(\frac{\bar{\theta}_1\, L_1^{\eta_0}\, Y_1^{0\bar{d}}\, p_1^{-\gamma_0}\, \tau_1^{\bar{d}}\, \hat{y}_1^{\tilde{\rho}}}{\bar{\theta}_j\, L_j^{\eta_0}\, Y_j^{0\bar{d}}\, p_j^{-\gamma_0}\, \tau_j^{\bar{d}}\, \hat{y}_j^{\tilde{\rho}}}\right)^{1/(d+\bar{d}-\eta_0)}.$$

Insert (A10) in (16):

$$N_1\left(z_1,\left(\bar{k}_q\right)\right) = \frac{N}{\sum_{j=1}^{J}\Lambda_j}, \quad \Lambda_1 = 1. \text{ (A11)}$$

With (A10) and (A11) we determine the population distribution as functions of z_1 and $\left(\bar{k}_q\right)$. By $l_j\, R_j = \eta\,\hat{y}_j$ and $l_j\, N_j = L_j$, we have:

$$R_j\left(z_1,\left(\bar{k}_q\right)\right) = \frac{\eta\,\hat{y}_j\, N_j}{L_j}. \text{ (A12)}$$

From (A7) we solve:

$$N_{js} = \frac{\beta_{js}\gamma\,\hat{y}_j\, N_j}{w_j}. \text{ (A13)}$$

With $N_{ji} + N_{js} = N_j$ and (A13), we get:

$$N_{ji}\left(z_1,\left(\bar{k}_q\right)\right) = N_j - N_{js}, j = 1,\ldots,J. \text{ (A14)}$$

Equation (11) Implies:

$$\sum_{j=1}^{J}\left(K_{ji} + K_{js}\right) = \sum_{j=1}^{J}\bar{k}_j\, N_j. \text{ (A15)}$$

Insert (A1) in (A15):

$$\Phi\left(z_1,\left(\bar{k}_j\right)\right) \equiv \sum_{j=1}^{J}\left(\frac{a_j N_{ji} + b_j N_{js}}{z_j}\right) - \sum_{j=1}^{J}\bar{k}_j\, N_j = 0. \text{ (A16)}$$

Substituting $s_j = \lambda\,\hat{y}_j$ into (10) yields:

$$\dot{\bar{k}}_j = \Phi_j(z_1, \bar{k}_j) \equiv \lambda \hat{y}_j - \bar{k}_j. \quad (A17)$$

By (A17), we have at equilibrium

$$\lambda \hat{y}_j = \bar{k}_j. \quad (A18)$$

By (A6) and (A18), we have $J + 1$ equations to determine $J + 1$ variables, z_1 and $(\bar{k}_j)$. We can thus determine the equilibrium point.

References:

Ahlfeldt, G. (2011) "If Alonso Was Right: Modeling Accessibility and Explaining the Residential Land Gradient", *Journal of Regional Science,* 51, 318-38.

Almazan, A., DeMotta, A., Titman, S. (2007) "Firm Location and the Creation and Utilization of Human Capital", *Review of Economic Studies,* 74, 1305–27.

Andersson, F. and Forslid, R. (2003) "Tax Competition and Economic Geography", *Journal of Public Economic Theory*, 5, 279-303.

Bairoch, P. (1993) *Economics and World History: Myths and Paradoxes*, Chicago: University of Chicago Press.

Baldwin, R.E. and Krugman, P. (2004) "Agglomeration, Integration and Tax Harmonization", *European Economic Review,* 48, 1-23.

Bayindir-Upmann, T. and Ziad, A. (2005) "Existence of Equilibria in a Basic Tax Competition Model", Regional Science and Urban Economics, 35, 1-22.

Bertoletti, P. and Etro, F. (2015) "Monopolistic Competition When Income Matters", *The Economic Journal,* 127(603), 1217-43.

Borck, R. and Pflüger, M. (2006) "Agglomeration and Tax Competition", *European Economic Review* (in Press).

Brecher, R.A., Chen, Z.Q. and Choudhri, E.U. (2002) "Absolute and Comparative Advantage, Reconsidered: The Pattern of International Trade with Optimal Saving", *Review of International Economics*, 10, 645-656.

Blomquist, G.C., Berger, M.C., and Hoehn, J.C. (1988) "New Estimates of Quality of Life in Urban Areas", *American Economic Review,* 78, 89-107.

Can, A. and Megbolugbe, I. (1997) "Spatial Dependence and House Price Index Construction", The Journal of Real Estate Finance and Economics, 14, 203-22.

Candelaria, C., Daly, M., and Hale, G. (2015) "Persistence of Regional Wage Differences in China", *Pacific Economic Review,* 20(3), 365-87.

Charlot, S., Gaigné, C., Robert-Nicoud, F., Thisse, J.-F. (2006) "Agglomeration and Welfare: The Core–Periphery Model In the Light of Bentham, Kaldor, and Rawls", *Journal of Public Economics*, 90, 325–47.

Chasco, C. and LeGallo, J. (2011) "The Impact of Objective and Subjective Measures of Air Quality and Noise on House Prices: A Multilevel Approach for Downtown Madrid", *European Regional Science Association, ERSA conference papers with number* ersa11p168.

Chen, Y., Irwin, E.G., and Jayaprakash, C. (2013) "Population Dispersion vs. Concentration in a Two-Region Migration Model with Endogenous Natural Amenities", *Journal of Regional Science*, 53, 256–73.

Combes, P.G., Duraton, G. and Gobillon, L. (2004) "Spatial Wage Disparities: Sorting Matters!" *CEPR Discussion Paper*, 4220.

Diamond, D.B. and Tolley, G.S. (Eds.)(1981) *The Economics of Urban Amenities*, New York: Academic Press.

Dubin, R. (1992) "Spatial Autocorrelation and Neighborhood Quality", *Regional Science and Urban Economics*, 22, 433-52.

Duranton, G. and Monastiriotis, V. (2002) "Mind the Gaps: The Evolution of Regional Earnings Inequalities in the UK 1982-1997", *Journal of Regional Science,* 42, 219-256.

Forslid, R. and Ottaviano, G.I.P. (2003) "Trade and Location: Two Analytically Solvable Models", *Journal of Economic Geography*, 3, 229–40.

Fujita, M., Krugman, P. and Venables, A. (1999) *The Spatial Economy*, Cambridge MA: MIT Press.

Glaeser, E.L. and Maré, D.C. (2001) "Cities and Skills", *Journal of Labor Economics*, 19, 316-42.

Graves, P. (1979) "A Life-Cycle Empirical Analysis of Migration and Climate by Race", *Journal of Urban Economics,* 6, 135-47.

Helbich, M., Brunauer, W., and Nijkamp, P. (2014) Spatial Heterogeneity in Hedonic House Price Models: The Case of Austria. Urban Studies 51, 390-411.

Hirschman, A.O. (1958) *The Strategy of Economic Development*, New Haven: Yale University Press.

Ihori, T. and Yang, C.C. (2009) "Interregional Tax Competition and Intraregional Political Competition: The Optimal Provision of Public Goods under Representative Democracy", *Journal of Urban Economics,* 66(3), 210-17.

Kanemoto, Y. (1980) *Theories of Urban Externalities*, Amsterdam: North-Holland.

Krugman, P. (1991) "Increasing Returns and Economic Geography", *Journal of Political Economy*, 99, 483-499.

Krugman, P. (1993) "On the Number and Location of Cities", *European Economic Review*, 37, 293–98.

Kuznets, S. (1966) *Modern Economic Growth, Rate Structure, and Spread*, New Haven: Yale University Press.

Liu, C.H., Rosenthal, S.S. and Strange, W.C. (2018) "The Vertical City: Rent Gradients, Spatial Structure, and Agglomeration Economies", *Journal of Urban Economics,* 106 (July), 101-122.

Malpezzi, S. (2003) "Hedonic Pricing Models: A Selective and Applied Review", In T. O'Sullivan and K. Gibb (Eds.) *Housing Economics and Public Policy*, Oxford: Blackwell, pp. 67-89.

McMillen, D.P. (2010) "Issues in Spatial Data Analysis", *Journal of Regional Science*, 50, 119-41.

Myrdal, G. (1957) *Economic Theory and Underdeveloped Regions*, London: Duckworth.

Nocco, A., Ottaviano, G.L.P., and Salto, M. (2017) "Monopolistic Competition and Optimum Product Selection: Why and How Heterogeneity Matters", *Research in Economics*, 71(4), 704-17.

Oniki, H. and Uzawa, H. (1965) "Patterns of Trade and Investment in a Dynamic Model of International Trade", *Review of Economic Studies,* 32, 15-38.

Parenti, M., Ushchev, P., and Thisse, J.F. (2017) "Toward a Theory of Monopolistic Competition", *Journal of Economic Theory,* 167(January), 86-115.

Partridge, M. D., Rickman, D.S., Ali, K., and Olfert, M.R. (2008) "Lost in Space: Population Dynamics in the American Hinterlands and Small Cities", *Journal of Economic Geography*, 8, 727–57.

Picard, P.M. and Zenou, Y. (2018) "Urban Spatial Structure, Employment and Social Ties", *Journal of Urban Economics*, 104 (May), 77-93.

Rey, S.J. and Janikas, M.V. (2005) "Regional Convergence, Inequality and Space", *Journal of Economic Geography,* 5, 155-76.

Roback, J. (1982) "Wages, Rents, and the Quality of Life", Journal of Political Economy, 90, 1257-78.

Rosen, S. (1974) "Hedonic Prices and Implicit Markets: Product Differentiation in Pure Competition", *Journal of Political Economy,* 82, 34-55.

Saez, E. and Stantcheva, S. (2018) "A Simpler Theory of Optimal Capital Taxation", *Journal of Public Economics*, 162, 120-42.

Sheppard, S. (1997) "Hedonic Analysis of Housing Markets", In: P. Chesire, E. Mills (Eds.) *Handbook of Regional and Urban Economics*, *vol. 3,* Amsterdam: Elsevier, 1595-635..

Sorger, G. (2002) "On the Multi-Region Version of the Solow-Swan Model", *The Japanese Economic Review*, 54, 146-164.

Tabuchi, T. (2014) "Historical Trends of Agglomeration to the Capital Region and New Economic Geography", *Regional Science and Urban Economics,* 44, 50–59.

Tivadar, M. and Jayet, H. (2019) "Endogenous Generation of Amenities and the Dynamics of City Structure", *Regional Science and Urban Economics,* 74, 49-56.

Uzawa, H. (1961) "On a Two-Sector Model of Economic Growth", *Review of Economic Studies*, 29, 47-70.

Wildasin, D.E. (1988) "Nash Equilibria in Models of Fiscal Competition", *Journal of Public Economics*, 35, 229-40.

Wildasin, D.E. (1991) "Some Rudimentary Duopolity Theory", *Regional Science and Urban Economics*, 21, 393-421.

Wilson, J.D. (1986) "A Theory of Interregional Tax Competition", *Journal of Urban Economics*, 19, 296-315.

Wilson, J.D. (1991) "Tax Competition with Interregional Differences in Factor Endowments", *Regional Science and Urban Economics,* 21, 423-451.

Zhang, W.B. (1993) "Wages, Service Prices and Rent - Urban Division of Labor and Amenities", *Seoul Journal of Economics,* 6, 97-113.

Zhang, W.B. (1996) "Economic Geography with two Regions: Capital Accumulation and Economic Structure", *Australian Economic Papers,* 35, 225-35.

Zhang, W.B. (2005) *Economic Growth Theory*, London: Ashgate.

Zhang, W.B. (2009) "Agglomeration and Returns to Scale with Capital and Public Goods in a Multi-Regional Economy", *International Economic Journal,* 23, 81-109

Zhang, W.B. (2008) *International Trade Theory: Capital, Knowledge, Economic Structure, Money and Prices over Time and Space*, Berlin: Springer.

Zhang, W.B. (2018) "Regional Economic Structure, Amenities and Disparities in a Neoclassical Growth Model", *Eastern European Journal for Regional Studies,* 4(2), 73-93.

Zodrow, G.R. and Mieszkowski, P. (1986) "Pigou, Tiebout, Property Taxation, and the Underprovision of Local Public Goods", *Journal of Urban Economics,* 19, 356-70.

The reflective practice of the social work students in an interdisciplinary project using m-learning for children with disabilities

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Abstract

Twelve social work students were involved in an interdisciplinary project aimed at working with children with communication disabilities using a mobile app, named TESI. The goal of involving university students in this project was to pilot the mobile app TESI and to increase their openness to the use of m-learning tools and computer based assistive technology for children and adults with disabilities, but also to be an educational opportunity to develop new knowledge, skills and attitudes for the future social workers. The research was both an evaluative research and an action research, the results were analysed, on one hand by referring to the project objectives, respectively to the initial needs analysis of the target group of students, and on the other hand through the lens of education based on competence and the reflective practice in the social work profession, aiming both to reflect the formative value of this experience for the future social workers, and to challenge them to self-reflection for developing a conscious, reflective professional practice. The experience itself was perceived as very positive by the students, it helped them become more aware of their personal and professional knowledge, skills and values, as well as the aspects they need for their further personal development. The training of the future professionals can benefit by their involvement in interdisciplinary projects, keeping the focus on skills to be developed, without any fear of using creative teaching strategies or applying the older ones in new learning contexts.

Keywords*: social work higher education; reflective practice; mobile learning; competence-based education; interdisciplinary projects; children with disabilities.*

1. Background and literature review

In the spirit of promoting the children's rights to „a full and decent life, in conditions which ensure dignity, promote self-reliance and facilitate the child's active participation in the community" (Article 23 of the Convention on the Rights of the Child,1989), and ensuring access to assistive technology to enable independent living of persons with disabilities (The 2030 Agenda of UN), as well as following the UNESCO recommendations to „promote the creation of mobile content that is relevant to local groups and accessible in local languages" and to „advocate for standards that make mobile hardware, software and content accessible to diverse student populations,

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including students with disabilities" (UNESCO 2013), a number of eight organizations (3 universities, 3 special schools and a NGO from five European countries) developed and implemented the TESI project: Adaptive Personalized System for Creating Expression Tools in Social Inclusion of Learners and Verbal Communication Disabilities. This is an ERASMUS + project, Key Action 3: Support for Policy Reform - Education, Training and Youth, set up by the European Commission, which focused on four target groups: children with disabilities, their parents, teachers working with these children and future social workers and teachers (Iacobescu 2018).

The main goal of the project is to create a new mobile application to facilitate the communication and the learning of the children with verbal impairments and to pilot it in order to find the most suitable design.

The verbal disability is an impediment to the social integration of children and adults, raises barriers before their participation in community life and access to quality education (Sorescu and Iacobescu 2019). Mobile learning is one of the contemporary opportunities to facilitate communication, learning and social integration of children with verbal impairments. According to the World Health Organization's recommendations (2011: pp. 225-227), this project supports teachers and schools to have flexible approaches that can cope with the diverse needs of learners, such as individualized education plans, involves parents and family members as partners in deciding on the educational needs of the children, develops the digital competence of the children and provides children with access to quality education using appropriate mobile devices and applications to increase their chances of social integration and a better quality of life.

Information Technology is a part of our lives, being used in multiple ways, including mobile learning and assistive technologies for people with disabilities. The need and efficiency of m-learning was the subject of many researches. One research focused on the use of m-learning in autism disorder (Allen, Hartley & Cain 2016, De Leo, Gonzales, Battagiri et al. 2011), in learning disabilities (Draper Rodríguez and Cumming 2017; Ismaili and Ibrahimi, 2017).

One of the partners on this project, The University of Craiova (Romania), involved social work students in the stage of piloting a mobile application – the TESI tool.

