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Contents

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Regional Science Inquiry, Vol. VII, (2), 2015– Editorial

The present issue of RSI includes a number of scientific papers related to regional policy issues such as waste management, sustainability and regional development, provitional clustering, urban and rural origin, which are expected to interest a wide range of scholars and policy-makers on an academic, methodological or practical level.

Does CBD theory survive the test of small cities? ***Gianni Guastella & Stefano Pareglio*** explore in their paper whether socio-economic forces are relevant in small cities, as they are in large urban areas, and if they so to what extent, provided that sprawling phenomena may occur more easily in small areas due to the larger availability of agricultural land. Their findings suggest that the model is adequate also in the case of small cities but differentiating small from large cities suggests that the sprawl hypothesis cannot be ruled out by the empirical evidence as the process of land conversion from agricultural to urban is substantially faster in small and medium-sized cities compared to large ones.

What is the role of SMEs in sustainable regional development and local business integration? ***Anna Arent, Matylda Bojar, Francisco Diniz & Nelson Duarte*** analyse the role of SMEs in regional development, by examining variables such as business local integration, firm age, number of years in the actual location, or firm legal form. Survey results on 314 entrepreneurs in Lublin region, Poland, show the economic perspective as the major concern of entrepreneurs. Most of firms present a proactive attitude towards to sustainable development – older firms present a greater concern with social and environmental issues. Moreover, identified the existence of high levels of local integration was identified while firms that are operating behind regional frontiers are promoting a more efficient local development than local acting firms.

What are the challenges for a succcessful and sustainable urban and rural development? The urbanization of 300 million peasant workers is one of China's great abmitions. ***Yuheng LI, Yurui LI & Yansui LIU*** invastigate the relevant peasant-workers problems on realising China's urbal dream, propose possible ways for policy implications and highlight the importance of coherently promoting both classified urbanization and ruralization in China in the future.

What is the impact of women's participation in economic empowerment? ***Kuwing Baboe's*** research paper propose that women's participation in economic empowerment program as gender analysis had a positive impact through PM2L program which is improving the economy of villagers Rabauh, Tanjung Untung and Hantapang, in Indonesia. However, in terms of gender equality such as direct involvement of women in the executive cadre is still less empowered. PM2L program as a whole in Gunung Mas need to be improved and support by government continuously through coordination, monitoring and evaluation.

Data Envelopment Analysis (DEA) approach for banking efficiency: ***Erjola Barbullushi (Sakti) &Orfea Dhuci*** propose in their study a non-parametric approach for bank evaluation known as Data Envelopment Analysis (DEA). In their work, the DEA background and its development is persented along with a litterature review on the implementation of this approach in the banking sector in the region and more. Moreover, some important issues are discussed on adoption of DEA in banking sector followed by its implementation in Albanian Banks for 14 out of 16 banks, for the period from 2006-2013. Their findings suggest that larger and smaller size banks can be either efficient and the inefficiencies are found also from different capital ownership.

What are important policy considerations for local waste management? ***Arezki Chenane's & Dr. Lamara's*** paper aims to provide an assessment of the Algerian policy of local waste management through a series of semi-direct interviews with a number of local actors (politicians, mayors, development agents) in three of the largest municipalities (local authority) of the province of Tizi-ouzou .Their research attempts to identify two possible ways of improving the local waste management through inter-municipal cooperation and rationalization of waste management costs.

Waste managemnent policies call for a close examination of the economics of waste management and the need to search for the most appropriate enviro-economic policy instrument that can be introduced in the context of a fast developing economies, such as in

Malaysia. ***Shamsunnahar Khanam, A.K.M. Muzahidul Islam, Megat Johari Bin Megat Mohd Noor & Abu Bakar Jaafar*** propose in their paper that an alternative of the 3R programme (Reduce, Reuse, and Recycle), a 5R Scheme should be considered: Reduce, Reuse, Recycle, Recovery of Energy and Materials, and Repository, and not landfilling conluding that this way the waste recycling industry, as envisaged since the 8th Malaysia Plan (2001-2005), would soon be realized.

What should be the role of university on students money management practices? ***Doc. Ph.D. Antoneta Polo & Doc. Ph.D. Dorjana Nano*** raise in their paper the following research questions: Do Albanian students percept school as their primary source of gaining financial knowledge? Do Albanian universities play their role optimally on equipping students with the best skills on money management? Their findings based on a survey of 637 stdents, suggest that universities should include "personal finances" in their curriculas and making them more practical and effective. This is incredeably important since managing personal finances is a matter that last forever

Regional specialization and geographical concentration of industry in russia. ***Svetlana N. Rastvortseva's & Anna S. Chentsova's*** reseach focuses on the analysis of spatial economic dynamics by evaluating specialization of the Russian regions and concentration of production in our country.

Non-lınear regıonal income divergence and polıcıes: Turkey case. ***Hasan Engin Duran's & Gülbahce Kampüsü's*** study aims to analyze regional income convergence in Turkey by using nonparametric convergence regressions. Their finding have several implications for regional economic policies. First, middle-income provinces are able to stimulate their economies and fulfill their potential for convergence by market forces. Second, however, the very low-income provinces need a substantial help and assistance.It, therefore, becomes a natural necessity to direct policy instruments such as subsidies, direct and indirect income transfers, tax exemptions and other resources to these areas. In this way, nonparametric estimations provide a very useful guide to the way how the resources should be allocated across provinces.

Does urban or rural origin matter? ***Maria Goula, Christos Ap. Ladias, Olga Gioti-Papadaki & Nikolaos Hasanagas*** aimed to analyse in their reseach the role of the urban or rural origin of students in their environment-related attitudes. A survey on 315 students of environment-related departments, originating from various villages, towns and cities of Greece were conducted for the period of 2007 to 2013. Their findings discuss several issues in relation to urban or rural origin: environmental profiles, organized involvement in environment-related issues, the institutional necessity of the Ministry of Environment and policy concepts, naturalness, attractiveness of certain environmental elements, familiarization with the notion of "forest", perception of their studies and academic focus. Moreover, issues such as the propagandistic instrumentalization of the notion of "environmental problem", the deconstructive or defensive discourse toward "environmental issues", perception of landscape, in-situ experience, and universal aesthetic values in relation to origin are discussed.

Finally, this journal issue also concludes with important announcements, Conferences, News, as well as presenting distinguished academic profiles and book reviews.

On behalf of the Editorial Board
Dr Athanasios Adamopoulos

Articles

DOES CBD THEORY SURVIVE THE TEST OF SMALL CITIES? CITY-SIZE AND SPRAWL IN ITALY

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Abstract

Economic theory predicts that the equilibrium of different economic forces explains the spatial scale of a city more than the uncontrolled take of agricultural land, which is considered instead as urban sprawl. A wide range of empirical results based on US data for large urban areas supports this hypothesis, showing that the socio-economic and environmental forces explain a vast portion of the variation in urbanization across cities. In this paper, we ask whether these socio-economic forces are relevant also in small cities and if they are in a different manner, provided that sprawling phenomena may occur more easily in small areas due to the larger availability of agricultural land. To answer the question, we estimate the relationship between city size and the socio-economic and environmental forces using data for small and large municipalities in the Lombardy region, Italy, and test to what extent this model is apt to explain size variations. We find that the model is adequate also in the case of small cities but differentiating small from large cities suggests that the sprawl hypothesis cannot be ruled out by the empirical evidence as the process of land conversion from agricultural to urban is substantially faster in small and medium-sized cities compared to large ones.

Keywords: Land Use, Urban Sprawl, Central Business District, Spatial Econometrics, Italy

JEL classification: O18, Q15, R14

1. Introduction

The Alonso-Mills-Muth (AMM) model of the urban spatial structure is used in urban economics literature to study the size and structure of urban agglomerations. The pioneering study of Brueckner and Fansler [5] has set up the empirical framework to investigate the extent to which the AMM predictions are apt to explain variation is the spatial size of cities. Urban size is predicted to increase with increasing income and population and to decrease with increasing transport costs and agricultural rents. More recent studies (McGrath [11]; Paulsen [14]; Spivey [16]) contributed to assessing the validity of AMM predictions empirically. The evidence clearly supports this theoretical model, proving that the monocentric development of cities built on the balance between the socio-economic pressures for urbanization and the agricultural and environmental constraints to land use change continues to be the reference model of urban expansion.

Understanding the determinants of the spatial scale of cities is even more important in present times. The urban spatial expansion is frequently associated with the risk of sprawl, which denotes an excessive waterproofing of land, coining the possibility that urban growth subtracts production factors to agriculture, altering the equilibrium of natural resources' use (Brueckner and Fansler [5]). Consequently, national and local policy makers are called for the treatment of the phenomenon by limiting urban spatial expansion and regulating land use change (Brueckner [4]). The AMM model, linking the urban size to its main economic determinants, can be used to explain the extent of an urban size that is determined by the economic market forces, as predicted by the model. Significant coefficient estimates confirm that urban expansion relates to socio-economic rationales more than to the unregulated take of agricultural land by urban settlements.

However, it remains debatable that the empirical model initially proposed by Brueckner and Fansler [5] is apt to address the incidence of urban sprawl in light of the more recent urban expansion dynamics. Since the test builds on a simple relationship between the size of urbanized area and socio-economic variables, it is not clear what magnitude of these effects would allow excluding the hypothesis of urban sprawl. For instance, the evidence that growth follows demographic trends in almost all cities it is not sufficient to rule out the sprawl hypothesis. In contrast, it is a matter of fact that the consumption of land is excessive in certain cities, at least compared to what can be expected based on the economic and demographic figures. Accordingly similar changes in population may produce very different patterns of land use change across cities; in contrast the simple regression approach produces an average estimate that may fail to capture such heterogeneity. Furthermore, the estimates provided by the literature do not present a single benchmark of what could be considered an acceptable response, measured as the change in land use, to the change in the socio-economic determinants. Perhaps this is because different methodological approaches have been used to retrieve coefficient estimates, or because of the differences in the estimation samples. In fact, this literature has been concerned primarily with cities in the US (Brueckner and Fansler [5]; McGrath [11]; Paulsen [14]; Spivey [16]). Except Deng et al. [8] and Song et al. [15], which focused on China, and Brueckner and Sridhar [6], which focused instead on India. Furthermore, in all these studies evidence is provided based on data of large urban agglomerations only.