Each of these students held five work sessions using mobile devices that had the TESI app installed, with a child with disabilities, who was registered as a pupil at the Special School „Saint Mina" from Craiova, another partner in this project.

The same type of activity was developed in parallel by the other two partner universities from Plovdiv (Bulgaria) and Kielce (Poland), which involved Pedagogy university students. The decision to involve students set to become future teachers and social workers was not incidental; the need of training for development of computer skills has been underlined in researches from 1980's until now and has evolved into concerns for m-learning and extensive use of software, for attitudes who influence the computer use and factors that affect them (e.g. for teachers: Bruder 1989; Bryant, Erin and Lock 1998; Fisher 2000; for social workers: Miller 1986; Perron, Taylor, Glas, Margerum-Leys 2010 etc). Corman (2015), in a study conducted at national level in Romania concludes: „teachers in Romania do not have sufficient competences to allow them to learn and use appropriate theoretical concepts related to ICT, to use information search programs in the virtual environment, knowledge of ICT tools and teaching

materials accessible and for people with special needs." Our initial need analysis reflected the same situation for future social workers and teachers in our target groups.

The enthusiasm and interest shown by students from pedagogy and social work from the three partner universities (Craiova, Plovdiv and Kielce) to work with children with disabilities and the use of mobile applications in their future professions is an indicator of the community's openness to use information technology. Developing the digital skills of the younger generations will influence their responsiveness to the use of IT means in their professions, as evidenced by our research.

At the start of the project, a need analysis was made. Achieved through the application of a rigorous research methodology, this analysis identified the needs of the four target groups covered by this project, namely children with verbal disabilities, their parents, teachers and other specialists working with these children and students in pedagogy and social work. We are focused here only on the university students from Craiova: all of them have mobile devices, use them on a daily basis, show a favourable attitude towards their use in communicating with and between people with disabilities, have the willingness to work with children with language disabilities, and to use applications mobile in working with these children. They had insufficient knowledge about people with disabilities, but they both want to be better prepared for this, and learn to use specific mobile applications.

According with its international definition, „the social work is a practice-based profession" (International Federation of Social Workers 2014), so the practical activities are essential in the training of future social workers. At the same time, the trend in the social work education of the last decade is to promote a competence-based education, as „an outcomes-oriented approach to curriculum design. The goal of the outcomes approach is to ensure that students are able to demonstrate the integration and application of the competencies in practice." (Council on Social Work Education 2015: p. 6)

The European Qualifications Framework for Lifelong Learning uses 8 reference levels based on learning outcomes, defined in terms of knowledge (theoretical or factual), skills (cognitive and practical) and competences (described in terms of responsibility and autonomy). The EQF shifts the focus from input (lengths of a learning experience, type of institution) to what a person holding a particular qualification actually knows and is able to do (European Commission 2008).

Epstein and Hundert (2002) offered a comprehensive definition of the competence as "the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served." They describe dimensions of competence in cognitive, technical, integrative, context, relationship, affective/moral, and habits of mind categories. We agree with this point of view and consider that the training for being a professional should involve all these dimensions, which are taking into account the definition of the social work competencies.

According with the Council on Social Work Education, „social work competence is the ability to integrate and apply social work knowledge, values, and skills to practice situations in a purposeful, intentional, and professional manner to promote human and community well-being. The demonstration of competence is informed by knowledge, values, skills, and cognitive and affective processes that include the social worker's critical thinking, affective reactions, and exercise of judgment in regard to unique practice situations." (Council on Social Work Education 2015: p. 6) This approach

underlines the „purposeful, intentional manner to promote human and community well-being", as well as „critical thinking", abilities that can be developed through a reflective practice.

Starting from these definitions, we assessed the perception of the students about the experience, about the developed knowledge, skills, abilities, attitudes and values, as well as their emotions during this experience considering with Boud that „the most important ways to enhance learning is to strengthen the link between the learning experience and the reflective activity that follows it" (1985: p. 26).

As part of their professional training process as future social workers, students must acquire the ability to reflect on their own practice, as defined by Yip (2006): „Rigorous reflection is a process of self-involvement and self-reflection in which the social worker undergoes self-analysis, self-evaluation, self-dialogue and self-observation."

We started from Yip's premise (2006) that in order to develop this ability to reflect, the students need to have an intellectual space to think and reflect on what they have achieved and learned, as well as the teacher's focus on how much can the student learn, think and reflect, rather than how much the teacher has taught. So, we took advantage of the opportunity offered by the involvement of the students in a practical activity slightly different from the activities that they usually carry out in the places of placement and we challenged them to an experiment of self-reflection and reflection on the own practice, performing an action research, in the meaning defined by Kurt Lewin (1944).

We also benefited from what Kemmis, McTaggart and Nixon (2014) named *action science*, which identifies *„two aspects to professional knowledge: the formal knowledge which all competent members of the profession are thought to share and which professionals are inducted into during their initial training, and the professional knowledge of interpretation and enactment"* (2014: p. 10). Schön (1983) talk about an action research as being „reflection-in-action", a very essential process for some professions, as social work itself, in which „awareness of uncertainty, complexity, instability, uniqueness, and value conflict has led to the emergence of professional pluralism". In this context it is necessary to develop „reflective practitioners", and these results and from the standpoint of the crisis in confidence in professional knowledge. The reflective practice cannot be ignored, because only working and interacting with others conducts to a real professional development: „We can become more alert and attuned to the world, and stronger and wiser, through reflection on action, and through the kind of meditation that opens us up to experience the world around us more sensitively. These reflective practices have an important place in our development. To have something to reflect on, however, we must first act—that is, we must first interact with others and the world, through our own action-in-history. Thus, I conclude that most of our becoming is done in our own interactions with others and the world; that is, most of our developing is done in practices." (Kemmis 2019: p. 37). As Kemmis (2019:180) states, the critical, reflective research of the practice is not only a form of practice development, but also a form of education development. However, teaching a reflective practice involves certain resources, of which the time is essential. (Davis 2003).

This article presents some aspects from the evaluation of a significant part of the project implementation, respectively the activities realized with the target group of students during April-August 2019.

The research approached the evaluation from a dual perspective: that of the impact of the project on the target groups, and another one of the formative value for the students, but in a way to transform the evaluation process itself in an educational step causing the students self-reflection.

From the perspective of the impact of the project on the target group of students, it was thought to evaluate the extent to which their needs identified in the initial analysis were met through participation in the project. In the same time, we wanted that the involvement of the social work students to have a formative effect on them as professionals, to increase their confidence in the use of IT in multiple ways in their future profession and to exploit this experience as an opportunity for reflective practice.

The second perspective, of the formative self-reflective evaluation included references from the field of competency-based education, of the experiential education (Kolb 2015; Race 2015), Bigg's constructive alignment (2003) and of the social work reflective practice.

The data collected during this research was also used in a group coaching session with these students, with the aim to deepen the process of reflection to affective, discriminant and judgemental reflectivity, in the meaning offered by Mezirow (1981).

The learning process was an experiential one, following Phill Race's model (2015): *needing / wanting* – an initial need analysis, *doing* – the involvement of the students in the project, their participation at five work sessions with TESI tool with children with disabilities, *digesting* – reflection and self-reflection and *feedback*. We was taking in the account and the ten principles of reflective practice builb by Ghaye and Ghaye (1998:pp. 15–19 apud Bold and Hutton 2007: p. 21) on the work of Schön (1991): „reflective conversations that have the potential to disturb their professional identity; interrogation of experiences; returning to look at taken-for-granted values, professional values and understandings –'a reflective turn'; describing, explaining and justifying practices; viewing professional situations 'problematically'; creating knowledge of interest to self and others; asking probing and challenging questions; decoding a symbolic landscape, e.g. the 'school culture'; linking theory and practice as a creative process; socially constructing 'ways of knowing'".

2.Method

Our approach had both characteristics of evaluative research and action research. As an evaluative research, it aimed to highlight the impact of the participation in the TESI Project of the students, as well as obtaining feedback from the students involved in working with children with disabilities using the TESI application. The activity was evaluated in relation to the objectives of student participation in this activity, having the role of estimating to what extent the participation in the project was beneficial to the students, which were the benefits from participating in the project (positive aspects, knowledge, abilities, acquired values and/or what difficulties they encountered, if they recommend such activities for the training of other future social workers.

We wanted to find out to what extent the needs of the target group of students identified in the initial research were met through their participation in this project. These needs were: acquiring knowledge about children with disabilities, acquiring knowledge and interaction skills with children with disabilities, acquiring knowledge about using a mobile application in interacting with children with disabilities.

At the same time, we have also set to ourselves a secondary purpose, to entice students to reflect on their own practice and to consciously assume their own

professional training, which is a feature of action research. The students' answers were analysed from the perspective of the involved and developed competences, the awareness of certain professional skills, personal qualities, values, attitudes and limitations they have.

Thus, the research had as objectives:

O1. Assessing the degree of satisfaction of the needs of the target group of students identified in the analysis performed before their involvement in the project;

O2. Highlighting the students' perception on their participation in the project;

O3. Acquiring suggestions for optimizing the professional training of future social workers through specialized practice;

O4. Challenging students to reflect on their own professional practice.

The research group consisted of twelve social work students who participated in the TESI project, five from the First year of bachelor study and seven from the Second year.

The research method was the sociological survey based on a self-assessing questionnaire, sent and returned by e-mail. If the students did not understand the question or gave general answers, additional explanations were offered and they were asked to provide details about their experience.

The questionnaire included five Likert scale questions, which were meant to challenge students to reflect on their experience in this project in terms of newly-acquired knowledge, skills and knowledge, as well as to assess to what extent the project has contributed to their professional development.

It was also desired to evaluate the extent to which the students learned to use the TESI application in working with children with disabilities.

The first five questions were followed by six open questions, the first four of them referring to their experience in this project, the fifth asking for suggestions for optimizing the professional training of future social workers, and the last one for optimizing the TESI application.

All the question aimed to provoke an act of *reflectivity,* as simple awareness of „a specific perception, meaning or behaviour of our own or of habits we have of seeing, thinking or acting." (Mezirow 1981: p. 12).

The answers to these open questions were analysed and coded (Babbie 2010: pp. 521-522), the analysis being variable-oriented.

3.Results

As mentioned, the needs analysis highlighted that students do not have sufficient knowledge about children with disabilities, nor knowledge and working skills with them, and would like to learn to use m-learning resources to interact with children with communication disabilities. The variables were constructed taking into account these needs, as well as the dimensions of professional competence in social assistance, as it results from the definitions analysed: knowledge, skills, attitudes, values, emotions and self-reflection.

When rating the question "How satisfactory was the experience of my participation in the TESI project?", the average of the answers was very high, 4.92 out of 5, which was expected, due to the enthusiasm expressed by the students throughout the entire project's period and to the promptness they answered to all the tasks they received (including activity reports, ordering and labelling photos during the activity, responding to evaluation questionnaires).

The students appreciated that they acquired knowledge about children with disabilities, the mean of the answers being 4.75 out of 5, they learned how to interact with children with disabilities (4.92), and they learned how to use a mobile application in the interaction with children with disabilities (4.92). Also, the students strongly agreed with the statement "I discovered new things about myself" (4.58).

The answers to the open questions were analysed on two axes, one evaluative and one reflective. The first dimension, the evaluative one, concerned the activity itself in relation to the objectives of the students' participation in this activity, having the role of estimating to what extent the participation in the project was beneficial to the students, which were these benefits (positive aspects, acquired or developed knowledge, skills and values) and the difficulties they encountered, and if they recommend such activities for the preparation of other future social workers.

The reflective dimension involved the interpretation of the students' responses from the perspective of the developed competences, the awareness of certain professional skills they possess, values, attitudes, qualities, as well as limits.

Analysing the students' responses in relation to the evaluative purpose of this research, we found that in their assessment of the most important positive aspects of their participation in this project, a large number of affirmations characterize the experience as giving them opportunities (n = 18). The experience itself was a positive, useful, beautiful (n = 2), and for some of them, it was also a challenge, leaving the comfort zone, a new environment for practicing professional skills (n = 4)

Among the opportunities offered by this experience were mentioned:

• The opportunity to acquire skills, especially interpersonal and communication skills (n = 6):

"I consider this to be an experience that taught me how to collaborate with a child with disabilities, but also some ways in which he can evolve."

"As part of this project, we had the opportunity to learn how to use the TESI application, an application that helps us understand more easily the needs and wishes of children with disabilities. We interacted with them, and this context gave us the chance to learn how to behave, how to communicate and how to understand them."

• The opportunity to use a mobile application in interaction with children with disabilities (n = 5):

"Thanks to this project I went through a new experience, I was glad when I saw that there is such an application and that those children can learn and communicate using the application."

• The opportunity to interact directly with beneficiaries and to interact with children with disabilities (n = 6)

• The opportunity to apply knowledge in practice and test their own skills (n = 3):

"The experience itself prepares you to be a future social worker, puts you in touch with people, in situations in which, until then, you knew what to do only at the theoretical level"

• The opportunity to learn new things, to acquire knowledge (n = 3),

• The opportunity to meet new people, children and teachers (n = 3):

"I have met both children and teachers, these are wonderful people with a special warmth to their soul"

"Among the most positive aspects of participating in this project is the children's happiness when I visited them, the fact that I was able to work in a new environment and that I met some wonderful people."

• The opportunity to develop some personal qualities such as patience, respect for others (n = 2), as well as professional competences (n = 3):

"It was an opportunity for my development as a future social worker"

"The most positive aspect was my development on two main plans: the personal one, but also the professional one. This project represented my introduction to my future career."

• The opportunity to collaborate with experts (n = 1),

The quality of collaboration with children and staff was mentioned by three students. One of the students appreciated the "feeling of fulfilment" he experienced during this activity, and another student considered that the most important positive aspect was his success in obtaining the child's trust and cooperation. This reflects both his anxiety related to the performance in a unique situation, as well as the value that the practical activity has in increasing the confidence in his professional skills and experimenting professional satisfaction.

Hierarchizing the positive aspects considered by the students to be the most important, in first place are those regarding interpersonal relationships (n = 13), whether it is the opportunity to interact with children with disabilities, or the good relationship that they managed to establish with them and the teachers or meet new people, either through the skills they had developed. The emotional aspects were the most positive aspects for 5 students. A number of 6 of them appreciated the acquired skills, 5 students considered the use of the mobile app in work as the most positive aspect of their activity. Less of them mentioned knowledge (n=3), the challenge, or exiting their comfort zone (n=3), and aspects of personal development (n=2). (See Table 1)

Five of the students mentioned the emotions they experienced during the activity, being impressed by the children rejoicing when reunited with the students, when they were able to make themselves understood, through the means of the application:

"The most positive moments of my participation in this project were those when the children were able to say what they wanted with the application and they were happy when I understood them."

Table no. 1. The most positive aspects of the students' activity in TESI Project, according their view

The most positive aspects of the activity	Number of answers
Interpersonal aspects	13
Emotional aspects	5
Using mobile app in work	5
Skills	6
Knowledge	3
Challenge	3
Personal development	2

The analysis of the students 'answers to the question "What was most difficult for you in this project?", revealed particularly the students' personal difficulties, certain insufficiently developed professional skills: acting practically, despite having the theoretical knowledge, capturing the child's attention, explaining according to the child's comprehension ability, understanding the child's perspective. adapting their own behaviour and attitude to the child's needs (n = 9), as well as confronting various feelings such as the anxiety before their first exposure to such a situation, the fear of not being rejected, and to be accepted by the child, fear of not coping with the challenge, powerlessness (n = 4). These difficulties did not surprise us, half of them being present only in the students in their first year of study, but those in the second year also having a reduced practical experience. There were no difficulties related to the organization of the activity or the attitude of the school staff or the project team, and two students stated that they did not encounter any difficulties and appreciated the support received from the teachers:

"I did not encounter difficulties in this project. The use of the application was explained to us very well, and the staff from the centre for people with disabilities was very patient and guided us step by step."

The support received was appreciated also by the students who had anxiety in relation to the unique situation to which they were exposed:

"The most difficult thing I can say was the beginning because I did not know how the children would react but, with the help of the educating lady, I understood their needs quite easily and I adapted very quickly."

Here's how they describe their fears:

"The most difficult thing for me was the initial meeting because of my emotions, not knowing how the children will react when we will meet."

"I was afraid I would be rejected by the child."

The students strived to exceed their limits; they understood the importance of empathy in working with the child with disabilities, but also the difficulty of being empathetic:

"In the first phase, it was difficult for me to find an attitude that suited the needs of the child I worked with, to adapt, to look at things through his eyes so that we could achieve results together. Understanding his needs was the most difficult, understanding that we have different perspectives and cannot be brought in the same point without empathy. I started with holding the pencil in his hand, to understand his difficulty, to enjoying endless ball games ... which for me may not matter, but for the child I worked with they were the most beautiful moments of the day."

The student mentions the difficulty he encountered in applying the theoretical knowledge, in being empathetic, as well as the limits of his own perception, paying tribute to the experience in an environment in which he did not interact with people with disabilities, proving awareness of the stigmatization theory about which he has taught at the course (Goffman, 1963, Ilie Goga & Niță, 2018: 50):

"Thus, if at the mental level I was convinced that it is not difficult, and I knew exactly what to do, in practice it was a bit difficult to manage. It is difficult to realize that the imprint of the "normal" in society is also placed on you, after you have long believed that you can easily empathize with any person ... and this I think made it difficult for me to interact with the child in the first meetings, until I understand it."

The sense of powerlessness mentioned by a student was related with the incapacity to help more children. This was an important subject for the coaching session with the students after the project, as well as the anxiety subject. These emotional difficulties show the importance of developing empathy as a fundamental skill for the social workers.

Table no. 2. Perceived difficulties of the students in TESI Project

Difficulties	Number of answers
Related to insufficiently developed skills:	9
Difficulty acting practically, despite theoretical knowledge	
Capturing the child's attention	
Explain according to the child's comprehension ability	
Understanding the child's perspective	
Adapting the own behaviour and attitude at the child's needs	
Emotional:	4
Anxiety about the first meeting or to be rejected by the child	
Sense of powerlessness	

For all participants, this activity was the first interaction with children with attention deficit, with learning and communication difficulties, so four of them considered that the most difficult was to capture the child's attention (one of them failed to communicate with all the children he worked with), and to understand them when they are sending messages. For two students it was difficult to explain clearly enough so that the child understands what she is saying. The difficulty in capturing and maintaining the attention of a child with attention deficit is a given. Not knowing the specifics of each disability created unrealistic expectations, and one of the conclusions is that the students needed more in depth training for this activity, so that they can possess the necessary knowledge on the disability.

Another question was „What are the most important things you learned from this experience?".

The answers underlined skills, values, and emotions, corrections of their own perceptions and awareness.

The students learned how to catch and maintain the focus of the child's attention, how to interact and communicate with children with disabilities, and how to be more empathic. They wrote about the changes in their values and their attitude about life and

towards the children with disabilities / people with disabilities in general, and even grow their motivation to work with this kind of clients:

„I learned to appreciate the small things of the life, to look more realistically at the problems in life, to not give importance to minor discomforts".

„I learned to value the people with disabilities more, to normalize their situation: they are just like any child, they only have certain special needs.

„I learned to enjoy the small things that the life gives me"

One of the students considers that this change in her values scale is a sign of growing up for her:

"Participating in this project has brought more maturity to my life, because it made me realize the real problems a child can face in his life and made me not give so much importance to small things."

The students changed their perception about children with disabilities, and this helped them develop skills like empathy, non-judgmental attitude, and patience:

"The most important things gained during this experience are empathy towards the beneficiaries and the desire to do as much as possible for them."

"I learned to appreciate these people more when working with them."

"I learned to accept a person as he/she is."

"I learned that the children with disabilities are just like any child, the only difference being that they need more patience from those who work with them to be able to concentrate their attention."

We emphasized the development of some personal qualities as: patience, perseverance, attention, ability to adapt, communicative, self-confidence, spirit of observation, respect for other people's limits.

"This experience has helped me be more patient and more ambitious."

"I learned to communicate with the children with disabilities."

"I developed my ability to be empathetic."

"I learned how to work / to interact with a child with disabilities."

"The most important things I learned from this experience were having more patience, adapting according to the needs of each person, being more attentive to certain gestures and more communicative."

An important benefit of this experience was the correction of the students' own mental representation about effectively working with the clients, as well as the awareness of their personal limitations, and of the skills that they need to practice.

„I learned from this experience that my image of how things will work with people and how they really are, does not coincide at all, until you see in practice what an activity entails, you cannot really talk about it."

The students realized the importance of professional skills and personal qualities necessary for the social worker profession, such as patience, calmness, maintaining the ability to think rationally in any situation, managing crisis situations, empathy, the need to encourage and trust the child:

"We learned that, although these children with disabilities cannot express themselves verbally, what matters to them is showing them patience, understanding them as best as we can, and the TESI tool helped them express their wishes and us understand them."

"I learned that attention is one of the most important qualities of a teacher, respectively a social worker, because each person is different and has their own specific needs, and to identify them you need attention."

"I learned that it is important to keep your calm."

"I learned that you must be rational in any situation, and that you must not be left unaffected or unbalanced in crisis situations. I learned that you need to understand their problems as much as you can, to empathize with these people"

The most reflective question was "What have you learned from this experience about yourself as a person and is it relevant to your future career as a social worker?". Despite the fact that a few students had difficulties in offering personal answers, the general impression was that this experience was a good opportunity for self-knowledge and self-assessment. At the same time, it was a challenge, a way to go out of their comfort zone and to face new situations:

"I think this experience in itself put me in a position to get out of my comfort zone, to do things that I was just thinking about in what way they should be done, to discover that I feel fulfilled knowing that I have done something meaningful for a person".

The students discovered that they already have some skills:

„I discovered that I can be empathic and I can keep calm in any situation."

„I learned that I can manage the challenges and the emotions."

„I'm capable of working in this field of practice!"

„I can be kind, I can offer."

„An important thing for me as a future social worker is that I can handle new and stressful situations"

„I have also noticed that I can be patient so that a child with disabilities can concentrate and give correct answers to certain requirements."

Some of them received confidence in their own professional abilities to work with people with disabilities and have overcome the anxiety of working with people with disabilities, together with developing personal and professional skills such as patience, respect for other people's limitations, the ability to manage new or stressful situations, self-confidence.

"The fear of not being able to work with people with disabilities doesn't scare me anymore."

"The experience of the TESI Tool program made me have more confidence in myself."

The activity with children with disabilities using TESI tool was revealing in confirming their professional vocation, giving them the satisfaction of helping:

„I have a sense of fulfilment when I do something meaningful for a person".

„From my point of view, this experience made me have more confidence in myself, and I realized that after doing something important for a person and being able to offer help. I feel fulfilled. I found that I can make people happy by helping them and being close to them. I could see from this experience how important people are and how important patience is in working with people."

Some of the students considered that for them the most important benefits of this project were the awareness of the need for skills and personal qualities that are required for this profession, as well as their personal limitations: patience, calmness, maintaining the ability to think rationally in any situation, managing crisis situations, having empathy, understanding the need to encourage and trust the child, having spirit of observation, self-confidence. Some of the students reflected on the importance of these things in the previous question and considered them to be among the most important things they learned during the pilot stage; others listed them in response to this question:

„I learned that I have to be very patient, that I have to show the child confidence, to encourage him, show him that his opinion matters, and to be empathetic.

„I learned that one has to be very patient and very understanding with children with disabilities."

„I realized that I needed to cultivate my calm and patience"

It was mentioned as valuable acquisition the awareness at the axiological level:

"Perhaps one of the most important things I learned from this experience is that we don't need too much to be very happy, and these kids made me to understand this!"

The students mentioned that in this project they developed some important social worker's skills, such as empathy, spirit of observation or self-confidence:

"The experience of the TESI Tool program made me have more self-confidence. Seeing that I can work with people who are in more difficult situations, I began to develop my empathy even more, which from a career point of view is necessary."

"I learned to offer people more time, to have more patience, because progress comes in time."

"I learned to be more communicative, more patient and more attentive to the needs of those around me. I think all of these things will help me in my future career and I can empathize with people a lot more to understand their needs.

"Everything I did at this stage of practice helped me improve my skills."

"Another quality that stood out during the activity and began to take shape is the spirit of observation, without which, in the career of social worker, we could not orient ourselves."

„I developed my ability to observe."

„I learned to have a spirit of observation, realizing what the children wanted to convey or if they were tired, cheerful or enthusiastic."

The answers to this question are not enough to encourage the reflective practice, but are starting point for this kind of attitude. The students need opportunities to reflect on their own practice, to be conscious about their skills, feelings, emotions, values, attitudes and limits, and have someone to talk to about all of this, the coaching context being a good example.

The students' positive feelings regarding this practice experience made them want to recommend the implication in this kind of project for all social work students. At the question „What are your suggestions for improving the professional training of the future social workers, starting from this practical experience?", ten students recommend this kind of involvement. They suggest involving future social workers in activities with different kinds of clients (n=8), offering more practice hours (n =5) and more opportunities to develop skills (n=7), and having properly trained, both theoretically and practically, coordinator staff (n=2)

In addition to these proposals the students argue that having more practice opportunities (including the students' participation in this kind of projects) is the way to discover more practice fields and know which one is adequate for themselves, in order to develop the necessary competences and qualities for this profession, to be more open for new experiences, and to apply the knowledge:

„In order to improve training as a future social worker, I believe that there should be as many practical projects as needed to effectively discover what it means to work with people. I would like to have the opportunity to discover each area of social assistance in this way: from working with the elderly – to working with prisoners, discriminated persons and so on"

„I believe that, in order to improve professional training as a future social worker, we need many projects in which our skills are developed, in which we learn how to interact with all types of people."

„These internships are important for students because they are an opportunity to come into direct contact with the work environment."

„Through these practical experiences, students can enhance their qualities."

„Each student should be involved in such experiences to find if he or she can work in such an environment."

„Involving students in several projects of this kind gives them the opportunity to form as future social workers and thus they can create their own vision regarding the labour market."

According to David Kolb, experiential learning theory offers the foundation for the approach to education and learning as a lifelong process, a framework for examining and strengthening the critical connections among education, work, and personal development.(Kolb, 2015) These connections were underlined by the students' feedback, which applied their theoretical knowledge into work experience, and the effect was not only learning and developing their knowledge and skills, but also obtaining personal development.

4. Conclusions

The students' participation in the TESI project was satisfactory, and the needs of the target group identified in the preliminary analysis were met: the students acquired knowledge of children with disabilities, knowledge and skills of interaction with children with disabilities, as well as knowledge of using a mobile application in interacting with children with disabilities. In addition, the participation proved to be beneficial as an experience in itself and has been perceived as a pleasant experience, a challenge, but also as a source of opportunities for their personal and professional development, meeting new people, developing their skills and applying their theoretical knowledge in practice. The students gained knowledge, developed personal qualities and professional skills, but also reflected on their own values and attitudes, became aware of their professional qualities and limitations.

Some of the students found it difficult to answer the question about what they found about themselves in this experience. They did not understand the question from the beginning, which I interpreted as having difficulties in talking about themselves or as lack of self-reflection skills in the context of vocational training. Some responses reflected an inadequate mastery of the concept of empathy, as well as difficulty in managing emotions in the interaction with children with disabilities. For this reason, we consider the need for initial and continuing training programs to provide social workers with more contexts for exercising these skills.

The suggestions offered by students regarding optimizing their professional training were shared with the staff dealing with the specialized practice. They also provided relevant suggestions on optimizing the TESI tool.

The TESI project is an entirely new feature in the communities where it is deployed, being the only mobile app of its kind with which the communities have come into contact with so far, giving them the opportunity to experience its usefulness and personalize its content.

Involving the social work students in different practical activities which require the direct interaction with the beneficiaries offers multiple opportunities for developing

the students' knowledge, skills and values. The use of a reflective practice in the context of a competency-based education is absolutely necessary for the development of the self-reflection skills and for the awareness of the responsibility for their own professional evolution as future social workers. The reflective practice is both a form of practice development and of education development, and we think teachers can find a lot of opportunities to develop this kind of process. Despite the fact that teaching a reflective practice requires a lot of resources, the experience from the TESI project shows that the results on obtained by the students was worth the effort.

References:

Allen, M.L., Hartley, C. and Cain, K. (2016) "iPads and the Use of "Apps" by Children with Autism Spectrum Disorder: Do They Promote Learning?", *Frontiers in Psychology,* 7, 1305.

Babbie, E. (2010) *Practica cercetării sociale,* Iași: Polirom

Bold, C. and Hutton. P. (2007) "Supporting students' critical reflection-on-practice". In Campbell, A. and Norton, L. (Eds.) *Learning, Teaching and Assessing in Higher Education. Developing Reflective Practice,* Exeter: Learning Matters Ltd., 21-30

Boud, D., Keogh, R. and Walker, D. (1985) *Reflection: Turning Experience into Learning*, London: Kogan Page.

Bruder, I. (1989) "Future teachers: Are they prepared?". *Electronic Learning 8(A):* 32- 39.

Bryant, D.P., Erin, J., Lock, R., Allan, J.M. and Resta, P.E. (1998). "Infusing a Teacher Preparation Program in Learning Disabilities with Assistive Technology". *Journal of Learning Disabilities.* 31(1), 55–66.

Corman, S. (2015) "Stadiul actual de competențe TIC, e-learning al cadrelor didactice investigate". In Mara, D. and Corman, S. (Eds.) *Analiza nevoilor de formare a cadrelor didactice din învățământul românesc în domeniile Tehnologiei informației și a comunicațiilor și Mentorat educațional al persoanelor cu dizabilități,* Sibiu: Editura Universității "Lucian Blaga" din Sibiu

Council on Social Work Education (2015) *Educational Policy and Accreditation Standards for Baccalaureate and Master's Social Work Programs.* [online] Available: https://www.cswe.org/getattachment/Accreditation/Accreditation-Process/2015-EPAS/2015EPAS_Web_FINAL.pdf.aspx [accessed 25 September 2019].

Davis, M. (2003) "Barriers to Reflective Practice". *Active Learning in Higher Education,* 4(3), 243–255.

De Leo, G., Gonzales, C.H., Battagiri, P. et al. (2011) "A Smart-Phone Application and a Companion Website for the Improvement of the Communication Skills of Children with Autism: Clinical Rationale, Technical Development and Preliminary Results", *Journal of Medical Sistems*, 35, 703-711.

Draper Rodriguez, C. and Cumming, T.M. (2016) "Employing mobile technology to improve language skills of young students with language-based disabilities". *Assistive Technology,* 29(3), 161-169.

Dunn, T.J. and Kennedy, M. (2019) "Technology Enhanced Learning in higher education; motivations, engagement and academic achievement", *Computers and Education,* 137, 104-137.

Epstein, R.M. and Hundert, E.M. (2002) "Defining and Assessing Professional Competence", *Journal of the American Medical Association,* 287, 226-235.