The present paper concerns the investigation of the AMM predictions in a European territory, namely the Lombardy region, in Italy, among the most densely populated regions in the country. Building on this consolidated empirical literature, the research in this paper extends the geographical scope of the analysis by testing the hypothesis upon data of all the cities in the region and not of large urban agglomerations only. Regarding the contribution to the empirical literature, this paper is aimed at investigating the extent to which the AMM predictions may also apply to small and medium-sized cities. While AMM predictions are not expected to be relevant for large cities only, at least on a theoretical ground, the analysis of medium-sized urban areas has been likely prevented the lack of appropriate data on urbanized area at small geographical scales. Notwithstanding, sprawl is becoming an important phenomenon in medium-sized cities, where speculative behaviors that leverage on the availability of natural and agricultural land may find fertile soil, more than in large cities, where market forces are clearly dominant instead. Such a heterogeneous sample allows further conducting the research by exploring the varying incidence of both market forces and sprawl across cities of different scales. Following a two-step empirical strategy, the model in Brueckner and Fansler [5] is estimated for all cities in the regions first and then allowing for structural instability across groups of cities in the model' intercept and slopes.

The empirical analysis builds upon a unique dataset set up by the Lombardy region that includes information, for the year 2007, on soil destination at the municipality level (there are 1568 municipalities in the estimation sample). This dataset allows determining, for each municipality, the city size as measured by the number of square km of urbanized area. The use of data on contiguous municipalities requires using appropriate spatial econometric techniques to consider spatial relations in the estimation of model equations.

Econometric results suggest that the AMM model is apt to explain city size also in the case of small and medium-sized urban areas, but evidenced some specific issues in the results. Firstly, an unexpected negative income effect occurs as a consequence of the inclusion of contiguous areas in the estimation sample. In the AMM model consumers are not allowed to choice the residential location across different cities as the only distance from the Central Business District (CBD) is considered in the utility-maximization problem. In contrast, cross-cities house-to-work commuting is quite a common phenomenon in recent times and individuals working in a CBD may prefer to live in neighboring cities where, commuting time being almost constant, the housing good is less expensive. While such an effect might be negligible in the comparison across large urban agglomeration, which are usually placed at long distances, it might be substantially relevant to the comparison of neighboring municipalities within a region. Secondly, the observed agricultural prices may poorly proxy agricultural rents, as actual market prices already discount the value of future agricultural land reconversion for urbanization purposes. Such an effect is especially relevant in large cities.

Finally, the influence of market forces on urban size is substantially lower in the case of small and medium-sized cities, in which sprawl occurs more frequently. In Lombardy the average urbanized square meter per inhabitant has grown by 0.06 during the period 1999-2007 in cities with more than 20000 inhabitants, varying from 2.55 to 2.61. The same figure rises to the value of 0.247 in the case of municipalities with less than 5000 inhabitants, in which the average urbanized square meter per inhabitant has grown from 6.023 1999 to 6.27 in 2007. These descriptive statistics characterize small cities for the substantially larger values of both use and take of land. In marginal terms, the same result is confirmed by the econometric evidence.

The remainder of this paper is structured as follows. The next section surveys empirical literature about the AMM model and discusses the empirical issues related to empirical estimation based on data on units of small geographical scale. Section three introduces the dataset and the empirical model. Section four summarizes the results. A discussion concludes the work.

2. The empirics of city size distribution

City size distribution and urban growth are key themes in the urban economics literature. While the mono-centric organization of urban space has prevailed until the first half of the 20th century, urban decentralization, scatteration, and sprawl have characterized the urban development of increasingly polycentric cities in the last decades (Glaeser and Kahn [9]). Sprawl and urban growth appear as two faces of the same medal. Urban agglomeration generates higher income and attracts more workers increasing, in turn, the demand for housing and land. As consequence, the urban fringe expands toward peri-urban and rural spaces, causing negative economic and environmental externalities that markets usually fail to take into account, and, for this reason, sprawl is frequently related to inadequate urban planning policies. Sometimes urbanized areas expand to an extent that is larger than what it could be reasonably expected based on the agglomeration of people and firms in the cities, resulting in the loss of agricultural land, longer commuting, and ultimately low urbanization densities. In this respect, sprawl is characterized by an excessive urban expansion (Brueckner [4]).

Cities are the engine of economic growth, which comes as a consequence of urbanization externalities driven either by industrial specialization in small and medium size cities or by industrial variety in large metropolitan areas. Likewise, the socio-economic dynamics are responsible for the growth of cities which happens at the expenditure of the agricultural sector and, in general, of the environment. As urbanization pressures increase, the growth of cities might threaten the ecological equilibrium of the territories and hamper their potential for rural development, with dramatic social consequences such as massive migration from the countryside and also dramatic ecological consequences that include an increased risk of floods and the deterioration and agricultural land. For this reason, it has now become essential for policy makers to understand the relationship between city size and market, in a way to determine how far the city is from the optimal size and eventually which policies are required to regulate and definitively curb an excessive consumption of land. With a tradition originating in the so-called Alonso-Mills-Muth (AMM) model, urban economist attempted to study this relationship by explaining urban expansion as a function of income, population, transport costs, and agricultural land. Despite the restrictive theoretical assumptions about homogeneous incomes and preferences, some empirical papers provided robust evidence in support of the AMM model (Brueckner and Fansler [5]; McGrath [11]; Paulsen [14]; Spivey [16]; Wassmer [17]). In summary, it is confirmed that the growth of urbanized land in cities is substantially determined by market forces rather than being the result of an uncontrolled consumption of agricultural land.

Under the hypothesis of the AMM model, the urban fringe defines the optimal size of the monocentric city and is located at the critical distance from the Central Business District (CBD) where the housing rent equals at least the agricultural one, and the level of utility is the same for all the households. Some households, in fact, prefer a larger house, in the periphery, and hence accept a longer commuting to work. McMillen [12] classifies the empirical approaches to test the AMM hypothesis in two broad categories. One category includes the

regression-based approaches. A log-level equation is estimated where housing prices, land values, capital-land ratios, or population densities are the dependent variables, and the distance from CDB explains their spatial variation. A negative and significant slope (density gradient) is confirmatory evidence of the hypothesis mentioned above. The other category includes models based on the comparative statics initially formulated by Wheaton [18] and summarized here:

$$\frac{\partial A}{\partial P} > 0; \frac{\partial A}{\partial Y} > 0; \frac{\partial A}{\partial R} < 0; \frac{\partial A}{\partial T} < 0. \qquad \textbf{(1)}$$

In the equation (1), A is the urbanized area of a city, Y is the median households' income, R is the agricultural land rent and, finally, T is the unitary measure of transportation costs. Since AMM model represents the city as a closed world, comparative statics are especially expected to hold when observing a single city over time. Based on McMillen [12],predictions are testable also using cross-sectional information on different cities. In this latter case a simple linear regression model is specified, for a series of $i = 1, 2, ..., N$ cross-sectional units as in equation (2).

$$A_i = \beta_0 + \beta_1 \cdot P_i + \beta_2 Y_i \cdot + \beta_3 R_i \cdot + \beta_4 \cdot T_i + e_i \qquad \textbf{(2)}$$

Because an increase in population will shift the demand for housing, more houses will be demanded by individuals at the edge of the city and hence the expected value of the coefficient β_1 is larger than zero. An increase in income likely produces similar effects, rising the demand for larger houses and space; that is available at lower prices at the edge of the city. Nonetheless, when income increases the individuals' aversion to commuting also increases, making the demand for housing higher at the CBD, with possible negative consequences for the city size (McMillen [12]). An additional negative effect of income on size may derive from cross-cities commuting. While the city is a closed world in the traditional AMM structure, individuals, in fact, have the option to live also outside the edge of the city where they work and to commute between cities. The urban studies literature has documented trends in urban decentralization (Cervero and Wu [8]), specifically in large cities, where both income and house prices are substantially higher. As individuals may prefer to buy houses at a lower price in the neighboring cities, small centers in the proximity of large urban agglomeration may exhibit relatively higher income levels leading to a negative relationship between income and urban size. Accordingly, the coefficient β_2 might be either positive or negative depending on which effect dominates: although the empirical studies that analyze diverse cities frequently evidenced the case for a positive relationship, a negative one is more likely observed in the case of contiguous territorial units located in the same region.

City expansion occurs in AMM model extending the radius of the urban fringe, converting agricultural territories into urbanized areas. A high productivity in the agricultural sector makes farmland more expensive and, other things being equal, the housing market clears at a lower distance from the CBD. For this reason, the relationship between urban size and the agricultural rent reflected in the associated slope coefficient (β_3) is expected negative.

Finally, it is more convenient for individuals to live near the CDB when the unitary commuting costs increase; that means that the city size is relatively smaller small when the transport costs are high, causing the expected value of the coefficient β_4 to be negative.

A number of papers, mostly concerned with the US, provided cross-sectional evidence related to the empirical model in the equation (2). Brueckner and Fansler [5] analyze data of 40 urban areas of medium size, with populations ranging between 52,000 and 257,000 inhabitants, in 1970. The study evidences a clear consistency between theory and empirics, being almost 80% of cross-sectional variation in urban area explained by the model's predictors. Coefficient estimates related to all variables but the transport costs all are correctly sloped and significant. McGrath [11] updates the study by Brueckner and Fansler [5] by using longitudinal-data of the 33 largest US metropolitan areas (populations range between 136,000 and 16,207,000 inhabitants) for five decades (1959-1990). Empirical results are confirmatory of the early evidence in Brueckner and Fansler [5]. The transport cost variable is statistically

significant and the total variation explained by the model is about 90%. Therefore, one more indication is given that urban growth in US cities is the result of market forces to the greatest extent, ruling out the hypothesis of an uncontrolled take of agricultural land. Wassmer [17] uses this empirical framework to test the effectiveness of local urban containment policies. The model estimates a cross-section of 452 US urban areas with a population ranging between 50,058 and 17,799,681 inhabitants. Both the population and the income effects are positive and significant, as suggested by the theory while the effect of the agricultural land prices is insignificant. The study does not consider te effect of transportation costs. In Spivey [16] the same sample of 452 cities used in Wassmer [17] is analyzed alongside an additional sub-sample made of 85 large cities only. For both samples the relationship of the urban area with population is positive; the relationship with income is negative in the enlarged sample, and it turns positive in the sub-sample of large cities. Finally Paulsen [14], similar to McGrath [11], uses panel data methods to analyze the urbanization of 329 cities across three decades (1980-2000). For both population and income, the relationship with urbanized area is positive and statistically. Also this study excludes the effect of transportation costs.