Ertmer, P.A., Ottenbreit-Leftwich, A.T., Sadik, O., Sendurur, E. and Sendurur, P. (2012) "Teacher beliefs and technology integration practices: A critical relationship". *Computerts & Education,* 59(2), 423-435.

Fernández-López, Á., Rodríguez-Fórtiz, M.J., Rodríguez-Almendros, M.L. and Martínez-Segura, M.J. (2013) "Mobile learning technology based on iOS devices to support students with special education needs", *Computers & Education,* 61, 77–90.

Fisher, M. (2000) "Computer skills of initial teacher education students", *Journal of Information Technology for Teacher Education,* 9(1), 109-123.

Goffman, E. (1963) *Stigma: Notes on the management of spoiled identity*, New Jersey: Prentice-Hall, Englewood Cliffs

Iacobescu, G.E. (2018) "Adaptive Personalized System for Creating Expression Tools in Social Inclusion of Learners with Verbal Communication Disabilities - TESI project". In *12th annual International Technology, Education and Development Conference*, Valencia, Spain, 5-7 March 2018, 3425-3428.

Ilie Goga, C. and Niță, A.M. (2018) "Perception of disabled people on their image and status in society", *Sociology and Social Work Review*, 2(1), 49-55.

Ismaili, J. and Ibrahimi, E.H.O. (2017) "Mobile learning as alternative to assistive technology devices for special needs students", *Education and Information Technology,* 22, 883-899.

International Federation of Social Workers (2014) *Global Definition of the Social Work.* [online] Available: https://www.ifsw.org/what-is-social-work/global-definition-of-social-work/ [accessed 12 September 2019].

Kemmis., S. (2019) *A Practice Sensibility. An Invitation to the Theory of Practice Architectures*. Singapore: Springer Nature Pte. Ltd.

Kemmis, S., McTaggart, R. and Nixon, R. (2014) *The Action Research Planner Doing Critical Participatory Action Research*, Singapore: Springer Science-Business Media.

Kolb, D.A. (2015) *Experiential Learning. Experience as the Source of Learning and Development,* Second Edition, New Jersey: Pearson Education.

Mezirow, J. (1981) „A critical theory of adult learning and education". *Adult Education* 32: 3–24.

Miller, H. (1986) "The Use of Computers in Social Work Practice: An Assessment", *Journal of Social Work Education*, 22(3), 52-60.

European Commission Education and Culture (2008) *The European Qualifications Framework for Lifelong Learning (EQF)*. Luxembourg: European Communities. [online] Available: https://ec.europa.eu/ploteus/sites/eac-eqf/files/brochexp_en.pdf [accessed 10 September 2019].

Perron, B., Taylor H., Glass, J. and Margerum-Leys, J. (2010) "Information and Communication Technologies in Social Work", *Advances in social work,* 11, 67-81.

Race, P. (2015) *The Lecturer 's Toolkit. A practical guide to assessment, learning and teaching.* Fourth edition. London and New York: Routledge, Taylor& Francis Group.

Schön, D. (1983) *The Reflective Practitioner,* New York: Basic Books.

Sorescu, E.M. and Iacobescu, G.E. (2019) "Promoting Mobile Learning in the Social Work for Children with Communication Disabilities". In *Conference proceedings 9th International Conference „The Future of Education"*. Florence, Italy, 27-28 June 2019, Bologna: Filodiritto Editore, 197-203

UNESCO (2013) *Policy guidelines for mobile learning,* Paris: UNESCO. [online] Available: https://unesdoc.unesco.org/ark:/48223/pf0000219641 [accessed 17 August 2019].

United Nation. Department of Economic and Social Affairs (2018) *Flagship report on disability and development. Realization of the sustainable development goals by, for and with persons with disabilities***,** Geneva: UN.

Wu, W-H., Jim Wu, Y-C., Chen, C-Y., Kao, H-Y., Lin, C-H. and Huang, S-H. (2012) "Review of trends from mobile learning studies: A meta-analysis". *Computers & Education,* 59(2), 817–827.

Yip, K-S. (2006) "Self-reflection in Reflective Practice: A Note of Caution". *British Journal of Social Work,* 36(5), 777–788.

European trends regarding the eldering population and the increasing need for care work

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Abstract

Care is an activity that has always defined humans` interactions and consists of a variety of forms and manifestations, being differently classified, according to various criteria across time. The recent years brought care work to the public agenda while feminist scholars, and not only them, argue its importance in the scientific arena. The demographic, technological, economic and social shifts of the last decades, such as population aging, migration, changes in the family structure and functioning, women`s enrolment in paid work, outside the house, for example, made the need for care services one of the acute problems of the modern, western welfare states. In the following lines we will draw the general context regarding these transformations, emphasizing their connections with the increasing need for care work, outline the main theoretical approaches of care and we will also analyze the latest European data concerning the above mentioned issues, together with research perspectives that aim to address them.

Keywords: *care work; aging; migration; family.*

1.Introduction

The Europe 2020 Strategy promotes smart, sustainable and inclusive growth for the entire European Union, establishing five key areas: employment, research and development, climate change and energy, education, poverty and social inclusion. Each member state establishes own targets regarding these main domains, and the Statistical Bureau of the European Union, Eurostat, is periodically assessing each country`s progress towards the assumed goals and also presents the average European trends concerning these indicators, permitting transversal and longitudinal comparative analyses. Such main themes were established in order to face economic challenges and demographic transformations that affect the European continent. Furthermore, these common challenges faced by European societies are addressed by common fundamental European strategic policies, such as the Cohesion Policy (Porumbescu 2019: p. 185). Population aging and low fertility rates are frequently mentioned as present features for many European countries, together with migration, which is differently manifested and has opposite consequences in origin and destination countries.

Scientific discoveries are usually transposed for the use of general public, as is, for example, the jumps that were lately made in medicine, due to some technological discoveries that allow older people to benefit from an independent life, provided by different appliances or devices. Furthermore, such apparatus, machines and equipment ease the work that nurses or relatives perform, in the case of the care-dependent ones.

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Besides this equipment, the life span in rich countries extended, due to numerous facilities available from the earlier stages of life, progress in medicine, educated people towards what a healthy lifestyle means, and numerous possibilities to prevent, treat and cure.

Nevertheless, many persons confront with a period in their lives when they are no longer functionally independent and the need for care becomes acute. In the past, the members of the extended families or younger relatives provided this care, usually assigned to women. At least two changes regarding families make the provision and receiving of care difficult and questionable nowadays. The first one refers to transformations within the family structure, more precisely the transition from the traditional, enlarged families, to nuclear ones, sustained by the migration of young adults from rural to urban areas and sometimes abroad. The left at home older generations are forced to take care of themselves or to pay for such services, a situation that is often present in European societies: "since the end of the Second World War, the economically developed democracies of Western Europe have had a long standing tradition of welcoming immigrants from less developed countries, in order to occupy vacant positions in the industry or service sectors" (Porumbescu 2018: p. 42).

Moreover, care work was mostly assigned to women and nowadays their enrolment rates in paid work are close to the ones of men, in most European countries (Eurostat, 2018). In such conditions, extra burden is put on women`s shoulders, when besides their job they also have the responsibility to be the care provider, while others afford to externalize the provision of care. The question that rises here is who takes care of the families of those who are remunerate care providers for other families than theirs, in foreign countries? In other words, affluent societies attract workforce form poorer ones, draining resources in these immigrants` origin countries.

Furthermore, Romania has certain particularities due to the post-communist transition and the inherent changes of social policies. From a centralized, omnipresent state control in all domains, including work, family and facilities that provided care for both children and seniors, forbidding migration, Romanian transition brought a reduction of the state intervention in all these sectors, doubled by economic crisis and transformations of the social policies.

After introducing the general European and national context that explains the increasing interest in care work and the generations of seniors, in the following section we will outline the theoretical framework that guides our expose, delimitating the meanings of concepts as care, care work and aging.

2. Conceptual framework

Care is a fundamental human activity, generally defined by nurture and support provided for the close and dear ones. Care activities were for centuries behind the curtains of the public sphere, being considered a rather private, domestic issue, that accompany people in different stages of life. Among these stages are ones that require a greater need for care, as childhood, illness or aging, while persons in other situations do not require the same amount of care. Such activities were performed along the history by women, mostly within the family and sometimes rich families paid for servants, outside the family.

Kleinman describes a "fully human" care provider, defined by "emphatic imagination, responsibility, witnessing and solidarity with those in great need" (Kleinman 2009: p. 293). Other scholars analyze the social and economic impact of

care work, being it paid or unpaid (Armenia in Risman et al 2018), and consider care studying "an interdisciplinary, and distinctively feminist, endeavor, as it highlights a body of labor that is critically important to society, commonly devalued as "women's work," and considered a central mechanism in the reproduction of gender inequalities in our society. Research on care stretches across numerous disciplines: sociology, economics, political science, philosophy, education, public health, and others. In all of these disciplines, studying and valuing care—traditionally women's work—means using a feminist perspective as a central mode of analysis" (Armenia in Risman et al 2018: p. 469). Such scholarly approaches of care conceptualize it as work and less as an emotion and the approach of care work is seen through the glasses of the gendered division of labour.

Addressing the scholar approach of care, we can easily notice that care work has entered the scientific arena recently, due to numerous transformations above mentioned and researchers` interest in this domain is reflected by an increasing body of literature addressing care as work (Buch 2015: pp. 277-279). Despite scientific interest regarding care, the same author considers that "care remains a shifting and unstable concept—alternately referring to everyday practices, engagements with biomedicine, biopolitics, affective states, forms of moral experience and obligation, structures of exploitation, and the relationships between these various things" (Buch 2015: p. 279). Besides these complementary facets of care, the word itself benefits of two connotations, being understood as both practical action – "caring for" and affective concern – "caring about", the second signification being considered by some authors as modelling and determining the action (Tronto 1994). The same author states that the affective concern is as an altruistic interest in "reaching out to something other than the self" (Tronto 1994: p. 102). According to this ethical perspective, the feelings of care orientated towards a certain person are the best, natural motivation that arouse one`s interest in caring for another.

One of the first definitions of care belongs to Fisher and Tronto, who see it as a form of activity that fosters a better living in our world – "a species activity that includes everything we do to maintain, continue and repair our world so that we can live in it as well as possible" (Fisher and Tronto in Abel and Nelson 1990: p. 40). Theory and research usually distinguish between paid and unpaid care. The first is performed by employed persons, from outside the family, a "stranger", while de second is provided by relatives, friends, close knits. While paid care is assimilated to a job, being financially motivated, the unpaid one is driven by affective triggers and the reward is not financial, but rather emotional (Razavi 2007; Hays 1996).

Regarding the dimensions of care, the classification of Fisher and Tronto (1990) distinguishes between care giving and care receiving and also mentions "caring about" and "taking care of" as being components of care (Fisher and Tronto in Abel and Nelson 1990: pp. 35-37). Care giving defines according to this perspective the activity of providing specific actions of support towards a person, who, correspondingly, is the care receiver. Before giving care, Fisher and Tronto (1990) mention caring about, as a process defined by needs` identification, continued with assuming the responsibility for providing care. Moreover, this perspective was recently enriched with a fifth component, the "caring with" (Tronto 2013). According to this conceptualization, care is brought beyond the private, interpersonal curtains, to the public sphere, being shaped by values as "justice, equality and freedom" (Tronto 2013: p. 23).

Furthermore, care becomes nowadays a public concern and there are authors who conceptualize the provision of care in terms of analyzing differences between societies and within the same society across time (Razavi 2007). Such views introduce welfare regimes` orientation towards dependence or independence in explaining the social provision of care. For example, Razavi (2007) tries to explain the models of care provision within societies using the concept of "care diamond". According to her theoretical model, the four corners of the diamond are represented by the state, the not for profit sector, the markets and the households or families.

Care is often put in relation with eldering population and both concepts have different meanings around the globe and across the history. The European continent introduced the "Third Age" for describing those categories of seniors who are still independent, active and healthy, in contrast with the "oldest old, who are in need for care" (Buch 2015: p. 282). The desiderate of stakeholders is that of active, successful aging, contributing thus to both seniors` well-being and reducing financial, material and human costs necessary for their care. Researchers also noticed that elder generations may benefit from diverse techniques, treatments and other resources aimed to foster their active, productive social life (Buch 2015: p. 282). In the following section we will see how European countries and Romania look like regarding the third age population and care work.

3. European trends regarding the eldering population

Europe is confronted with an eldering population for several decades now, doubled by low fertility rates (Eurostat 2019; Pogan 2018). As the following figure eloquently shows us, the proportion of seniors increases, while the share of working-age Europeans is in decline, for both women and men.
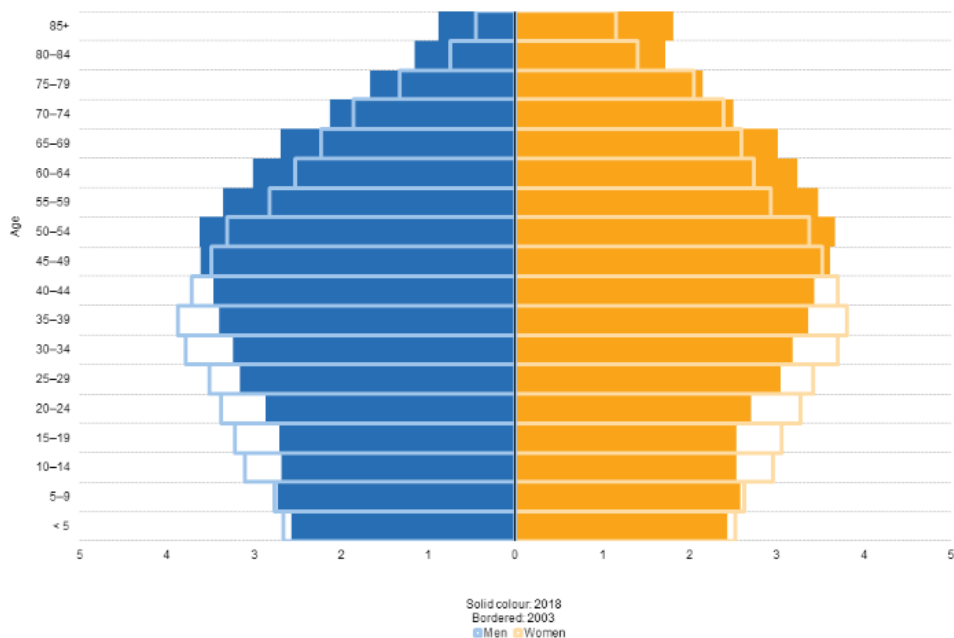

Figure no. 1: Population pyramids, EU-28, 2003 and 2018
(% of the total population)
Source: Eurostat 2019

Moreover, European projections regarding population structure by age groups describe a tendency towards an increased share of the oldest generation (persons aged 80 or above), due to extended life expectancy, from 5.6% of the general population, to 14.6% (Eurostat 2019), as seen in Figure 2. The same prognosis states that the proportion of the old-age dependents (over 65 years) will reach 57% by the end of the century (Eurostat 2019).
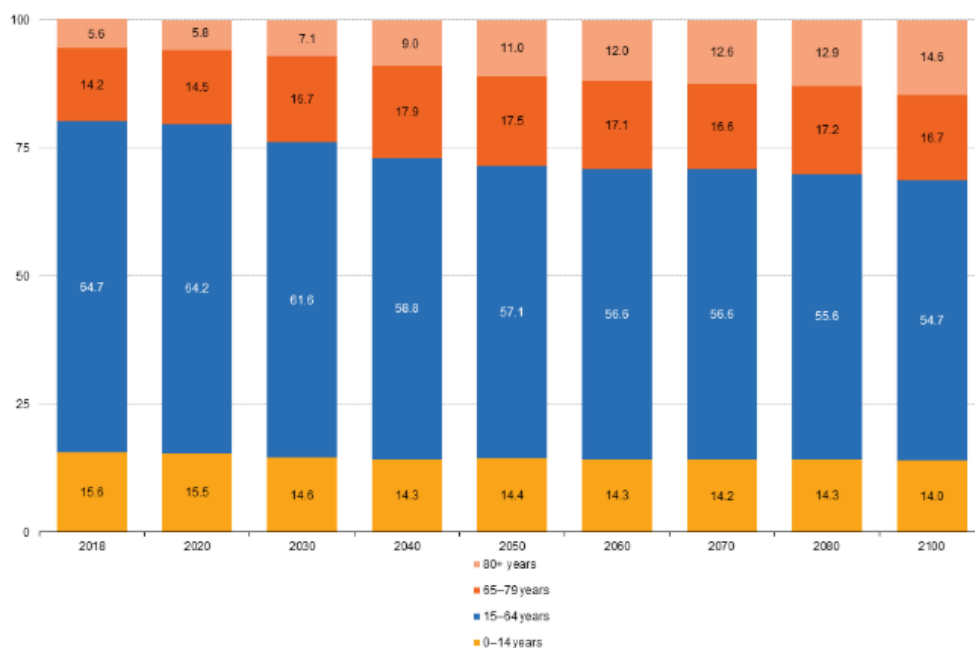

Figure no. 2: Population structure by major age groups, EU-28, 2018-2100
(% of total population)
Source: Eurostat 2019 a

This increase in the share of elderly people trend is common for the member states of the European Union. The increase in the share of the population aged 65 or over is perceivable in all countries, with percentages ranging between 0.3 in Luxembourg and 4.9 in Malta, while for the entire European Union the average is 2.6 percentage points (Eurostat 2019a).

Nevertheless, we should mention that among the strategic targets of the European Union, besides increasing employment rates for women, active status on the labour-market for seniors is another goal. For most of the European countries, the legally stipulated age for retirement is around 65 years, for women and men. Though, as they approach retirement age, people tend to reduce their working arrangements or medical conditions force them to quit labour force earlier than 65. Thus, the 60-64 age group category is the lowest represented category on the labour-market, followed by the youngest adults, aged 20-24 (Eurostat 2019 b), as seen in the following figure.
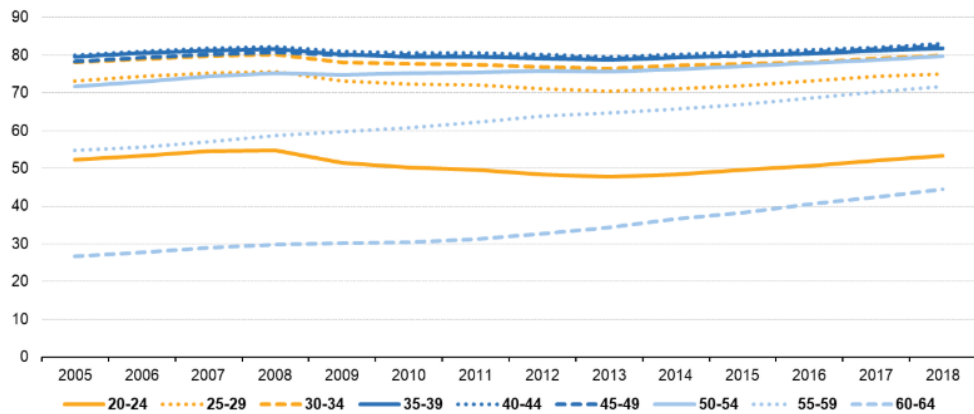
Figure no. 3: Employment rate by five-year age groups, 2005-2018, EU – 28
(% of population)
Source: Eurostat 2019 b

When analyzing this longitudinal comparison regarding employment rates for all age categories, we can notice an increase in the employment rate of the senior population between 2005 and 2018 of more than 17 percentage points (Eurostat 2019b).

Despite this increase in the employment rate of seniors, the statistical bureau of the European Union has a pessimistic discourse regarding such demographic trends stating that "as a result, the proportion of people of working age in the EU-28 is shrinking while the relative number of those retired is expanding. The share of older persons in the total population will increase significantly in the coming decades, as a greater proportion of the post-war baby-boom generation reaches retirement. This will, in turn, lead to an increased burden on those of working age to provide for the social expenditure required by the ageing population for a range of related services" (Eurostat 2019 a https://ec.europa.eu/eurostat/statisticsexplained/index.php?title=Population_structure_and_ageing).

We will add to this that such trends towards increasing shares of age-dependent persons also request for working force in the service domain, as automatization will expand in many domains, but education and care are still weekly impacted by these technological innovations (Pouliakas 2019 apud Pogan 2019: 178). If in the past intergenerational support was the main channel for providing care, regarding both children and seniors, the shift from the instrumental function of the family to the emotional-expressive one, doubled by other social, economic and demographic changes, as migration, decreasing number of children or higher employment rates for women, reshaped such transactions. As in other sectors traditionally assigned to family, outsourcing and marketization also impacted care provision, transforming it into a well-established area of labour force.

Nevertheless, several papers investigated the so called "care penalty" regarding the wages of paid care workers (Budig and Misra 2010; Razavi and Staab 2010), identifying the important role of policies and labour context. The care workers are among the lowest paid employers and these activities are mostly undertaken by women, migrants and low-educated categories of people. According to Budig and Misra when the public spending on care is high, doubled by a strong public sector of care providing,

workers from this domain are more likely to benefit from wage bonuses (Budig and Misra 2010: 459).

4. Discussions and conclusions

From the previous sections, the importance of care work in the context of an eldering society becomes obvious and social, economic and inter-relational underpinnings also. Furthermore, research mentions "global care chains" defined as "series of personal links between people across the globe based on the paid or unpaid work of caring" (Hochschild 2014 in Engster and Mets 2014 (eds.): 141-144). The situation of Romania can be better understood in the context of global care chains, as many Romanians leave the country and are engaged in care providing systems of western, more developed countries (http://www.mprp.gov.ro/web/wp-content/uploads/2019/07/Raport-IULIE-2019_site.pdf). Such migration of the working force does not only affect economy, but the families of those migrants also, as reach societies dry out this valuable human resource from less developed or economically unstable regions, as Romania is.

In a chapter addressing caring as work, Armenia (2018) emphasizes the actual global context: "While care work is done locally for those who need care, we increasingly see families in developed countries hiring workers from less developed countries to provide care for children, the elderly, and the sick or disabled. These workers must then assign their own care responsibilities (care of their own children, for example) to other family members or even to lower-paid care workers in their home country" (Armenia in Risman et al 2018: pp. 475-476).

Other scholars consider that rich economies benefit from immigrating work force in consolidating their welfare regimes, as the new commers, from poorer areas, are available for activities that make possible the marketization of public services (Williams and Brennan 2012). Furthermore, the same authors describe the intersection between migration, development of care provision and marketisation of need suppling as a contemporary feature of the global world, shaping both care – giving and care – receiving.

All the above discussed demographic trends, social and economic issues, corroborated with transformations in family relations and functioning, and sustained by the actual global context repaint in different nuances the classical intergenerational interactions and bring care work closer to the labour market.

References:

Armenia, A. (2018) "Caring as work: Research and Practice", In Risman, B., Froyum, C. and Scarborough, W. (Eds.) *Handbook of the Sociology of Gender*, Second Edition, New York: Springer.

Buch, E. (2015). "Anthropology of Aging and Care", *Annual Review of Anthropology,* 44, 277-293.

Budig, M. and Misra, J. (2010). "How care-work employment shapes earnings in cross-national perspective", *International Labour Review,* 149, 441-460.

Eurostat (2019a) *Population structure and ageing,* Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_structure_and_ageing [accessed 12 August 2019].

Eurostat (2019b) Employment rates and Europe 2020 national targets. [online] Available:

https://ec.europa.eu/eurostat/statistics-explained/index.php?title= Employment_ rates_and_Europe_2020_national_targets, [accessed 07 September 2019].

Fisher, B. and Tronto, J. (1990) "Toward a feminist theory of caring", In Abel, E. K. and Nelson, M. K. (Eds.) *Circles of care: Work and identity in women`s lives,* Albany, New York: Suny Press, 35-62.

Hays, S. (1996) *The cultural contradictions of motherhood*, New Haven: Yale University Press.

Hochschild, A. (2012) *The managed heart: Commercialization of human feeling*, Berkeley, California, London: University of California Press.

Hochschild, A. (2014). "Global Care Chains and Emotional Surplus Value", In Engster, D. and Metz, T. (Eds.). *Justice, Politics, and the Family*, New York: Routledge.

Kleinman, A. (2009) "Caregiving: the odyssey of becoming more human". *The Lancet,* 373(9660): 292–294, [online] Available: http://nrs.harvard.edu/urn-3:HUL.InstRepos:2757542, [accessed 01 September 2019].

Ministerul pentru românii de pretutindeni (2019). *Raport de activitate*, [online] Available: http://www.mprp.gov.ro/web/wp-content/uploads/2019/07/Raport-IULIE-2019_site.pdf) [accessed 08 September 2019].

Pogan, L. (2018). "Family and Labor Force-Individual Lives, Social Outcomes", *Sociology and Social Work Review,* vol. 2, no. 2, 47-56.

Pogan, L. (2019). "Emerging research milestones for social sciences in a smart society". „*C.S. Nicolăescu-Plopşor*", no. XX, 171–179.

Porumbescu, A. (2018) "The European institutional actors in handling migration", *Sociology and Social Work Review*, vol. 2, no. 1, 41-48.

Porumbescu, A. (2019) "Subsidiarity, regions and cohesion in the European Union", A*nuarul Institutului de Cercetări Socio-Umane „C.S. Nicolăescu-Plopşor",* no. XX, 181-191.

Pouliakas, K. (2019) "Machines, robots and the threat of automation to EU jobs", [online] Available: https://skillspanorama.cedefop.europa.eu/en/blog/machines-robots-and-threat-automation-eu-jobs, [accessed 22 September 2019].

Razavi, S. (2007) *The political and social economy of care in a development context: Conceptual issues, research questions and policy options*, Geneva: UNRISD.

Razavi, S. and Staab, S. (2010) "Underpaid and overworked: A cross-national perspective on care workers", *International Labour Review*, 149, 407–422.

Tronto, J. (1994) *Moral Boundaries: A Political Argument for an Ethic of Care*, London: Routledge.

Tronto, J. (2013) *Caring democracy markets, equality, and justice,* New York: New York University Press.

Williams, F. and Brennan, D. (2012). "Care, markets and migration in a globalising world: Introduction to the Special Issue", *Journal of European Social Policy,* 22, 355-362.

Yeates, N. (2004). "Global care chains". *International Feminist Journal of Politics*, vol. 6, 369–391.

Normative provisions and legal procedures concerning the arrival of refugees in Romania

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Abstract

For the past decades, after the fall of the communist regime, Romanians` emigration has become one of the defining characteristics of this nation`s society. However, following its accession to the European Union in 2007, combined with the massive migration flows arriving on European borders, Romania joined the list of countries that received immigrants. The aim of this paper is to review the legal conditions on receiving and integrating refugees in Romania, by analysing both the normative provisions and the procedures designed to conduct this process. Furthermore, the main centres and facilities created for refugees and asylum seekers in Romania will be presented.

Keywords: *refugees; procedures; Romania; asylum; refugee centres.*

1.Introduction

For the first decades after the fall of the communist regime in December 1989, Romanians` emigration has become one of the defining characteristics of this nation`s society. The developments in the field of international human migration, along with the new regulations Romania needed to follow as member of the European Union enrolled this country in the list of states that also receive various types of migrants, including refugees. Although this situation is not necessarily a consequence of an individual choice made by the refugees, or encouraged by national policies in this field, the legal framework is designed to create a welcoming environment.

According to the conclusions of a study on refugee integration in Romania, "Romania is seen from the very beginning in a dual light: it is a European country, but asylum seekers know little if any about the society prior to arriving here. Most know it is poor, but expect much better as compared to the countries of origin. Peace, political stability and kindness of people are often mentioned as some of the main assets of the Romanian society. Unclear bureaucracy and intricate regulations, along with difficulties to deal with public administration in everyday life are at the opposite side of the spectrum" (Voicu, Deliu, Negut and Tomescu 2018: p. 2).

As one of the most frequent characteristics of modern societies, the unprecedented increase in the phenomenon of migration, is generating a serious increase in the pressure that European Union member states are facing, and, as a result of Middle East events, a series of measures aimed to strengthen solidarity and share responsibilities for EU member states have been discussed and adopted, including sharing these responsibilities with third countries, which host persons in need of

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international protection on their territory. Same as in other fields of action, in the matters of migration and asylum policies, "each of the challenges addressed to the Community can be responded in a series of ways prescribed by the treaties, ways that have, as a common feature, a pattern of cooperation and interdependence among the main institutions in the decision-making and implementing process" (Porumbescu 2018: p. 22).

However, in most of the receiving countries, integrating immigrants proves to be a difficult task: "another issue that is often set on the table lately in western societies is the culture of unlimited individualism at the expense of an altruistic attitude, although social policies try to promote by different means the civic spirit " (Pogan 2018: p. 48). Furthermore, it is to be noted that "while some decades ago, immigration was encouraged by several European countries as a way to provide the necessary labor force much needed for the post-war reconstruction, the current common approach on migration regards it more as a threat rather than an opportunity" (Porumbescu 2019: p. 38). Regarding the national landscape of migrant integration, it is believed that "boosted by demographic decline and constant maintainence of the migration flow, sociological analyzes come to confirm fears and outline alarming predictions regarding the educational and occupational future of young Romanians" (Niță 2016: p. 87). And this is only one of the aspects related to the general approach of the Romanian society towards the arrival of refugees, which echoes the attitude expressed by other European nations.

In this context, the international community needs to find immediate and effective ways to deal with the migratory flows, by creating common instruments aimed at handling the situations of crisis, by sharing obligations among the states. According to the European Commission, " 'Relocation' means a distribution among Member States of persons in clear need of international protection" (European Commission, 2015, p. 19). Relocation can be explained as the process of selecting and transferring refugees from the first asylum country to another country (relocation country) in order to provide the necessary protection, being an instrument for international refugee protection. Furthermore, relocation is one of the sustainable solutions to the problem of refugees, adopted by the international community, the other two being voluntary repatriation and local integration. From the perspective of the foreign policy dimension, the relocation of refugees is a tool for sharing responsibility between states in the field of refugee protection.

Since the emergence of the legal framework for carrying out the programs of relocation of refugees in Romania (Law no. 122/2006 on asylum in Romania), the General Inspectorate for Immigration (IGI), as the specialized body of the central public administration, which is subordinated to the Ministry of Internal Affairs (MIA), which exercises powers in the fields of migration, asylum and integration of foreigners, has begun the process of analysing and identifying ways to achieve the relocation of refugees, and has participated in training activities in this regard and in discussions with representatives of the United Nations High Commissioner for Refugees (UNHCR) on this topic.

While in the international literature and regulations regarding migrants in need of international protection there often appears to be a semantic distinction between the terms "refugee" and "asylum", the normative provisions regarding the refugee procedures in Romania use the two concepts as interchangeable. Furthermore, while the Governments`s Ordinance no. 102/2000 addressed the "status and regime of refugees in

Romania", the Law no. 122/2006 that replaced it addresses the issue of "asylum in Romania".