All previous studies estimate parameters in the β vector in equation (2) using either cross section or panel data methods and assuming independence between $i = 1, 2, ..., N$ cross-sectional units. The assumption of independence between the components of the error vector (e_i) in equation (2) may be unreasonable, however, when the cross-section units are nearby-located in space. In the alternative, a spatial error structure (Anselin [1]) of residuals can best account for the geographical relations occurring among cities. More in general, some reasons motivate the use of spatial econometrics in models for contiguous geographical areas, stemming from the unobserved spatial heterogeneity to the omission of spatially correlated variables from the model specification to the presence of contagion effects in the data generating process (LeSage and Pace [10]). In models for the urban spatial scale, these motivations translate in the formulation of two relevant hypothesis concerned with spatial relations between geographical areas. On the one hand, individuals can make their residential choice among neighboring cities, not only among different locations at varying distances from the CBD. That intrinsically extends the trade-off between costs and benefits of commuting to the case of more cities, coining the possibility that an increase in the demand for urbanized area in a city also has effects on its neighbors. In this case, the spatial relations operate through the dependent variable. On the other hand, the size of a city's urban area is conditioned by external factors specific to that city. Being these factors usually unobservable to the econometrician, they contribute to form the vector of residuals. If these factors are also unevenly distributed in the geographical space of the sample, the spatial concentration moves to the disturbances causing their spatial correlation. In this case, spatial relations operate through the error term. In the present study, Lagrange Multiplier diagnostics (Anselin [2]) are used to discriminate between the so-called "Spatial Lag Model" (LAG), that includes spatial relations in the dependent variable, and the "Spatial Error Model", that includes spatial effects in the error term.

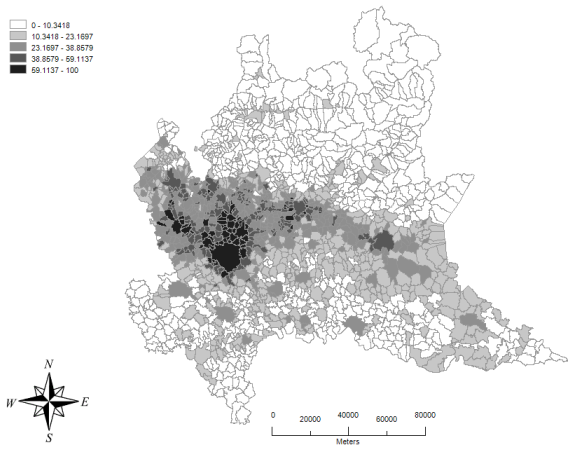
In addition to spatial relation across units, the study of contiguous geographical areas requires addressing a second issue, concerned with income. The income effect is expected positive when several independent spatial units are compared in the estimation. In contrast, such an effect may turn negative if the sample is made of contiguous geographical areas, since commuters' mobility more likely extends beyond the city's administrative borders. In the standard AMM model workers commute between the CBD and the urban fringe at a constant unitary commuting cost, such that total cost depends uniquely on commuting distance. In modern cities, networks of infrastructures facilitate the connections between cities making the cost of commuting between nearby cities relatively (and possibly absolutely) lower than the cost of commuting from the fringe to the CBD. Because individuals who work in a city trade-off between the house good and the costs of commuting, an increase in housing price following an increase in the income of the city may induce workers to buy a house in neighboring cities. In some circumstances, low inter-city commuting costs are also addressed as a cause of sub-urbanization and the emergence of secondary sub-centers (Cervero and Wu [7]). In the context of empirical models for urbanized area, evidence of a negative income effect has been already reported by Spivey [16].

An ultimate concern arises about spatial heterogeneity. By comparing urban units of very different scales, the structural stability of coefficient estimates can be doubted and, in contrast, dissimilarities in the effects across urban units of different size can be hypothesized. More specifically, income and population elasticities are expected larger in small urban areas, as more space is available for conversion in these territories and local administrations urge less against unnecessary urban expansion. On the contrary, there is uncertainty, about the nature of the difference between cities concerning agricultural rents and transport costs. Because the model has been usually estimated for large cities there is little empirical evidence available. To the authors' knowledge the only attempt to analyze the variation in effects across cities of different sizes has been made by Paulsen [14] finding that, based on the sample used for estimation, coefficient estimates statistically differ between large (>500000 inhabitants) and small cities.

3. Data and Model

The dependent variable used in the regression model is the size of the urbanized area in a municipality, measured in square km. The variable is collected by the Lombardy Region at irregular time intervals and is part of a larger project aimed at the construction and maintenance of an Agricultural and Forestry Soil Use Database (DUSAF). Data is available to the public directly from the institution upon request. Figure 1 shows the spatial distribution of the variable in the territory of the Lombardy region (year 2007).

Figure 1: Urbanization density (urbanized over total area) in Lombardy, 2007



The population (P_i) is measured as the total number of inhabitants in the municipality in the year 2007 and is obtained from the national institute of statistics (ISTAT). We measure the population over the total (the sum of urbanized, agricultural and forestry) area, to correct this measure for differences in population caused by the varying size of administrative units (municipalities).

Income in the municipality (Y_i) is the average income per inhabitant in year 2007. The information is part of the inquiry on income in municipalities carried out by "Il Sole 24 Ore", the most important business newspaper in Italy, and derives from the elaboration of data on fiscal contribution collected by the Ministry of Economics and Finance.

The value of agricultural rent (R_i) is from the database of land values maintained by the national institute of agricultural economics (INEA). INEA collects data on the values of agricultural land by type of farming activity at the province (NUTS III in Eurostat classification) level by altitude zone. For each province, an aggregate measure of land value is constructed as the weighted average of farm type specific values and using farm type area shares of Utilized Agricultural Area (UAA) as weight. This value is matched with information on the altitude zone of the municipality to retrieve the average value of land at the municipality level. Because land values vary only among provinces and, within each province among altitude zones, by construction, there is no variation in data across

municipalities in the same province and at the same altitude zone. Notwithstanding, the measure is deemed representative of the differences in land markets across municipalities in the region, and it is by far the most detailed information that is possible to retrieve at such a specific level of territorial disaggregation.

An index of car use proxy the transport costs (T_i). Following a consolidated literature, it is assumed that cars reduce transport costs significantly (Glaeser and Kahn [9]).Other things being equal, low congestion encourages the use of private transportation, reducing the cost of commuting for individuals. Information about the number of circulating vehicles (c_i) is provided by the Italian automobile club (ACI) at the municipality level for the year 2007. Because the variable varies to a significant extent across municipalities, it is standardized by the sample average and weighted by the radial distance separating the CBD and the administrative border of the municipality. Consequently, a higher value of T_i is associated with a higher cost of commuting.

$$T_i = \left(\frac{c_i}{\sum_i c_i} \right)^{-d_i} \quad \textbf{(3)}$$

The original linear relationship in equation (2) employed to test AMM predictions is extended to consider externalities between municipalities either in the dependent variable (equation(4)) or in the error term (equation (5)). $X = [1, P, Y, R, T]$ is the matrix of model covariates and β is the vector of parameters to be estimated. LM tests (Anselin [2]) on linear model residuals guide the choice of the most appropriate model. W is the N -dimensional square matrix, N being the number of municipalities in the sample, incorporating necessary information on contiguity between geographical units. Inverse squared distance is used to weight contiguity relationships and, as usual, the matrix is row-standardized to obtain, when pre-multiplied by a vector, the average value of the vector in the neighbors of the region i .

$$A_i = \rho W A_i + X_i' \beta + e_i \quad \textbf{(4)}$$

$$\begin{cases} A_i = X_i' \beta + e_i \\ e_i = \lambda W e_i + u_i \end{cases} \quad \textbf{(5)}$$

The significance of coefficients in the β vector assess the validity of the AMM hypothesis. Four regimes are defined, and regime-specific coefficients are estimated to test for structural stability of coefficients in the β vector and to explore the extent of validity of AMM hypothesis in small and medium-sized cities, not only in large urban agglomerations. Regimes are defined based total population in the municipality, being this measure the most frequently employed in defining city size. As in Paulsen [15], structural stability is examined by using Chow tests and, more in detail, an alternative version of the test that is apt to analyze structural instability in spatial regression (Anselin [3]).

4. Results

Table 1 summarizes the first set of results. An attempt is made to assess the validity of AMM hypothesis estimating the linear model in equation (2) and including population and income variables only. In column (a) the estimated coefficient for the population variable is positive and statistically different from zero confirming, as expected, the robustness of the relationship. The estimated coefficient for income is, oppositely, negative and significant. Such evidence of a negative income effect is related to the use of small and contiguous geographical areas for estimation. As a result, cities with higher income levels offer houses at a relatively higher price and, accordingly, people may prefer moving to small and medium-sized cities, possibly in the neighborhood of the large urban agglomerations.

The model in column (b) additionally includes agricultural rent. In this case also, the slope of the coefficient, exhibits opposite to what predicted by theory. The estimate is, in fact, positive and largely significant. Nonetheless, in modern urban agglomerations, it is likely that agricultural land prices are determined by urbanization more than the opposite, ant this reflects in a positive relationship between land rents and the urban size, a relationship that is more likely to hold in the case that contiguous urban areas are analyzed. Contiguous territories are in fact more homogeneous regarding their structural characteristics affecting agricultural productivity and, consequently, price differences may be explained by factors other than those related to agriculture. In particular, among the several determinants, urbanization pressures are among the most important ones. In contrast, when comparing heterogeneous urban agglomerations, variation in land values might be associated with characteristics influencing agricultural productivity more than urbanization pressures, which are somehow homogeneous across urbanized cities. Finally, this evidence might be strongly associated, perhaps in the case of this paper, to the use of a proxy variable for land rents with relatively small territorial variation.

Attempting to narrow the specification problems caused by the potential endogeneity of the agricultural rent, in the absence of a valid instrument to overcome the problem completely, the variable is excluded from the estimation, possibly at the price of under-specification. Estimation results are presented in the column (c).The coefficient related to income turned now insignificantly different from zero, and there is no relevant change associated with the coefficient for the population. Finally, there is evidence of a negative effect of transportation costs, as predicted by AMM.

The regression model in column (d) includes all variables are. It is confirmed the validity of the AMM model of urban spatial structure through coefficients relate to population and transport costs. In contrast, income and agricultural rents coefficients show a sign opposite to the ones predicted by the theoretical model. All coefficients are significant and, overall, almost 90% of the total variance in urban size of municipalities is explained by covariates suggested by AMM.

Table 1: Test of CBD hypothesis in Lombardy – 2007

	(a)	(b)	(c)	(d)
Intercept	161.820***	99.099***	293.800***	206.000***
	(16.801)	(16.459)	(24.150)	(23.830)
Y	-23.803***	-45.752***	0.469	-25.500***
	(9.086)	(8.706)	(9.498)	(9.215)
P	0.117***	0.116***	0.134***	0.130***
	(0.001)	(0.001)	(0.003)	(0.002)
R		3.572***		3.371***
		(0.256)		(0.255)
TC			-653.800***	-512.400***
			(87.330)	(83.470)
Adj R2	0.864	0.879	0.868	0.882
Moran's I	0.269	0.189	0.240	0.170
	[0.00]	[0.00]	[0.00]	[0.00]
LM LAG	420.48	178.75	297.64	120.82
	[0.00]	[0.00]	[0.00]	[0.00]
LM ERR	990.24	486.26	787.77	393.64
	[0.00]	[0.00]	[0.00]	[0.00]
RLM LAG	27.50	7.93	13.55	1.87
	[0.00]	[0.00]	[0.00]	[0.17]
RLM ERR	597.26	315.43	503.68	274.69
	[0.00]	[0.00]	[0.00]	[0.00]

Notes to Table 1:

OLS estimation. Standard Errors presented in parenthesis and p-values in square brackets. ***, ** and * denote statistical significance at 1%, 5% and 10% respectively.

Moran's test (Moran [13]) applied to the residuals of regressions detect a positive spatial autocorrelation in the case of all models. All LM tests reject the null hypothesis of linear

model but are indecisive about which spatial models optimally addresses the issue of spatial autocorrelation. Robust versions of the tests provide a clear indication of which model should be preferred in the case of the column *(d)* only. The hypothesis of spatial dependence in the dependent variable is rejected against the alternative of spatial dependence in the error.

Estimates of the spatial error model in equation (5)are reported in the first column of Table 2. Results are consistent with the evidence based on the linear model in terms of slope and magnitude of estimated coefficients. The model is used thus to investigate the issue of structural stability of coefficients. The sample is split into four regimes, using 25% quintiles of the population distribution.

Table 2: Spatial Error estimation and regime analysis

	Spatial Error Model	Population Regimes			
		(0; 1147]	***(1147;2644]***	***(2644; 5674]***	***(5674; …***
Intercept	218.450***	108.190*	142.050**	254.980***	441.860***
	30.888	62.887	57.520	59.177	42.674
Y	-54.187***	-2.820	-11.783	-4.256	-208.280***
	12.062	20.519	19.326	20.515	18.833
P	0.123***	0.366**	0.264***	0.159***	0.096***
	0.003	0.144	0.103	0.050	0.003
R	2.625***	0.242	0.658	1.562***	2.330***
	0.517	0.726	0.564	0.503	0.591
T	-255.650***	-322.870	-359.810	-691.610***	590.040***
	84.533	255.640	268.980	266.390	86.955
λ	0.688			0.615***	
	0.037			0.043	
LR	207.75			132.85	
	0.00			0.00	
AIC	19800.00			19339.00	
SpChow				491.73	
				0.00	

Notes to Table 2.
ML estimation. Standard Errors are presented in parenthesis and p-values in square brackets. ***, ** and * denote statistical significance at 1%, 5% and 10% respectively. . The value of the LR test refers to the spatial parameter of the model. The test for structural instability (SpChow) is performed according to Anselin [3].

The estimated values of the intercept monotonically increase moving from the lower to the higher regime, consistently with expectations. The slope of the income coefficient is negative in all regimes, although statistically significant only in the regime with the highest population, further supporting the explanation for the negative income effect based on house prices in large cities and inter-city commuting from suburbs. In fact, the effect is relevant in large urban agglomerations only, where house prices are, on average, substantially higher and connection with other cities outside the metropolitan area is easier than in small cities.

The effect of the population is positive and largely significant in all regimes. Furthermore, evidence indicates that the incidence on urbanized area of an increase in population is higher in less populated cities compared to more populated ones, as the coefficient estimate decreases monotonically from low to high regimes.

The evidence related to the positive effect of agricultural rent weakens when regime-specific coefficients are estimated. In particular, for both regime typologies, it is found that such a positive relationship is shown in medium/large and large urban agglomerations. Accordingly, in the presence of substantially relevant urban pressures, agricultural rents tend to follow urban size more than the opposite, as agricultural land values discount the higher probabilities of land use change in the area.

Finally, results about the transportation costs variable provide mixed indications of the overall effect. While an increase in transport costs is predicted to increase the extent of urbanization in large urban agglomerations, an opposite effect is evidenced in medium/large cities and no effect at all in small cities.

5. Conclusion

Economic theory predicts that the equilibrium city size is related to population and income positively and agricultural rents and transport costs negatively. This simple theoretical framework was initially proposed to explain variation in the spatial scale of cities in the 80s and more recent empirical evidence based on US urban agglomerations suggests that it also survived the test of time. As modern urban expansion is also characterized by sprawl and excessive soil consumption, the empirical model has been also used to disentangle the extent to which unregulated soil consumption determines the spatial scale of cities more than the interaction of market forces predicted by the model.

In this paper, this empirical framework is subject to the test of small cities and is used to explain variation in city size across municipalities in the Lombardy region, Italy. Evidence suggests that even in small cities urbanization obeys to economic and market forces, but to a limited extent only. Concerning income it is found that the relationship with size is negative and significant in larger cities only; the result is not new in the literature and is associated with the competition between neighboring cities in attracting workers. House prices are particularly high in large urban agglomerations and individuals may prefer to live in neighboring cities and to commute between cities rather than to live at the edge of the city and commute from the edge to the center.

Demographic trends are the most important determinant of city size, results indicate. However, a rise in population brings a substantially greater effect in small cities than in large ones framing the possibility that urban sprawl phenomena operate in these cities. From the land take viewpoint, the spatial concentration of economic activities in some agglomerated areas threatens the equilibrium of agricultural systems less than spreading of these activities across a network of small cities. The scope of this result and the consequent implications for urban policy is limited to the Lombardy region and cannot be generalized to the European case. Nonetheless the characters of urbanization in this region, especially regarding external pressures on the agricultural sector, are not very different from those of many other capital regions in Europe and, in general, of regions hosting large urban agglomerations such as Milan.

Among other explanations for city size variation, agricultural land rent does not appear as relevant. It is found, on the opposite, that land rents are in a positive relationship with city size. The use of current agricultural price as agricultural rents proxy explains this evidence to a large extent. Prices, in fact, also discount the value of land use change and the probability that this change happens in the next future, not only the rent from agricultural activity. Even so, the measure is the best proxy available at the municipality level, and results are robust to the exclusion of this variable from the econometric model.

Finally, city size is explained by transportation costs. Reducing the commuting cost between the edge and the center of the city increases its size. Much depend, however, on how transport costs are measured. The proxy used in this paper relates costs to the use of cars and hence this measure is artificially higher in large urban agglomerations, where public transportation weights more. This explains why the evidence in this paper indicates that size grows with increasing transport costs in larger cities.

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THE ROLE OF SMES IN SUSTAINABLE REGIONAL DEVELOPMENT AND LOCAL BUSINESS INTEGRATION: THE CASE OF LUBLIN REGION (POLAND) [1]

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Abstract

This paper analyses the role of SMEs in regional development, focusing the particular case of Lublin Region in Poland. This study aims, in a first stage, to analyse entrepreneurs' view of their role in local and regional development, by the adoption of sustainability strategies. After that, it will also be explored the relation between sustainable development and other variables such as: business local integration, firm age, number of years in the actual location, or firm legal form. The methodology adopted was the questionnaire, in order to get entrepreneurs opinion. 314 questionnaires were answered by managers from SMEs operating the in region of Lublin, acting the in the manufacturing and construction sectors. Results show the economic perspective as the major concern of entrepreneurs. Most of firms present a proactive attitude towards to sustainable development – older firms present a greater concern with social and environmental issues. It was also identified the existence of high levels of local integration. However, firms that are operating behind regional frontiers are promoting a more efficient local development than local acting firms.

Keywords: SMEs, Sustainable Development, Local/Regional Development
JEL classification: M10, O14, O18, O44

1. Introduction

The important role of businesses in regional economic growth and development is widely accepted as it is possible to find along the state of art, as for instance in the studies based in the triple and quadruple helix model (Leydesdorff, 2000; Gouvea, Kassicieh, & Montoya, 2013).

In economic terms the region is considered as a set of territorial units which, in terms of selected criteria, share many common features and have a number of distinctive

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characteristics as compared to the surrounding areas; the region is specialized and has a particular set of productive forces (Kuciński, 1990).

Today, it is a widely accepted notion that the development of regions is the driving force behind the economic growth of countries (Pietrzyk, 2001), and the recognition of this fact is reflected in various European Union's policies (Antonescu, 2014; Sîrbu, 2014). A major factor for this growth can be find in the entrepreneurial fabric, through its role played in generating added value, innovation and jobs (Muresan & Gogu, 2012).