2.Legal provisions regarding refugees and asylum seekers

The main regulations regarding the situation of foreign people in Romania are compiled in the following laws: Government`s Decision no. 639 from June, 20th, 2007 regarding the organizational structure and atributions of the General Inspectorate for Immigration (updated in May 2019), Government`s Emergency Ordinance no. 194 from December, 12th, 2002, regarding the situation of foreigners in Romania (updated in May 2019), Government`s Emergency Ordinance no. 102 from July, 14th, 2005, pregarding the freedom of circulation on the Romanian territory for the citizens of the Member States of the European Union, the European Economic Space and the citizens of the Swiss Confederation (updated in May 2019), Law no. 122 from May, 4th, 2006 regarding asylum in Romania (updated in May 2019), Government`s Ordinance no. 44 from January, 29yh, 2004 regarding social integration of foreigners who have acquired international protection or the right to stay in Romania, as well as the citizens of the Member States of the European Union and the European Economic Space (updated in May 2019), Government`s Ordinance no. 25 from August, 26th, 2014 regarding the employment and posting of foreigners on the territory of Romania and for modifying and completing normative acts regarding the situation of foreigners in Romania (updated in May 2019).

Despite the fact that the procedures regarding the arrival and the reception of refugees are generously prescribed throughout this normative system, the issues related to their effective integration in the Romanian society are still to be discussed. Furthermore, there are certain particularities attached to features such as identity, nationality, that need to be addressed in more subtle ways in order to allow for a real integration in the host societies. This particular determination is not specific to Romania as a destination country, but rather regards most of the European countries, as well as the European Union as a whole, given that "in European context, there is a dual drive in identity formation, one which originates in national pasts which hold the present in their legacy, and another which is geared up toward the future, oriented toward a European identity formation aiming for a community guided by a normative framework for integration and based on consensus of values and an identity based on the possibility of common historical memory" (Petcu 2018: p.33).

3.Receiving procedures in Romania

In the Romanian institutional system the Directorate for Asylum and Integration (DAI), within the General Inspectorate for Immigration, is the structure responsible for the problems of asylum and the integration of foreigners in the Romanian society. In this context, DAI aims to ensure unrestricted access to the asylum procedure of foreigners in need of international protection. It is the structure enabled to ensure registration, identification, record of asylum seekers and persons who have received a form of protection in Romania, and also to ensure the issuance and extension of the validity of identity documents and travel documents for asylum seekers and for persons who have received a form of protection. The Directorate also establishes which Member State is responsible for resolving an asylum application in the DUBLIN procedure, solves asylum applications in the administrative phase and researches and provides information from the countries of origin needed to solve asylum applications.

It is the responsibility of the Directorate for Asylum and Integration to ensure the accommodation, the material and financial assistance of the asylum seekers who do not have means of maintenance, counseling, medical assistance, etc. and to provide assistance for the integration of persons who have acquired a form of protection.

Reception, registration and settlement of asylum applications, assurance of assistance for the asylum seekers during the procedure and assistance for integration are activities carried out at the level of the Regional Centers for Asylum Procedures and Accommodation located in Bucharest, Giurgiu, Timișoara, Galaţi, Rădăuţi and Maramures, territorial structures specialized in asylum issues.

The asylum application can be submitted by any foreigner, located on the territory of Romania or at a point for crossing the border. A person is considered asylum seeker from the moment of manifestation of will, expressed in writing or orally, in front of the competent authorities, from which it follows that he or she requests the protection of the Romanian state.

Asylum applications are submitted personally by foreigners located on the territory of Romania or at a control point for crossing the state border. In the case of minor foreigners, asylum applications can be submitted by the legal representative. Minors who are 14 years old can apply for asylum on their own behalf. Asylum applications outside Romania are not allowed.

The competent authorities to receive an asylum application are: the structures of the General Inspectorate for Immigration, the structures of the Romanian Border Police, the police units within which detention and preventive arrest centers are set up and operate and the structures of the National Prison Administration within the Ministry of Justice.

The territorial competence regarding the reception, registration and processing of asylum applications belongs to the regional centers of procedures and accommodation of the asylum seekers under the subordination of the Asylum and Integration Directorate, namely Bucharest Center, Timișoara Center, Galați Center, Radăuți Center, Maramureș Center and Giurgiu Center. The competent authorities cannot refuse to receive the asylum application on the grounds that it was filed late.

After receiving the asylum application, the applicant will complete a preliminary interview, in order to establish his personal data and that of his family members, the route he traveled from the country of origin to Romania, the data regarding any asylum applications submitted in other third countries or in a Member State of the European Union, as well as the identity or any possessed travel documents.

The preliminary interview takes place in the presence of an IGI official and a translator. The translation will be carried out in a language that the applicant knows or is reasonably assumed to know.

Once the asylum application is submitted, the personnel of the General Inspectorate for Immigration or other competent authorities will collect the fingerprints of the asylum seeker who, according to the proven or declared identity data, has reached the age of 14 years. The fingerprints will be transmitted in the EURODAC System and stored on paper in the library of the General Inspectorate for Immigration and in electronic format in the national database AFIS (Automated Fingerprint Comparison System). The asylum seeker is informed in writing of the above operations. The collection and transmission of fingerprints of asylum seekers is done in compliance with the provisions regarding the principle of confidentiality and protection of personal data.

The specialized staff of DAI undertakes specific checks and activities in order to establish the real identity of the asylum seekers who do not have identity documents.

The asylum seeker is obliged to submit all the documents he has available and which are relevant to his personal situation, as well as the document for crossing the state border, to receive the temporary identity document for the asylum seekers, issued by the General Inspectorate for Immigration.

In the case of unaccompanied minors, as well as in the case of asylum seekers who are part of other vulnerable groups, the asylum procedure presents a number of particularities determined by the vulnerability of these persons and the need to treat them in an appropriate way.

Unaccompanied minors and persons from other vulnerable groups become asylum seekers from the moment they express their will in writing or orally to the competent authorities. Asylum applications of unaccompanied minors will always be processed in the ordinary procedure. In the case of unaccompanied minors, asylum application is a precondition for automatic access to the territory, thereby ensuring access to the asylum procedure. The resolution of asylum applications submitted by unaccompanied minors and persons from other vulnerable groups will be given priority. Unaccompanied minors and persons from other vulnerable groups who have applied for the protection of the Romanian state are not criminally liable for illegal entry or stay in Romania.

The official who registers the unaccompanied minor will immediately request the appointment of a legal representative. The appointment of the legal representative will be made by the General Directorate of Social Assistance and Child Protection, in whose territorial administrative area the specialized structure on asylum issues of the IGI where the asylum application is to be filed is situated. The Directorate will designate a person with higher legal or social studies from his own staff or from an authorized private body, who will support the rights of the child and participate, along with him, in the whole asylum procedure. The document appointing the legal representative will be sent to the competent structure of the IGI, respectively to the decision officer, who will attach it to the applicant's personal file.

In case the request of the unaccompanied minor regarding the granting of a form of protection in Romania was rejected by a definitive and irrevocable decision, the General Directorate of Social Assistance and Child Protection undertakes the steps provided by law to establish a protection measure, requesting the court to establish the placement of the child in a special protection service. It also informs the General Inspectorate for Immigration - the Asylum and Integration Directorate about the situation of the unaccompanied minor, who proceeds according to the law.

The protection measure lasts until the child returns to the parents' country of residence or to the country where other family members willing to take the child have been identified. The repatriation of unaccompanied minors should be done taking into account the principle of family identification and finding and also taking into account the principle of non-return and the best interests of the child.

In case the asylum application of a person from other vulnerable groups is irrevocably rejected and enforced, the one in question is forced to leave the territory of Romania within 15 days. When there are reasons that prevent the authorities from repatriation, the person concerned can obtain tolerated status for a limited period of time.

Unaccompanied minors who have received a form of protection on the territory of Romania are taken over in the system of services for the protection of the child, organized at the level of the county councils, respectively of the local councils of the sectors of the municipality of Bucharest, and benefit from all the rights provided by law for the child in difficulty. . They can also be enrolled in special integration programs.

Unaccompanied minors will receive identity documents, personal numeric code and they also have the right to be housed in centers up to the age of 18 years old. People who can be included in other vulnerable groups, who have obtained a form of protection, can benefit, upon request, from accommodation in the centers for asylum seekers of the General Inspectorate for Immigration. Also, these persons can be registered in the socio-professional integration program, which can be extended indefinitely until the problems have been overcome.

4. Refugees in Romania. Rights and obligations

During the asylum procedure, the foreigner requesting a form of protection in Romania benefits from a plenitude of rights, among which we recall: to stay in Romania until the expiration of a period of 15 days from the completion of the asylum procedure, unless the asylum application was rejected following its resolution in the accelerated procedure or in the border procedure, in which case they must leave the Romanian state as soon as the asylum procedure has been completed. In the case of the procedure for determining the Member State responsible for examining the asylum application, the right to remain on the Romanian territory ceases on the date of the transfer. Throughout the asylum procedure, the solicitor in entitled to be assisted by a lawyer and is provided free of charge, at any stage of the asylum procedure, including in the judicial phase of the procedure by which the restrictive measure of placement in a specially arranged space has been arranged, an interpreter able to provide appropriate communication.

☐ The foreigner requesting a form of protection also has the right to contact and be assisted by an official of the United Nations High Commissioner for Refugees (UNHCR) or to be advised and assisted by a representative of the non-governmental organizations, Romanian or foreign, in any phase of the asylum procedure. Furthermore, the access, personally or through a representative, to the information contained in your file, except in the cases provided by law cannot be restricted. The access to information from the personal file is made on the basis of a request addressed to the specialized structure on asylum issues of the General Inspectorate for Immigration, while the personal data and any other details related to the asylum application are protected.

The refugees also have the right to be issued a temporary identity document, the validity of which will be extended periodically by the General Inspectorate for Immigration. Furthermore, material reception conditions that guarantee the subsistence and protect the physical and mental health are granted, as well as activities that support cultural adaptation.

Asylum seekers also have the right to benefit from free primary health care and appropriate treatment, emergency hospital care, as well as free medical care and treatment in cases of acute or chronic diseases that put their life in imminent danger, through the national emergency and first aid system qualified aid, and to be included in the national public health programs aimed at the prevention, surveillance and control of communicable diseases, in epidemiological situations;

⬜They also benefit from access to the labor market under the conditions provided by law for Romanian citizens, after the expiry of a period of 3 months from the date of submission of the asylum application, if a decision has not been made in the administrative phase of the procedure in the case of the application, and the delay cannot be imputed, as well as during the course of the asylum procedure in the judicial phase.

Minors have the right access pre-school and compulsory school education, under the same conditions as Romanian citizens, unless a measure of expulsion of them or their parents is implemented.

Asylum seekers have the right to be visited by family members, representatives of national or international non-governmental organizations and bodies with responsibilities in the field of asylum or respect for human rights, authorized and accredited in accordance with the law, as well as by their legal representative.

In order to benefit from the rights provided by the law, the General Inspectorate for Immigration will assign a personal numeric code that is included in the temporary identity document. Minors benefit from the same protection offered, under the law, to the Romanian minors in difficulty. In the situation that an asylum seeker is devoid of discernment, his interview is conducted in the presence of the tutor or, as the case may be, his guardian.

Throughout the asylum procedure, the foreigner requesting a form of protection has the following obligations: to submit the motivated request for asylum in writing to the competent bodies, including photographs and fingerprints, as well as to present to the competent authorities complete and real information on their identity data and asylum application, along with all the available documents relevant to their personal situation. In order to receive a temporary identity document, the document for crossing the state border needs to be handed over. Each asylum seekers needs to follow the stage of the procedure and to inform the General Inspectorate for Immigration regarding the change of residence, within 5 days from the occurrence of the situation, and to respond to the requests of the bodies with responsibilities in the field of asylum.

The solicitors need to attend the medical examinations, to submit the vaccinations, as the case may be, for the purpose of protecting public health, and, upon request of the competent authorities, to submit to the corporal control. Asylum seekers are obliged to comply with the laws of the Romanian state, as well as the measures ordered by the Romanian bodies competent in the field of asylum. They have to leave the Romanian territory within 15 days from the completion of the asylum procedure, if they did not obtain the requested form of protection, unless the asylum application was rejected as obviously unfounded following its settlement in the accelerated procedure, in which case they must leave the territory of the Romanian state as soon as the asylum procedure has been completed. The obligation does not exist if they have a right of residence regulated according to the legislation regarding the legal regime of foreigners in Romania.

5. Discussion

The arrival and reception of asylum seekers in Romania is a less tackled topic in the national academic literature, compared to other types of human migration. Despite the fact that the normative framework regarding this issue in quite extended and comprehensive, the matter of social integration of this group of people is limited to very few procedures, failing to construct a proper state-individual relationship, specific to

developed democratic societies. It is the role of an institutional system that aims to serve its subjects to "implement policies relating to social services, establishing new rights and becoming new models of relationships that are alternative to the concept of citizenship and based on the principle of solidarity, which in turn, if you think about it, is the very basis of social security" (Grignoli and Șerban 2018: p. 9), thus creating the proper environment for real integration, which, in time, will help refugees become part of a nation and contribute to the development of the country.

As stated above, academic research on the arrival of refugees in Romania as a consequence of the "migration crisis" is rather scarce, partly due to the fact that, as some authors highlight, "the influx of refugees' entries that affected other parts of Europe did not have a strong impact on Romania. Romania is not the country of choice for most asylum seekers, as shown by the low numbers of claims in comparison to those in Western European nations" (Bejan, Iorga Curpan and Amza 2017: p. 12). However, as previously outlined, the legal provisions create a context of refugee receiving that allow not only compliance with the European normative frame, but also follow the international agreements that Romania is part of. The restrictions of the legislative determinations leave unadressed several issues that come out as conclusions of several studies, stating that "in countries of destination, we often find prejudice and discrimination against migrants in workplaces, schools, hospitals, public spaces. (…) At the same time, they face an alteration of identity and values" (Ilie Goga 2019: p. 42).

To sum up, given the fact that Romania has only recently become a destination country for migrants, as well as that the number of refugees that arrived in this country so far is not very significant, the mechanisms and institutional tools aimed at providing a proper context for refugee integration are not enough developed yet. However, the legislative framework established so far is functional, and most important, in compliance with the international agreements in the field, so it is reasonable to assume that the practical measures and procedures that will be adopted will follow along.

References:

Bejan, R., Iorga Curpan, A. and Amza, O. (2017). "The situation of unaccompanied minors in Romania in the course of Europe's refugee crisis", *Social Work & Society,* Volume 15, Issue 1.

European Commission (2015) *ANNEX European schemes for relocation and resettlement,* [online] Available at: https://ec.europa.eu/home-affairs/sites/homeaffairs/files/what-we-do/policies/european-agenda-migration/background-information/docs/communication_on_the_european_agenda_on_migration_annex_en.pdf [accessed 20 September 2019].

Grignoli, D. and Șerban, I. (2018). "Propulsive Welfare for the "risk societies": a project for solidarity and communication in the social-health system", *Sociology and Social Work Review,* vol. 2, no. 2, 6-16.

Iancu, G. and Iancu, V.A. (2015) *Privire comparativă cu statutul juridic al refugiatului - Ediție revizuită și completată,* Bucharest: Universul Juridic.

Ilie Goga, C. (2019). "Is migration a risk factor for radicalization? Social and legal instruments for identifying and combating radicalization", *Sociology and Social Work Review,* vol. 3, no. 1, 39-47.

Legea nr. 122/2006 privind azilul în România (Law 122/2006 regarding asylum in Romania) [online] Available at:
http://legislatie.just.ro/Public/DetaliiDocumentAfis/71808 [accessed 20 September 2019].