Regional development embraces the processes of quantitative growth as well as qualitative progression. These processes are seen as changes occurring in many spheres, including the economy, technology, natural environment and in society (Duarte & Diniz, 2011). These changes have both economic and societal dimensions and in the long term they should lead to improving the quality of life of inhabitants, the setting-up of new enterprises and the creation of new jobs, the upgrading of the regional economic infrastructure and therefore they contribute to an increase in gross domestic product per capita generated in the regional economy. The pace of these changes is contingent on the type of resources deployed in particular areas, their structure and a degree of concentration, as well as a current level of development.

Institutional development, restructuring of economic activity, technological development and innovation, mobility and migrations of people, development of human capital, development of services, improvement in the quality of life and natural environment, as well as the preservation and enrichment of cultural identity are claimed to be the major components of regional development (Bojar, Stachowicz 2011, Klasik 2002). Factors such as the market knowledge and experience, academic ground and internationalization are presented by Kisman & Tasar, (2014) as the key elements of local development.

However, some authors argue that other factors, such as the utilization of regional resources by external entities (exogeneity), involving external entities in the use of local resources (stimulating character), and involving local entities in the utilization of external resources (attracting character) also play an important role in regional development (Potoczek, Stępień, 2012; Coffey, Polèse, 1984). Other approaches to regional development increasingly emphasize that the development of regions should be based on its internal potential and should be determined and driven based on a bottom-up pattern (endogeneity) (Coffey, Polèse, 1984; Bergman, Maier, Todtling, 1991; Asheim1995; Porter, 2000; Grosse, 2002; Bis, Żminda, 2014). Some authors also argue that to a large extent the regional and local development is shaped by entrepreneurship and enterprise development, in particular in the sector of small and medium-sized enterprises (SMEs) (Mrva & Stachová, 2014; Pike, Rodriguez-Pose, Tomaney, 2007). It is emphasized that SMEs play an increasingly vital role in ongoing processes of economic growth and development.

Rocha also highlights a particularly important role of SMEs in creating GDP and new jobs, mitigating poverty and disparities, and in improving the quality of life (Rocha, 2004). SMEs generate a sizeable income for the state budget and local communities, and therefore they contribute to the social and functional change of relevant areas, affect the innovativeness of economy (Onak-Szczepanik, 2006), and contribute to well-being of regions and their inhabitants.

Stawasz argues that SMEs demonstrate several distinctive traits, which determine their role in regional development, such as greater flexibility and the resultant adaptability to change, local character, and a high degree of creativity and innovativeness (Stawasz, 2001).

In assessing the impact of SMEs on the regional development Lachowicz points to the following phenomena: a direct influence of SMEs on the current situation on the labour market and the level of revenues of inhabitants; an influence on the development of the goods and services market, including closing existing market gaps; the role of SMEs in the growth and development of public institutions and big enterprises through cooperation; the role of SMEs in creating positive models for the development of local and regional entrepreneurship throughout the so-called multiplier effect; the role of the SME sector in increasing competitiveness and innovativeness; the participation of SMEs in the development of education, culture, sport and other fields through sponsoring and shaping social needs (Lachiewicz, 2012).

Strużycki, (2002) claims that SMEs due to their inherent specificity can even surpass large firms, in particular as regards the following aspects:

- responsiveness to shifting market requirements;
- business management as they have simple and less bureaucratized management structures;
- better ability to take advantage of emerging market opportunities;
- development of more efficient internal information exchange systems developed to ensure a better adaptability to change and fluctuations in external requirements;
- better use of expert knowledge of experienced specialists;
- ease in establishing cooperative relations thanks to their ability to mobilize and hire needed workforce in a quick and efficient way; and
- utilization of funds made available to support the development of the SME sector and local economies.

Numerous studies on the relationship between regional development and entrepreneurship highlight the feedback loop pattern, i.e., on the one hand developing and growing firms impact the development and growth of particular areas, on the other hand, the near and remote environment creates various conditions affecting the development and growth of economic entities (Łuczka, Przepióra, 2012). Among macro-regional factors, which in most situations have an independent character (or are shaped in a limited manner), usually are numbered economic conditions of the region, and its technological, legal and cultural conditions (Kaźmierski, 2012). The nearest environment, along with embedded factors such as suppliers, customers and competitors, as well as conditions on the local labour market and existing social and material infrastructure, is of the most vital importance to the development of SMEs.

Equally important are those components that can be shaped directly by local and regional authorities, such as various schemes stimulating entrepreneurship development, incentives for investors, and preferential terms offered for business start-ups (Kaźmierski, 2012). These facilities are of crucial importance to the regions and local communities characterized by a relatively low level of social and economic development. The Lublin Region located in eastern Poland is an example of such backward regions. In order to study the relation of SMEs in Lublin´s development, we will next present the region, and the methodology adopted for this research.

2. Characteristics of the Lublin Region (Poland)

Lubelskie Voivodeship, which is located in eastern part of Poland, occupies an area of more than 2.5 million hectares, of which 70.4% is arable land (CSO, 2013a:). Despite the large area, it is one of the least populated and urbanized regions in Poland. Lubelskie Voivodeship is situated on the eastern EU border with Ukraine and Belarus.

In 2012, the total number of working population was 947,000, of which 50.5% worked in services, 27.7% in agriculture, forestry, hunting and fishery, while 21.5% in industry and building (CSO, 2013a and next; CSO, 2013b). As of the end of 2012, the rate of unemployment was running at a level of 14.2% (CSO, 2013b). In 2011, GDP in Lubelskie Voivodeship calculated in current prices amounted to 13,254.9 mln EUR , which accounted for 3.8% of Poland's GDP. GDP per capita was equal to 6,027 EUR, while Poland's GDP per capita in the same period equalled 8,980.5 EUR (CSO, 2013b). GDP per capita generated in Lubelskie Voivodeship amounted to only 42% of the EU average (CSO, 2013). All the main economic indicators show that Lubelskie Voivodeship is one of the least developed regions in Poland (Gajewski, 2012).

In 2012, in Lubelskie Voivodeship operated over 166,000 entrepreneurs, of which 76.2% were individual entrepreneurs (CSO, 2013b; US, 2013). Almost 77% of entrepreneurs operated in services, 20.5% in manufacturing and construction, while the remaining 2.6% in agriculture, forestry, hunting and fishing sectors (CSO, 2013b). In Lubelskie Voivodeship the number of businesses per 10,000 inhabitants was 766 which was markedly below the Poland's average of 1,031 business entities (US, 2013). Over 95% of all businesses registered in Lubelskie Voivodeship employed less than 9 persons (US, 2013). Most entrepreneurs (over 64%) conducted their business in cities (US, 2013). Previous business surveys show that most

businesses are run locally and their activities are limited to local communities (gminas and poviats) (IBS, 2011).

In 2012, the total investment outlays amounted to 2,411.1 million EUR , of which 65.1% were made in the sector of services, 30.7% in manufacturing and building, while 4.3% in agriculture, forestry, hunting and fishery (CSO, 2013a and next; CSO, 2013b).

Overall, it is assessed that an investment attractiveness of Lubelskie Voivodeship is quite low. This is due to a lack of well-developed transportation infrastructure, which is seen as a major hurdle in running a business. It also makes the region less attractive for tourists and thus discourages potential tour operators to make investments (IBS, 2011).

3. Research assumptions and research methodology

3.1. Research assumptions

The purpose of the study, carried out in 2013, in the manufacturing and construction sectors of Lublin was to establish how the entrepreneurs perceive their role in local and regional development. For this purpose, the following working hypotheses have been put forward:

H1: Entrepreneurs operating in the Lublin Region in selected sectors of regional economy recognize their significant role in social and economic development of the region and local communities.

H2: Entrepreneurs operating in the Lublin Region demonstrate positive attitudes towards sustainable development.

H3: Among the three areas of sustainable development of the region, the economic aspect is dominant for entrepreneurs.

3.2. Sample calculation

Since questioning the whole of the population was not possible due to time constraints, the study was focused on a valid sample. In order to find the minimum sample size it is necessary to define:

- Confidence level;
- Error margin;
- Proportion of answers obtained in a particular section.

Following the authors' suggestion was developed a pilot study with 35 observations in order to analyse the proportion of answers that occur relatively to the degree of sustainability. From this initial sample it is possible to do some inferences to the final sample, using the following formula:

(1) $n=p\%*q\%*(z/e\%)^2$

where: n: minimum sample size required;

p%: proportion belonging to the specified category;

q%: proportion not belonging to the specified category;

z: z value corresponding to the level of confidence required:

e: margin of error required;

In order to calculate the sustainability levels we first considered the three dimensions of sustainable development, as presented in Table 1

Table 1. Number of questions by each strategy

Test area	Economic Development	Social Development	Environmental Development
Number of questions	4 questions	5 questions	3 questions

Each dimension was evaluated according to the identified questions. Each question was answered on a likert-scale (1 to 5). For each dimension we summed the results of questions within that dimension, and the result was divided by the number of questions considered in each dimension.

In order to get the sustainability results, we calculated the average results for the three dimensions. The output was organized into 5 categories:

- Very weak
- Weak
- Moderate
- Positive
- Very positive

According to the results from the pilot study the minimum result was a moderate approach. In order to calculate the minimum sample size it is necessary to have a yes or no approach. In other words, it is necessary to find a percentage for firms that take a sustainable behaviour versus non-sustainable. The results obtained were as follows:

Table 1. Sustainability results from the pilot study

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Moderate	1	2.9	2.9	2.9
	Positive	27	77.1	77.1	80
	Very Positive	7	20	20	100
	Total	35	100	100	

Those results suggested the classification as sustainable behaviour firms with a positive and very positive result (97.1%) and non-sustainable firms with a moderate approach to sustainability (2.9%).

In terms of sample size results, those figures led to the following result:

$$n = 97.1\% * 2.9\% * \left(\frac{1.96}{5\%}\right)^2 = 43.27$$

That means that in order to get a valid sample it would be necessary to get 44 answers. Since this figure is to low, we decided to get more than the suggested answers, and we were able to get 314 answers.

4. An analysis of the research findings

4.1. Sustainable Development Strategies

The questionnaire on sustainable strategies was organized in the three main areas of sustainable development. The first question was a general approach to the role of firms on local development: "Firms play an important role on local development". On a possible classification from 1 to 5 the average answers presented a value of 4.21, which means that interviewees, most of them with managerial responsibilities, believe that firms are important agents on local development. However, the results are slightly different when it comes to the role of small firms. In the scenario of indicating small firms as the most important players on local development the average result decreased to 3.88. It means that small firm managers understand that their larger incumbents have more responsibility on local development.

After these brief considerations on the initial results we will present some results on sustainability strategies.

The questions were analysed in groups of variables, following the methodology by Hill & Hill (2002): latent variables. To analyse each dimension it was used a different number of questions as presented in Table 1. The economic dimension was measured through the questions:

1. Firms play a crucial role in local development;
2. Small firms are those who can contribute more for a region development;
3. Firm profits must be reinvested in firm businesses/assets;
4. Long-run success is more important than short-run performance.

Even recognizing the important role of firms on local development (4.21) interviewees did not recognize this importance on small firms since the average result for the second economic dimension question was 3.88. Considering the answers to question 3. and 5. (below) the average results were 4.01 for firms profit reinvestment and 3.43 for region profit reinvestment. These results also show that firm factors present higher values than regional

ones. This might indicate the existence of a perfectly justifiable concern with the economic dimension.

By doing an analysis to the economic dimension was obtained an average result of 4.43 out of 5. The result demonstrates the attention that is being devoted to the economic dimension.

The social dimension was analysed through the questions:

5. Profits must be reinvested in the region;
6. Firms' employees must be recruited in the region;
7. Firm has mechanisms to prevent child labour (even in outsourced services);
8. Firm must support society (through sponsorship social and cultural actions) in a regular basis;
9. Firm promotes employees lifelong learning.

Analysing the questions as one variable, it is possible to get the results about the social dimension that is 3.89. As expected firms are defining their strategies more focused in the economic dimension.

The environmental dimension was analysed through the questions:

10. Firm knows and tries to reduce environmental impacts;
11. If just a few firms break the environmental rules, the consequences are not significant (reversed analysis);
12. Firm is investing in the use of clean energies;

The average result was 3.95 that is a very good result, since it shows a concerning with the green dimension, even above the social one.

It is quite interesting to note that in a similar study carried out in a Portuguese region (Duarte & Diniz, 2014) the findings were similar. In that study the most important dimension identified was the environmental, followed by the social, and the economic dimension was the last one. This question opens new paths for further research. In order to test these results, a new questionnaire is being applied in Portugal in a wider region than the original one, and the same research is being carried in a Romanian region. The main idea is to compare the results in different periods of time, and in different regions.

Considering all dimensions the average result for sustainability presents a global result of 4.19 (see Table 3) which means that on average, firms present a positive, let's say, proactive attitude towards to sustainability. Considering individual results and forming classes where the lower means a weak approach to sustainable development and the highest a strong approach it was possible to verify that most of firms (91.3%) present a proactive attitude to sustainable development.

This figure even being lower than the results obtained in the pilot study, do not compromise the sample size validity, since the original sample size required was of 44 questionnaires with a percentage of 97.1% - 2.9%, but the number of valid questionnaires collected was 314, that assures validity even in a 50% - 50% situation.

Table 2. Sustainability results by dimension

		Economic Development	Social Development	Environmental Development	Sustainable Development
N	Valid	314	314	314	314
	Missing	0	0	0	0
Mean		4.4299	3.8949	3.949	4.1897

The research findings clearly indicate that entrepreneurs operating in the Lublin Region (manufacturing and construction sectors) recognize that their business activities play an important role in local and regional development. Their activities are conducive to sustainable development of areas where they carry out their business. What is important however is that entrepreneurs' activities focus mainly on economic development, and therefore they recognize their role in economic development and to a lesser degree perceive other aspects of their activity. This can be explained by a supposition that entrepreneurs attach importance first and foremost to tangible benefits that may result from their activity for their own enterprises, employees and a wider environment they operate in.

Moreover, in our view, the other element, which could materially have affected the findings, is the fact that in Poland child labour is banned, and one of the questions in our survey involved the exploitation of child labour. However, this question was kept, in order to identify firms' control on their labour (internal and external) workers. Moreover, in Poland the use of renewables in the power generation industry is still very poor and hence it could also to some degree flaw the research findings. However, even with this constraint, the results on the environmental perspective were positive.

4.2. Local Integration

Once we are discussing in this paper the sustainability strategies and somehow the relation: firm-region, it seems to be relevant to present some results on upstream and downstream relations.

Considering upstream relations, in the questionnaire it was asked to identify the location of firms' three main suppliers, according to the locations presented in Table 4.

Table 4. Location of the 3 main Suppliers

	Supplier 1	Supplier 2	Supplier 3
	%	%	%
No answer	-	3.2	9.6
In the same municipality	**46.2**	**22.6**	**23.2**
In other town in Lubelskie Voivodeship	**24.2**	**34.7**	19.7
In other municipality in eastern Poland	6.4	15.6	14.6
In other municipality in Poland	17.8	20.1	**25.5**
European Union	3.8	3.8	5.1
Somewhere else	1.6		2.2
Total	100.0	100.0	100.0

On what regards downstream relations the results are presented in Table 5.

Table 5. Location of the 3 main Customers

	Customer 1	Customer 2	Customer 3
	%	%	%
No answer		7.3	15.6
In the same municipality	**62.1**	**23.6**	17.8
In other town in Lubelskie Voivodeship	17.2	**41.4**	**25.5**
In other municipality in eastern Poland	4.8	8.6	14.6
In other municipality in Poland	8.6	13.4	19.7
European Union	5.7	4.8	4.5
Somewhere else	1.6	1.0	2.2
Total	100.0	100.0	100.0

From the previous Tables it is clear that most of the businesses are done in the region (in the same municipality or in Lubelskie Voivodeship). However in order to get a clearer vision of these relations it was built a table (Table 6) that presents the average results by location considering the 3 main stakeholders.

Table 6. Degree of local integration

Business Relations	Location	Upstream	Downstream
		%	%
Ultra-local	In the same municipality	**30.7**	**34.5**
Local	In other town in Lubelskie Voivodeship	**26.2**	**28.0**
Regional	In other municipality in eastern Poland	12.2	9.3
National	In other municipality in Poland	21.1	13.9
International	Outside Poland	5.5	6.6

Comparing up and downstream businesses it was possible to verify that firms are selling more in the region than buying. Since the target population were firms in industrial and construction sectors, the results are somehow expected. Firms' final products may be acquired in the region (B2B or B2C) easier than raw materials.

Considering the suppliers' location, it is possible to realize that 56.9% of the suppliers are located either in the same municipality or in Lubelskie Voivodeship. On what regards customers the figure raises to 62.5%. These figures mean that most of the businesses are done within a local area.

These findings are interesting from the local perspective, but at the same time present some concerns. Even exporting more (6.6.%) than importing (5.5%), the exports level is too low. This result might indicate a high level of dependence on the internal (mainly local) market.

Taking into consideration the results on sustainability strategies and local integration, we decided to go further to search for stronger relations between these variables.

In order to analyse a relation (variable association) between sustainable firms (sustainable behaviour) and local integration, we took two cross tabulations based on the following hypothesis:

H_0: The variables are independent (do not exists variable association) *vs.*

H_1: The variables are dependent (exist association)

In order to analyse these hypothesis, according to the literature we must run a χ^2 test. The decision will be taken according to the p value obtained with the χ^2 test.

In first place we created two new variables to classify firms as local actors on both upstream and downstream businesses. To do so, the new variables considered as local actor firms that were either buying or selling just for stakeholders (three main suppliers and customers) located in the same municipality or, at most, in another town in Lubelskie Voivodeship.

After getting these new variables each one of them were crossed with the Sustainable Development variable, in order to analyse variable (in)dependence.

On the cross tabulation result (sustainable development vs. upstream integration) it was verified that some observed results differ from the expected ones, which leads to the possibility of variables association. By requiring the χ^2 test we got a p-value of 0.001709. Since this result is lower than 0.01 it means that H_0 might be rejected with a confidence level of 99%, i.e., it might exist association between these variables.

By rejecting H_0 one could assume that those firms that are acting locally are the most sustainable ones. It makes sense because if those firms are embedded in the region they may act proactively, or at least they will reply to the social and environmental behaviour. However, deeper analyses on the results show the opposite. In order to assume variable independence it was expected to get a result of 29 local acting firms with a very good sustainable development level, but the results counted just for 16 firms. At the same time, the expected result on a very good level for not locally (acting) firms was 57 firms, while the results counted for 70. Since the χ^2 test allows the rejection of variables independence, we

may argue that firms that are acting not only in a local level (upstream perspective), present a more sustainable strategy than firms that are acting mainly in a local level.

On what regards downstream integration, by doing the same procedures the *p value* result was 0.010349. This result also allows to reject the null hypothesis, this time, with a 95% confidence level. However the conclusion is similar: locally acting firms do not present a sustainable strategy as other firms do.

The results from these tests led us to undertake another test. Is there a relation between a sustainable strategy and the competitors' location?

p value = 0.031 reject the null hypothesis with a 95% confidence level.

Firms that identify their main competitors as not local, present better levels of sustainability strategies. This local concern might be a strategy to strength their relation with local stakeholders creating like this entry barriers to external (not local) competitors.

In order to get some more information about the variable that might influence the sustainability strategies some more tests were performed.

In first place we tried to analyse the relation with firm legal form. The hypothesis is: Is there any type of firm with characteristics pro or anti sustainability?" According to the results the χ^2 test result is not valid since an assumption was not met. However there are not evidences of dependence, since the counted results are close to the expected ones.