Niță, A. (2016). "The training impact on the labor market. Case Study: Mapping the labor market in Dolj County during 2015", in Ilie Goga C., Niță A. M., Porumbescu A., Sorescu E. and Șerban I.V. (eds.). *Forum on Studies of Society. Conference Proceedings,* Bucharest: Pro Universitaria, 83-94.

Ordonanța nr. 102/2000 privind statutul și regimul refugiaților în România (Governments`s Ordinance no. 102/2000 regarding the status and regime of refugees in Romania) [online] Available at:
http://legislatie.just.ro/Public/DetaliiDocumentAfis/57203 [accessed 26 September 2019].

Petcu, R.C. (2018). "Collective memory integration in the European Union - an institutionalization of difference, competition and conciliation in inter-national relations of polity and identity", in Ilie Goga C., Porumbescu A., Șerban I. V., Niță A. M., Niță A. M., Cifaldi G. (eds.). *Forum on Studies of Society. Conference Proceedings Second Edition,* Bucharest: Pro Universitaria, 31-38.

Pogan, L. (2018). "Family and labor force – individual lives, social outcomes", *Sociology and Social Work Review*, vol. 2, no. 2, 47-56.

Porumbescu, A. (2018). "Sociological institutionalism arguments in explaining EU integration"*, Sociology and Social Work Review*, vol. 2, no. 2, 17-24.

Porumbescu, A. (2019). "Europe Facing Migration. National Strategies versus Common European Policies", *Revista de Ştiinţe Politice. Revue des Sciences Politiques,* No. 63, 34 - 44.

Voicu, B., Deliu, A., Negut, A. and Tomescu, C. (2018) *Refugees in Romania 2018. An assessment of pathways to integration. The Executive Summary,* [online] Available at: https://www.cnrr.ro/index.php/en/flyers-en/integration/359-study-refugee-integration-in-romania-executive-summary [accessed 26 September 2019].

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A research on the role of social projects for disadvantaged groups in community development

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Abstract

30 years after revolution in December 1989 and the fall of communism, Romania seems to still not have found its way towards sustainable development, facing more challenges that would have been expected for a democratic society. Frequent political changes, controversial economic decisions and measures and the lack of coherence in the implementation of strong and reliable economic, health and social policies have caused a permanent mistrust of the population in a favourable future. Over the years, although technological progress has been visible in all fields of activity, wages have increased and the possibilities for achieving a satisfying living standard have multiplied, some social categories became richer, while others became poorer, external migration increased, some rural communities are facing disintegration and the Romanian population is menaced by demographic ageing. An important part of the population belonging to several categories labelled as disadvantaged or vulnerable are prone to social exclusion or marginalization. Fighting this phenomenon is one of the most important objectives of the European and internal policies and some of the key-instruments supporting this process are the projects implemented in Romania from European funds. Statistics on the degree of absorption of the European financing in Romania are regularly performed, but there are few analyses on the degree of satisfaction and trust regarding these projects' implementation, undergone from the perspective of the beneficiaries themselves. Such analysis is intended through the present article, the results revealing the necessity and opportunity of similar future approaches.

Keywords: *community development; social projects; disadvantaged groups; social inclusion; European funds; project implementation; cooperation.*

1.Introduction

This article aims at achieving an assessment of the impact of social projects on community development, from the perspective of several beneficiaries that are currently implementing projects financed through European funds in Romania. The European Social Fund, the main instrument through which the European Union invests in human capital, favouring social inclusion and a sustainable development in the future, operates

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in Romania through the Operational Programme for Human Capital (POCU[1]). To its broadest extent, this programme is dedicated to obtaining community development by supporting disadvantaged social groups (although there are investment priorities for fighting social exclusion and community development also within the framework of other operational programmes).

Moreover, we will try to reveal the degree of cooperation between the state authorities and the civil society in the context of successfully implementing projects dedicated to vulnerable community groups, as this partnership has a particularly important role in the strengthening of the administrative capacity of the main promoting actors of community development and change. Acknowledging this necessity and assuming common goals is a prerequisite of the success of any other measures and actions meant to create community growth. The measure of the relevance of a social project is given by its effect on the target group and on the extended community, considering that any positive change of a part of the community reflects itself on the entire community.

The impact of social projects is translated, in fact, through the long-term effects that are generated intentionally or non-intentionally. Although the impact of projects financed by the European Union is a frequent discussion topic in Romania, the undergone analyses are often restricted to quantitative studies regarding the absorption degree of European Funds. This fact is, probably, mostly due to the supposition that projects generally cause positive effects and that a higher absorption rate will automatically determine reaching the objectives of the European policies, like community development.

The purpose of our paper is that of being able to extract conclusions about the opportunity and necessity of these projects and their role in achieving sustainable community development, based on the real opinion and implementation experiences of their beneficiaries, bearing in mind that they are the base unit from which positive change and empowerment start.

2. Conceptual framework. Definitions.
2.1. Community development

A basic definition for community development was provided by the United Nations in 1948: "Community Development is a process designed to create conditions of economic and social progress for the whole community with its active participation and fullest possible reliance upon the community's initiative" (Canadian Global Response 2015).

"Community development is a planned approach to improving the standard of living and well-being of disadvantaged populations […] internationally. […]. The objectives of community development include economic development and community empowerment, based on principles of community participation, self-help, integration, community organizing, and capacity building." (Johnson Butterfield and Chisanga 2013).

Catalin Zamfir (Zamfir 2010: p. 169) identifies "a new paradigm in science that contains concepts, theories, research instruments and instruments for social development oriented social action". This paradigm is social community development, focused on "how social communities can be supported in order to develop self-

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[1] Abbreviation from Romanian language: Programul Operațional Capital Uman (our n.)

organization processes to solve their problems and, particularly, exit their *backwardness* state". The author states that, within developed societies, the struggle for community development emerged not as a concern for *normal* communities, successfully engaged in market economy and, therefore, in progress, but for the marginalized, chronically underdeveloped ones.

2.2. Disadvantaged groups

Official documents do not use an exclusive definition of the disadvantaged or vulnerable groups, but they generally refer, when using this concept, to "those groups of persons that experience a higher risk of poverty, social exclusion, discrimination and violence than the general population, including, but not limited to ethnic minorities, migrants, people with disabilities, isolated elderly people and children" (European Institute for Gender Equality 2019).

In Romania, there are several important groups that are exposed to social exclusion risks, in ways that are not always related to poverty, although this has been identified by all official statistics as being the most relevant social problem of the present.

The National Strategy regarding social inclusion and poverty reduction (2014 - 2020) includes an analysis that identifies the most vulnerable or disadvantaged groups in Romania and their specific needs, building up the framework for performing efficient programmes with the aim of reducing disparities among the mentioned social categories and the categories not affected or menaced by social exclusion .

Table no. 1. Main vulnerable groups in Romania and their specific needs

Main group
1.Persons affected by poverty
2.Children and young people lacking parental care and support
3.Alone or depending elderly persons
4.Roma people
5.Disabled persons
6.Other vulnerable groups
7.Persons living in marginalized rural and urban communities

Source: Ministry of Work, familiy, Social Care and Elderly Persons (2014) *The National Strategy regarding social inclusion and poverty reduction (2014 -2020)*

2.3. From vulnerability to social exclusion

There is an intrinsic connection between social vulnerability and social exclusion, because, as official documents acknowledge it as well, those groups, communities and individuals that cannot participate within the society in equal conditions with their peers, due to material deprivation or discrimination, are facing the risk of exclusion. Namely, we are referring to persons affected by poverty, single parents, unemployed persons, disabled persons, homeless persons, persons with addictions, refugees, persons discriminated because of their gender, ethnicity etc.

Engles (Engels 2006: p. 109) shows that a paradigm change took place in Europe toward the 1990s, from "poverty" to "marginalization", the latter concept sheltering the antagonist concepts of "exclusion" and "inclusion", used in order to capture the efforts commonly dedicated to gaining social cohesion and poverty fighting. The *exclusion*

concept is broad and multidimensional, aiming, instead of the concrete life necessities, at the relations between the individual groups within the society as a whole.

3. Social projects as an instrument of community development in Romania

"Projects have become an important instrument of international assistance and development administration, because they seem to offer major advantages over other forms of planning and management"; through their planning, implementing, monitoring and assessment, they can also act as an experimentation mean for social policies and become "instruments of strategic planning and management" (Rondinelli 1983).

In Romania, the post-revolutionary period and the transition from communism to capitalism have changed the structure of economy and have installed an institutional system inspired from the Western world. Although the new frameworks that defined the economic and political system were similar, the differences appeared with regard to the social structure. "The democratic institutional system was grafted on a completely other social structure than the one of the classical capitalist countries" (Zamfir 2011: p. 13). The same author considers that, during the transition period, due to the fact that the Romanian state was a poor representative of the interests of the Romanian society, the state functions remained at an unsatisfactory level and the unwanted, but inevitable effect of this behaviour was the augmentation of *social polarization*. A little segment of the society became rich, while the most of the community became poor. Once the private health services have begun to develop - to which only the citizen with a medium and superior living status have access- the most of the population has received underfinanced public services.

If, at the beginning of the '90s, the percentage of population affected by poverty (40%) seemed unreal, the current estimations place this percentage to 37-38%, an insignificant improvement in comparison with the Romania of the years that bared, still, the shock of the hated *transition*. During all this period, social services, education, health and social assistance remained underfinanced, placing themselves at a much lower level than the services of other European countries. We are all starting to understand that many of the problems that Romania is facing at the moment, particularly its social problems, are also due to a certain confusion in the process of European integration.

The National Strategy regarding social inclusion and poverty reduction for the period 2014-2020 (Ministry of Work, Family, Social Care and Elderly Persons 2014) highlights the governmental objective of granting all Romanian citizen equal participation opportunities in the society, appreciation and valorisation, dignity and respect, in spite of their differences.

Regardless of the significant efforts of the government to finance social economy projects in Romania (over 600 million Euros between 2007 and 2013), the efficiency of these interventions remains low. Moreover, the suppliers of social economy initiatives tend to concentrate their efforts in the most developed areas of Romania, which means that the poorest localities receive very few social services, mostly provided by NGOs. Although the legal framework that allows NGOs to apply for EU funds in order to elaborate social assistance projects is implemented, it does not include any stimulant or requirement that these projects become focused on disadvantaged areas.

One of the key-objectives of the government for the next period is supporting social economy in order to facilitate employment opportunities for vulnerable groups; this target can be reached by:

- facilitating the access to European funds in order to support the social economy sector;

- elaborating the secondary legislation necessary for the sustainable development of social economy;

- encouraging NGOs to become more involved in these activities, by identifying the relevant fields of financial intervention for all types of social economy.

4. Quantitative analysis
4.1. Purpose and objectives of the research

The general purpose or objective of our research is to gain knowledge on the opinion of the beneficiaries of projects implemented through the Operational Programme for Human Capital 2014-2020, Priority Axis 4 - Social Inclusion and Poverty Fighting, considering that this Axis supports the addressing of the most pressing social issues in the Romanian society.

This general purpose has a series of corresponding *specific objectives*:

• identification of the main social problems that the project in course of implementation is aiming to address

• identification of the most frequent problems encountered during the implementation of social projects for vulnerable groups

• identification of the degree of cooperation between the state institutions and civil society in the implementation of social projects

• identification of the perception of the beneficiaries regarding the impact of social projects on the vulnerable groups targeted by the project implementation

• identification of the beneficiaries' perception regarding the impact of social projects on community development

• identification of the necessity of future implementation of new social projects dedicated to vulnerable groups

4.2. Work hypotheses

Apart from reaching our specific objectives, we shall follow the verification of the following descriptive and explicative hypotheses:

• the majority of the respondents perceive the impact of social projects for vulnerable groups as positive;

• the majority of the respondents perceive the impact of social projects for vulnerable groups on community development as positive;

• the majority of respondents perceive the implementation of new future social projects as salutary;

• the majority of social projects for vulnerable groups benefit from the cooperation between state authorities and the civil society, within the implementation process;

• the majority of social projects do not encounter implementation problems;

• the most problems reported by the beneficiaries in the implementation process of social projects are administrative issues;

• there is a possible correlation between the previous experience of the beneficiaries and the problems encountered during the project implementation;

• there is a possible correlation between the problems encountered during the implementation and the beneficiaries' degree of trust in a favourable impact of the project.

4.3. Research methods

The research method used for our approach is the quantitative research, performed through the sociological inquiry and the statistical analysis of the data collected through the Google Forms platform.

Research technique: opinion poll.

Instrument: Questionnaire with 12 questions (4 closed questions, 1 open question, 4 half-open questions and 3 scaled questions).

Sampling group: batch of 21 respondents, namely territorial administrative units and non-governmental institutions that are currently implementing projects financed from POCU 2014-2020, Priority Axis 4. The filling in of the questionnaire was performed online, on the Google Forms platform.

Selection of the researched batch: in order to select the research batch, we accessed the lists published by the Management Authority for the Operational programme for Human Capital in May 2017, including the 55 projects admitted for financing. Out of the 51 identified beneficiaries, 30 are territorial administrative units and 21 are NGOs in the social field. The questionnaire was sent via e-mail on the official addresses of the beneficiaries, accompanied by the invitation for its filling in. The questionnaire was filled in and transmitted by 21 of the beneficiaries.

4.4. Data analysis and interpretation

In the following, we shall present and interpret the signification of the obtained statistical data and analyse the answers to the open question, aiming at reaching our objectives and verifying the work hypotheses.

The answers to the first question: *Are you currently implementing a project for vulnerable groups financed from POCU/18/4/4.1 or POCU/20/4/4.2?* confirmed that all 21 respondents are, indeed, implementing one or several projects for social vulnerable groups in Romania. This also confirmed that the research batch had been correctly identified and selected.

To the second question: *Is this the first project for vulnerable groups that you have ever implemented?* 50% of the respondents answered "Yes" and 50% answered "No", which separated the research batch into two categories: beneficiaries with previous experience and beneficiaries with no previous experience.

Question no. 3 was intended for clarifying the type of vulnerable group that the project is dedicated to.

Table no. 2. Vulnerable target groups of the implemented projects

Vulnerable group	Number of projects	Percentage
Persons of the Roma minority	9	45%
Persons affected by poverty	11	55%
Children	5	25%
Persons addicted to drugs or alcohol	0	0%
Female gender persons	1	5%

Homeless persons	0	0%
Disabled persons	0	0%
Unemployed persons	5	25%
Persons affected by other risk situations leading to social and economic vulnerability	14	70%

The answers to the question above revealed that, in many cases, the vulnerable groups are overlapping, meaning that the target groups may belong to several risk categories at once.

Question number 4: *Which is the social problem that the project is aiming to address?* revealed the following distribution of social problems targeted by the project implementation:

Table no. 3. Social problem addressed by the project

Social problem	Number of projects	Percentage
Poverty	20	95.2%
High unemployment rates	7	33.3%
Illegitimate work	0	0%
Criminality	0	0%
School abandon	5	23.8%
Family violence	0	0%
Family abandon	0	0%
Inequality of chances	13	61.9%

As it can be noticed, the most pressing social issues that the projects are aiming at reducing are poverty and inequality of chances. By comparing these answers to the ones offered for the previous question, we deduct that poverty covers almost 100% of both rankings, concluding that the majority of the members of the project target-groups are affected by poverty.

Question no. 5: *Which is the dimension of your target-group?* received the following answers: 500-700 persons for 61% of the projects; 300-500 persons for 28.6% and more than 700 persons for 9.5% of the projects.