Other tested hypotheses were the relation with firm age and the numbers of years in the actual location. In order to test these hypotheses the both variables (age and years in last location) were organised into three classes: from 1 to 10 years; from 11 to 20; more than 20 years. At first it was analysed the variable "firm age". All the assumptions were met and from the results we may reject the null hypothesis of independence with a confidence level of 95% (*p value* = 0.047). According to the results (expected and counted) it is possible to say that older firms (> 10 years old) are more committed with the region adopting strategies aiming sustainability. It seems that focus mainly on economic results is a characteristic of relatively young businesses, while the recognition of other aspects, for example social and environmental, comes later in time as the business grows and matures.

On the other hand the test results from the variable "years in the last location" do not allow a rejection of the null hypothesis (*p value* = 0.266) leading to the conclusion of independence of variables.

The last results presented, allow us to conclude, that firms start to adopt a proactive sustainability strategy after their initial period (around 10 years). However, the location is not important, since the strategies do not change according to the location, but with firm age.

5. Summary/Further Research

Summarizing the obtained research findings it can be concluded that our tentatively adopted research hypotheses have been verified:

H1: *Entrepreneurs operating in the Lublin Region in selected sectors of regional economy recognize their significant role in social and economic development of the region and local communities.*

Indeed, however even assuming an important role of SMEs in local development, the entrepreneurs view assume that their larger incumbents assume a role that is above the SMEs one.

H2: *Entrepreneurs operating in the Lublin Region demonstrate positive attitudes towards sustainable development.*

According to the results 91.3% of firms present a proactive behaviour on sustainability strategies.

H3: *Among the three areas of sustainable development of the region, the economic aspect is dominant for entrepreneurs.*

Generally, it can be stated that since the activities of entrepreneurs focus on the economic aspects, they tend to perceive their role and importance for local communities through the economic prism. Also interesting to note is the importance given to the green dimension of sustainable development, that was classified as the second most important on firms' strategies.

Entrepreneurs carrying out their business in the Lublin region in the manufacturing and construction sectors recognize their important role in the social and economic development of the region.

Moreover, a detailed analysis allowed us to observe significant discrepancies between activities undertaken in line with the postulates of sustainable development by businesses operating locally and businesses which to a large extent use the resources and opportunities emerging at a regional, or even wider level.

Once identified a concern about sustainability by firms operating in the region of Lublin, it was expected that by the very fact that they operate locally and provide goods and services to local communities, they would be more willing to use locally available resources, and to undertake activities concerning all aspects of sustainable development. In fact, it was verified an important level of local integration 56.9% (upstream), and 62,5% (downstream) business activities are performed in the same municipality or at least in the Lubelskie Voivodeship. However, the research findings suggested that firms that are acting outside regional borders, present a higher propensity to sustainable strategies adoption.

This type of development, termed "attracting", may stem from their willingness to meet the demand for certain goods and services which are not available on a certain area, and when certain resources are not available locally.

The "openness" to external resources also means that firms establish cooperation links with companies based in other regions, which operate nationally or internationally. By the same token they are also more open to a specific "learning" process, and therefore they tend to recognize also non-economic needs. As a result, these firms are more likely to undertake actions and efforts for the environment and local communities. Hence, the entrepreneurs' assessment of the role of SMEs in the local development seems to be more comprehensive and to a higher degree focused on sustainable development.

Based on research we have observed that the longer the firm exists, the more willing it is to pursue a proactive sustainable development strategy. However, this observation should not come as a surprise. It is quite obvious that in the initial stage of running a SME when it enters the market and strives to survive, its owner is focused on economic issues in order to retain a market share and make profit. This affects how entrepreneurs perceive their role in their environments. Along with the quantitative and qualitative development of the enterprise when its position on the market and financial standing becomes more stable, entrepreneurs start to see other opportunities for influencing the environment they operate in and thus they are more willing to undertake activities also in other fields. Hence strategies of enterprises operating longer than 10 years to a larger extent incorporate activities focused on the natural environment and society.

The research findings presented above indicate that both the lifetime of a SME, and a territorial range of its activity, play an important role in the context of adopting and pursuing by this enterprise an active sustainable development strategy.

This allowed us to conclude that an effective and efficient sustainable development policy, apart from other factors, requires the inclusion of measures designed to support the development of entrepreneurship through a system of incentives to business start-ups, as well as supporting and strengthening the existing firms in order to encourage them to establish cooperation links with other entities, in particular the ones operating on a larger scale.

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URBANIZING PEASANT WORKERS IN CHINA

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Abstract
The paper aims to comment on China's ambition to urbanize 300 million peasant workers as a main task in realizing its urban dream. It investigates the severe peasant-workers related problems and points out that local government's financial capacity, peasant workers' vocational skills, social inclusion and degrading countryside are challenging the sustainable urban and rural development in China and need properly treated. The paper proposes possible ways for policy implications and highlights the importance of coherently promoting both classified urbanization and ruralization in China in the future.
Keywords: Urbanization, peasant workers, ruralization, China
JEL classification: R11, R12

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1. Introduction

Ever since the reform and opening-up in 1978, China's urbanization development has been at an unprecedented speed, compressing into one century what have taken the developed world three centuries to accomplish (Friedmann 2006, 441). In the period 1978-2012, China witnessed the increase of the fraction of the nation's population dwelling in cities from 17.9% to 52.6% (Bai et al. 2014, 509). However, the real urbanization level in 2012 was only 35.3%, instead of 52.6% if calculated according to the urban registered residences since there are still 263 million peasant workers who belong to rural registration system but live in cities[1]. By 2013, the number of peasant workers reaches 268.9 million, of whom 166 million are permanently living and working in cities[2]. If the current trend holds, China's peasant workers are estimated to top 300 million people by 2020 (Rosato 2008, 99).

Generally, peasant workers have made great contribution to China's urban development by providing large amount of laborers who mainly undertake those heavy, dirty, risky and low paying jobs. However, owing to their rural household registration (*hukou*), these people are prohibited from accessing the same social welfares as those with urban *hukou* (Li 2011, 336). As a result, the 'floating population' was coined to describe the peasant workers who left their home villages, but couldn't completely settle in cities. Besides, the emergence of peasant

[1] Peasant-workers Reached 263 Million in 2012, (2 March 2013); http://paper.people.com.cn/rmrbhwb/html/2013-03/02/content_1205637.htm?div=-1
[2] http://news.sina.com.cn/c/2014-05-12/170130119182.shtml

workers also induced severe rural hollowing problems in China when many peasants went to cities leaving most dwellings in villages unoccupied and farmland abandoned (Liu et al. 2010, 878).

In early March 2014, the Chinese premier set the goal of efficiently and orderly transforming 100 million peasant workers into new citizens, renovating shanty towns where 100 million people reside and locally urbanizing 100 million people in the Central and Western China (so called 'Three 100 Million Project')[3]. Then, on 30 July 2014, the State Council of China introduced further reforms of the *hukou* system, aiming to have 100 million peasant workers settled in cities by 2020. Comprehensive public service system (compulsory education, employment service, basic old-age pension, basic health care and housing) is also requested to be established to cover all urban permanent residents. However, there are large scale peasant workers floating in cities e when China is currently undergoing dramatic socioeconomic transformations after decades of dual social structure which placed villages highly lagging behind the cities (Li 2013, 63). Are cities capable of having 300 million new members settled? Who will take care of the farming land and manage the villages? What are the policy implications to achieve China's urbanization ambition? By evaluating the current socioeconomic transformations in China, urbanization is not the only way out to deal with the peasant-workers' problems. Particular attention needs to be paid to several key areas which may challenge China's urbanization ambition.

The paper aims to comment on the China's ambition to urbanize 300 million peasant workers in the future, by investigating the peasant-workers' problems and proposes possible ways to achieve sustainable urbanization in the future. The second section analyzes the urbanization process and peasants' unique social identity in China. In the third section, the paper investigates the implementation challenges in urbanizing large amount of peasant workers in the near future. The fourth section provides policy implications for China's urbanization ambition.

2. China's urbanization and peasants' unique social identity

Generally, China's rapid urbanization which was identified by Joseph E. Stiglitz, as one of the two key factors affecting the twenty-first century, has been playing a major role in contributing to China's affluence. However, both the state-directed urbanization and urbanization driven by economic growth promoted China's urbanization side by side (Shen et al. 2002, 675; Li, 2010, 399). In a pretty long period since the P. R. China was founded in 1949, the development of urbanization and industrialization was fueled by disfavoring agriculture and rural development. Then, the *hukou* system was created and implemented in 1958 to restrict population mobility which drew clear distinction between peasants and laborers in cities, creating spatial hierarchies between cities and the countryside (Cheng and Selden 1994, 648). As a result, rural-urban divisions became strengthened in China and urbanization development was totally distorted by the urban-biased policy.

The opening-up and reform in China marked a significant change from centrally planned economy to market-oriented economy. Cities were granted much autonomy shifting from the passive agent to the central government to an active actor responsible for local prosperity (Zhu 2000, 180). The booming urban economy which generated many job opportunities has attracted huge amount of rural peasants. As a result, huge amount of rural laborers rushed into cities and such population mobility largely contributed to the urbanization growth in China in the 1980s and 1990s (Table 1).

Table 1 Urbanization and its constitution in China, 1978-1998[4]

		Urbanization	Natural growth	Net migration

[3] http://cpc.people.com.cn/n/2014/0305/c64094-24536194-5.html

[4] National Bureau of Statistics of China. 1999. *China Statistical Yearbook*. Beijing: China Statistics Press.

Year	Urban population (10,000)	Level (%)	Growth in population (10,000)	Growth in population (10,000)	Share (%)	Growth in population (10,000)	Share (%)
1978	17250	17.9	582	144	24.8	438	75.2
1980	19139	19.4	645	158	24.5	487	75.5
1982	21479	21.1	1305	228	17.5	1077	82.6
1984	24017	23	1746	210	12	1537	88
1986	26366	24.5	1272	281	22.1	991	77.9
1988	28656	25.8	982	313	31.9	669	68.1
1990	30191	26.4	651	306	47	345	53
1992	32372	27.6	1829	255	13.9	1574	86.1
1994	34301	28.6	950	269	28.3	681	71.7
1996	35949	29.4	776	264	34	512	66
1998	37942	30.4	953	310	32.5	643	67.5

Accompanying China's urbanization, there is the long time dual social system which has divided the Chinese people into agriculture occupied and non-agriculture occupied groups. It is pretty difficult for people with rural *hukou* to change their household registration status and become urban citizens. As a result, peasants were firmly confined in their home villages, undertaking agricultural work. When China's reform and opening-up went to the further stage, released migration policy allowed peasants and their families to get permanent registrations in towns and cities if they were engaged in industrial or commercial activities. Then, there emerged a large amount of peasant workers either doing non-agricultural work in the local areas or leaving their home villages for works in cities. By 2013, there were 150 million new-generation peasant workers who were born in the 1980s and 1990s. 60% of them under 30 are unmarried, and 74% of them were schooled before migration[5]. However, peasants' such motivation of mobility is mainly attributed to the low agricultural incomes, few job opportunities in the countryside, shortage of public services e.g. schools for children, and landless status due to land requisition which forced them to migrated to cities for the non-agricultural work.