To the 6th question: *Have you experimented/ Are you experimenting difficulties in the project implementation?* 61.9% of the respondents answered that they have had or are having difficulties in implementing the projects, while 38.1 % offered a negative answer.

Question no. 7 asked the participants to name the experimented problems, if they confirmed this aspect by answering the previous question. This question returned 13 answers, as follows:

Table no. 4. Problems encountered during the implementation of projects for vulnerable groups

No.	Answer
1.	At the beginning of the implementation period, the employment modalities for public workers were unclear; many rules that appeared during implementation.
2.	Lack of involvement form the target group.
3.	Scepticism of the target group.
4.	Building the target group, especially according to the "education" condition. Those affected by poverty are precisely those mostly affected by poverty.
5.	Some members of the target group do not participate in many activities.
6.	The members of the target group barely get involved in the activities that are not financially stimulated.
7.	The illiteracy of the target group.
8.	Some of the members of the target group have expectations exceeding the framework of the project; they require help for personal issues.
9.	Difficulties in contracting the staff - unclear rules.
10.	Some children do not attend the activities within the project.
11.	Much more difficult implementation than POSDRU.
12.	The reporting procedures are difficult, many materials to draw up.
13.	The target group- many members neglect the participation in the activities; they have to be constantly stimulated.

Analysing the 13 answers given by the respondents, we notice that 9 of the mentioned issues are caused by the target group and 4 are related to administrative or bureaucratic aspects.

Question no. 8: *Have you benefitted/ Are you benefitting from help in the implementation of the project from other institutions or authorities?* returned a mostly positive feed-back, 90.5% of the respondents answering that they received external support during the implementation process.

Question no. 9 intended to clarify the nature of the external help provided: *If you answered Yes to the previous question, which are these institutions/ authorities?* The answers are included in the table below.

Table no. 5. Institutions/ Authorities providing support for the implementation of the projects dedicated to vulnerable groups

Institution/ Authority	Number of projects	Percentage
Local public authorities	10	52.6%
County public authorities	4	21.1%
Financing authorities	6	31.6%
Education institutions	4	21.1%
NGOs	4	21.1%
Other institutions/ authorities	4	21.1%
Other options	1	5.3%

Question no. 10: *To which extent do you consider that the project implementation will have a positive impact on the vulnerable group to which it is dedicated?* returned the following results, on a scale from 1 to 5:

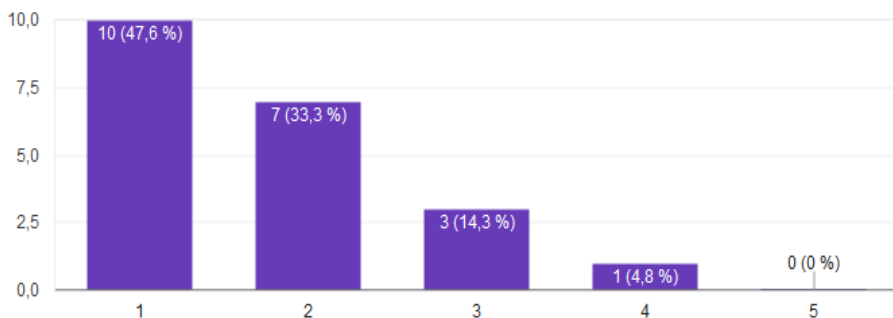Fig. no. 1. Impact of the project on the vulnerable group
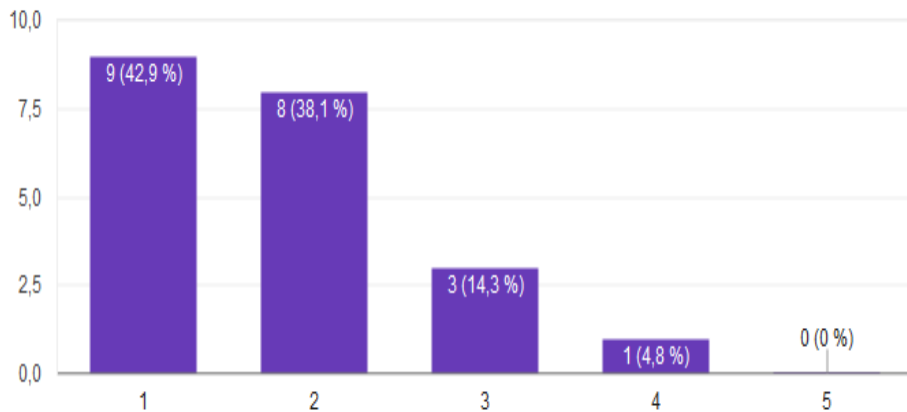
The respondents answered this question, by appreciating:

- 1 = to a very big extent: 42.9 %;
- 2 = to a big extent: 38.1 %;
- 3 = to a small extent: 14.3%;
- 4 = to a very small extent: 4.8%;
- 5 = not at all: 0%.

Question no. 11: *To which extent do you consider that the project implementation will have a positive impact on community development?* returned the following results, on a scale from 1 to 5:

Fig. no. 2. Impact of the project on community development

The respondents answered this question, by appreciating:

- 1 = to a very big extent: 47.6 %;
- 2 = to a big extent: 33.3 %;

- 3 = to a small extent: 14.3%;
- 4 = to a very small extent: 4.8%;
- 5 = not at all: 0%.

The final question was intended to obtain an overall image of the beneficiaries' perception on the implementation of social projects for vulnerable groups: *Do you consider that the implementation of other similar projects dedicated to vulnerable social groups is favourable in the future?* The respondents unanimously offered a positive answer.

4.5. Conclusions of the research

Our research aimed at identifying the impact that the currently implemented social projects financed from the Operational Programme for Human Capital 2014-2020, Priority Axis 4 have on the situation of vulnerable groups, on the development of the communities at the level of which they are implemented and on community development in general.

We consider that all intended *specific objectives* have been reached, given that:

- we identified the most important social problems that the projects in course of implementation are trying to address. These are: poverty, inequality of chances, high unemployment rates and school abandon;

- we identified the problems that are most frequently encountered during the implementation of projects for vulnerable groups; these are more related to the target group itself than to administrative aspects;

- we identified the degree of cooperation between the state institutions and civil society in the implementation of social projects, this being more than satisfying (90.5% of the beneficiaries confirmed to have had received external support during the implementation);

- we identified the perception of the beneficiaries with regard to the positive impact of social projects for vulnerable groups on the target-group itself (81% of the respondents) and on community development (81% of the respondents); we consider that the degree of scepticism of the other 19% of the respondents for both questioned aspects is related to certain problems encountered in the implementation process;

- we identified the necessity for implementing similar projects in the future, given that 100% of the respondents unanimously answered in favour of this proposal.

As for the *work hypotheses* that we considered in the framework of our research approach, 4 of them were confirmed and 4 were denied. In fact, as opposed to our initial perspective, the majority of social projects do encounter certain problems during their implementation stage; the most problems experienced during the implementation of social projects are not of administrative nature; there is no possible correlation between the previous experience of the beneficiaries and the problems encountered during the implementation and, moreover, there is no visible correlation between the problems encountered during the implementation and the degree of trust that the beneficiaries put in necessity of future similar projects.

5.General conclusions

Discovering the conditionality between social projects dedicated to vulnerable groups and community development implied researching the impact of these projects on the social groups menaced by social exclusion.

We have chosen to analyse this conditionality from the perspective of the most important actors in the process of implementing projects financed from European Funds, dedicated to vulnerable social groups - a concept that we explained during the first part of our article, together with other connected concepts - given that the assessment of the impact of these projects at community level is, generally, scarce and only refers to statistical data concerning the absorption rate of the financial allocations for the respective operational programmes. These statistics do not include the perception that the beneficiaries of social projects (we used this term to describe the institutions and authorities that have accessed financial resources with the aim of supporting disadvantaged groups) have on the implementation process and also do not envisage the success prognosis that they give to the implementation of such projects in improving the situation of the supported communities and in making a step forward in the direction of community development.

We also consider that an assessment of the impact of social projects from the perspective of the target-groups themselves would also be very useful for the future, given the fact that, although there is a centralized feed-back of the concrete implementation results, there has not been made an analysis of the effects at the level of the individual or collective mental perception of the members of these groups, that should allow the public and the stakeholders to understand to which extent these initiatives really do empower the disadvantaged communities to develop solid life abilities and to face life challenges with a larger sense of trust, to become involved and actively integrated in the society and to participate in the decision making process.

We appreciate that the unanimity of the questioned participants with regard to the positive impact of the social projects and the necessity of their future implementation is a positive fact that points out their degree of availability and their will to take on an active role in the promotion of social change and development. A higher absorption rate shall contribute to reaching the European social cohesion objectives, contributing to the fighting of social exclusion, perhaps the most menacing social phenomenon of our times.

References:

Canadian Global Response (2015) *Project development* [online] Available: https://canadianglobalresponse.ca/portfolio/general-funds/. [accessed 19 July 2019].

Engels, D. (2006) "Lebenslagen und soziale Exklusion"*, Sozialer Fortschritt,* no. 5, [online] Available at:
http://www.gesis.org/Dauerbeobachtung/Sozialindikatoren/Veran-
staltungen/PDFs/sek01_Engels.pdf. [accessed 10 June 2019].

European Institute for Gender Equality (2019) *Disadvantaged Groups* [online] Available at: https://eige.europa.eu/thesaurus/terms/1083 [accessed 29 June 2019].

Johnson Butterfield, A.K. and Chisanga, B. (2013) "Community Development"*, Encyclopedia of Social Work,*
DOI: https://dx.doi.org/10.1093/acrefore/9780199975839.013.71 [online] Available:

https://oxfordre.com/socialwork/view/10.1093/acrefore/9780199975839.001.0001/acrefore-9780199975839-e-71 [accessed 14 July 2019].

Ministerul Muncii, familiei, protecției sociale și persoanelor vârstnice (2014) *Strategia națională privind incluziunea socială și reducerea sărăciei pentru perioada 2014-2020* [online] Available:
http://www.mmuncii.ro/j33/images/Documente/Proiecte_in_dezbatere/2014/2014-12-29_HG_SIncluziune-Anexa1.pdf. [accessed 27 July 2019].

Rondinelli, D.A. (1983) „Projects as instruments of development administration. A qualified defence and suggestions for improvement"*, Public Administration and Development.* [online] Available:
https://onlinelibrary.wiley.com/doi/pdf/10.1002/pad.4230030404. [accessed 29 July 2019].

Zamfir, C. (2010) „O nouă paradigmă: dezvoltarea socială proiectată". In Dumitru Otovescu (coord.), *Tratat de sociologie generală,* Craiova: Beladi.

Zamfir, C. (2011) *Tranziția: va mai fi sociologia românească la fel?,* in „Sociologie românească"*,* vol. IX, No. 4.

Book Review:

Mariateresa Gammone, Gianmarco Cifaldi, Ionut Virgil Serban, Il Regime Detentivo Speciale. Una Riflessione Comparativa. The Special Detention Regime. A Comparative Reflection, Bucharest, Pro Universitaria Publishing House, 2018, 225 pp, ISBN: 978-606-26-0915-3

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This volume stems from a collaboration that has lasted for years, between universities in various countries, in an attempt to carry out a research on the prison characterized above all by two aspects: a comparison between the different experiences and a special attention towards the Police Forces.

The comparative dimension was particularly important in a workshop held in Sulmona in November 2017, at a particularly fiery moment in the debate on the special detention regime: on the one hand a sort of scrapping of the 41-bis was reported; on the other, a prison reform was urgently requested, in a markedly guaranteeing sense. Precisely because diametrically opposed opinions exist, the comparative dimension has been particularly relevant, through which one can better appreciate the specificity of the Italian situation (from the Church 2010, 2014), in which the extremes of guarantee and crime coexist. With the doubt of many, regarding the possible causal interlacements between these two extremes, which in fact coexist in a very disturbing way (Sidoti 1996). Italian organized crime has now an established international dimension, from Slovakia to Romania, and extends in areas of the country where it had no historical roots, from Emilia Romagna to Buccinasco.

The meeting in Sulmona saw in particular a fruitful collaboration with Romanian colleagues. The comparison between Italy and Romania is in many ways useful for Italian scholars. In general, the comparison with different experiences allows us to get out of visions that are sometimes limited or provincial, which take for granted the world in which we live. The Romanian case is particularly instructive, for various reasons. First of all, there is a history between Italy and Romania that has a great common reference in the classical legal culture.

The foundation of guaranteeism is already in Roman law, starting with the maxim according to which a guilty person in freedom is better than an innocent person in prison. The great English legal culture, with Blackstone in the first place, recovers

Brief

and exalts, many centuries later, this primordial guarantee, but the origins are Roman. In a few countries like in Romania there is the custody of the great classical culture.

The impetuous return of Romania to the European public scene, after the dark years of the dictatorship, takes place in the wake of this common heritage, which the best representatives of the Romanian university want to recover and exalt.

Together with the comparative profiles, profiles of victims in the police force are of primary importance to us. Crime is a product of so many social, cultural and institutional delays; it produces suffering, individual and collective upheavals. Among the victims there are also members of the police force, sometimes directly and sometimes indirectly.

In Italy we have a tradition of heroes belonging to police forces. General Carlo Alberto from the Church is a luminous symbol that summarizes and exemplifies the commitment of many members of Italian institutional structures, from the Judiciary to the Penitentiary Police.

In this volume, as in the research work, we intend to emphasize respect for the work done daily by the representatives of the institutions. Unfortunately, as pointed out by Francesco Sidoti in his speech, reported later, it may happen that an Italian boy today does not know who Stefano Piantadosi was, a marshal of the Carabinieri who died in the fulfillment of his institutional duty. It may likewise happen that a boy does not know who Pasquale Campanello was, superintendent of the Penitentiary Police, an example of life that fills every prison officer with pride.

The great examples of Legality and Justice, like General Carlo Alberto of the Church and Judge Giovanni Falcone, must always be remembered to young people: they are shining examples. At the same time we must also remember the many other Servants of the State who are examples of dedication, loyalty and honesty. Sidoti writes in his speech, published in this volume: "it would be important for young people to be well explained about the existence of a daily dimension of sacrifice, among members of the police force. This dimension must not remain anonymous, neglected, undervalued, because otherwise the dimension of example and exemplariness that must be known by the ordinary citizen would remain anonymous, neglected, undervalued, with the knowledge that one can be both an ordinary citizen and a Hero of the legality.

There is a specific Italian reflection on the themes of crime and prison, which boasts a guaranteed tradition, represented by Cesare Beccaria, but begun intellectually many centuries before, with Francesco d'Assisi: this tradition is based on humanitarian ideals, both against criminals and towards prisoners (Sidoti 2012, 2016). Not just law or criminology; the history of Italian sociology can be read in the perspective of the reformist and humanitarian commitment: it is an Italian identity characteristic, which we find in many disciplines (Gammone 2017a, 2017b).

From the most ancient past to the most recent times we can see this characteristic in terms of guarantism. With a famous phrase Sandro Pertini said: "terrorism in Italy was not won in the stadiums, but in the courts". The same can be said of organized crime, as against corruption (Gammone 2013; Cifaldi 2014).

As we have said, in this volume we present the results of a workshop that was held in Sulmona on 9 November 2017, conceived and coordinated by Gianmarco Cifaldi. Many attended the meeting and many interventions took place. We publish only a few of them, even though they are sometimes introductory to thematic areas that will

have a broader and more detailed discussion in the future. We wanted to present an overview, although necessarily temporary and partial.

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In-text reference: (Napier 1993a: p. 45) and (Napier 1993b: p. 57)

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In-text reference: (Van der Geer, Hanraads and Lupton 2000: p. 56)

**For Link / URL
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