Generally, many parts of the Chinese countryside have been degrading during the past decades and become unsuitable for socioeconomic development and people's livelihood. At the meanwhile, high living cost and restricted access to local welfares make it hard for peasant workers to completely settle in cities. Thus, most peasant workers are 'floating' between cities and countryside. Basically, the peasant workers are of low educational level, precarious work, low salary and security shortages in cities[6], and they are kept at severe disadvantageous status due to their rural *hukou* (Rosato 2008, 110). In recent decades, peasant workers have mainly transformed into three types, as physical laborers, successful business starters and new graduates who are wandering in cities for their fortune dreams. National statistics show that over 55% of peasant workers intend to develop their careers in cities and finally settle there[7]. These people have strong desire of enhancing their sense of urban identity, though they are still labeled as countryside person.

[5] Report: New-generation migrant workers get less rights, pay (February 21, 2011). http://english.peopledaily.com.cn/90001/98649/7294772.html

[6] Liu Y. S., "Huide qu de Guxiang Xuyao Xinsilu (New idea is needed for backing to hometown)", *Renmin Ribao* (*People's Daily*), 11 March 2014.

[7] http://www.stats.gov.cn/tjsj/zxfb/201405/t20140512_551585.html

3. Implementation challenges

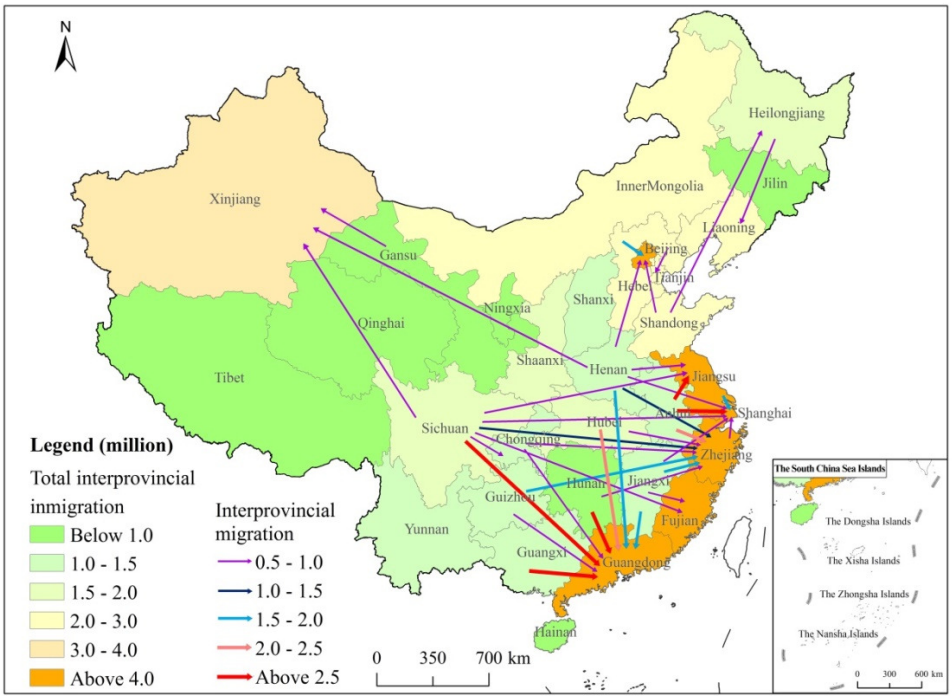
Generally, to urbanize 300 million peasant workers when there is huge rural-urban differences will pose great challenges for China. We hereby conclude three main types of challenges in terms of money, jobs and rural decline.

3.1. Money to accommodate the new citizens

Having an urban identity not only needs the change of rural *hukou* registration, but also requests equal access to urban welfares and public services. This costs quite much money for local municipalities, especially those large cities which are the main destinations of migrant workers. It is estimated that over 800,000 RMB is needed to provide every new citizen with equal public resources and services[8]. Thus, a total amount of 80 trillion RMB, an average of 122.5 billion RMB for each of the 653 Chinese cities, should be mobilized and invested. This would generate great challenges to cities' financial capacity when quite many Chinese cities still rely firmly on land sales for local revenues, which is of course not sustainable[9].

Moreover, since most peasant workers are flowing into large and medium-sized cities in the Eastern China, as shown in Figure 1, cities there would thus bear heavy burden to transform and admit the potential citizens. Most probably new and high entry barriers would be created by local municipalities to prevent the influx of peasant workers.

Figure 1 Population mobility in China based on the sixth national census



3.2. Employment and social inclusion

Becoming new citizens, peasant workers are under tremendous pressure to be well adapted to city lives. What they can live on? Will they continue to do the heavy and low paying jobs? Generally, there exists the dilemma and difficulty between peasants' hunting for jobs and enterprises' looking for highly skilled and knowledge-based workers. Investigations show that 66.7% of peasant workers born in 1980 and thereafter are of middle school and lower education degrees[10]. They lack the skills to increase their employability and lack access to personal and professional development. What's more, the upgrading of urban industries in

[8] http://www.china.com.cn/news/txt/2013-03/30/content_28402842_4.htm
[9] http://finance.ifeng.com/a/20140521/12373227_0.shtml
[10] http://www.stats.gov.cn/tjsj/zxfb/201405/t20140512_551585.html

recent years demands for more technical and professional laborers, which become more challenging for those manual-based job hunters. As a result, around 63% of the peasant workers are undertaking work in manufacture, construction and retails industries which are of low education demanding[11]. However, the lower monthly payment from doing these jobs is 2290 RMB which made peasant workers hardly possible to afford various life cost in cities[12].

Social inclusion to cities also challenges the peasant workers who because of their rural identity and social status, frequently face discriminations from their city peers. This would cause problems like depression, mental health and loneliness among the potential new citizens. Social stratification and incompatibility between peasant workers and local citizens would also emerge if the social inclusion problem couldn't be properly settled in due course.

3.3. Degrading countryside and food security

How to maintain the rural vitality when facing labor outflows also challenges China's urbanization sustainability. Rural management entities become aged and weakened since there are large amount of left-behind population (58 million children, 47 million women and 45 million aged) (Ye et al. 2009, 28). What we have seen are the ever hollowing villages, consisting of rural industry recession, backward infrastructures and rural cultural deterioration[13]. This is mainly attributed to the labor loss and long-time negligence of training skilled laborers and rural managers. Villages thus turn to be places lack of competition and innovation capacities. As a result, the degrading countryside becomes unsuitable for habitation and development, and has in turn aggravated peasants' outflow.

Who will do the farming work also needs particular attention. Investigations find that over 40% of agricultural laborers in China are over 50-year old. Over 75% of young peasant workers have little farming knowledge and even reluctant to do the farming work (Liu et al. 2014, 73). This has caused low agricultural productivity and quite much abandoned and inefficient used farmland in China. At the meanwhile, the diversified diet structure from the growing urban population in China would generate daily food demand increase by 20%. Thus, China needs to supply an annual increase of 10 million tons grain, 800,000 tons meat and 400,000 tons edible oil[14]. How China feeds itself when there is a shortage of agricultural laborers and increasing food demand during the urbanization process? In this sense, the Chinese Central Government must be alert on food security issues when it endeavors to promote urbanization development.

4. Policy implications and concluding remarks

4.1. Cost-sharing mechanism

A cost-sharing mechanism should be established, involving the central government, local municipalities, enterprises and individuals (Yang 2011, 31). Ever since the tax-sharing reform in 1994, local municipalities have been bearing the main role in supplying public services and infrastructure for the urban citizens, though fiscal revenues are mainly controlled and distributed by the central government. The massive duties while limited financial powers of the local municipalities would not suit the challenges when there are more and more peasant workers to be settled in cities. Thus, more transfer payments from the exchequer should be distributed flexibly to those local municipalities which are to bear more duties to accept those peasant workers.

Investment from the enterprises in the fields like education, medical care, pension and infrastructure construction should be highly encouraged. Enterprises are also the important sources of job opportunities for the potential citizens. Correspondingly, a comprehensive investment-return mechanism could be created to promote social investments in various industries.

[11] http://www.stats.gov.cn/tjsj/zxfb/201405/t20140512_551585.html
[12] http://finance.people.com.cn/BIG5/n/2013/0528/c1004-21634595.html
[13] http://www.rard.org/post?postId=851
[14] http://finance.sina.com.cn/chanjing/cyxw/20140526/124019226358.shtml

Capitalizing the peasants' shares of rural collectively-owned properties becomes necessary to compensate their cost of settling in cities. This initiative requests reforms of property right system in rural China. By way of market means, the resources (contracted land and housing land) which are possessed and distributed by individual peasant can be transformed into properties, and further transformed into capital which is a mortgage and tradable. This reform would enable peasant workers to be citizens of properties.

4.2. Training and social care

Since there exists the inconsistency between job-demanded skills and laborers' level of knowledge and skills, employment-oriented training system should be established to cover those peasants who are willing to work in cities but lack related skills. Manual work is not the sole source on which they can rely. Through employment training and occupational planning, certain group of peasant workers could transfer their professions and enter into high paid and knowledge based fields. At the meanwhile, a unified human resources market should also be promoted in both urban and rural areas. People, no matter if they are peasants or urban citizens can equally access job opportunities and get equal pay for equal work.

Security, sense of belonging and dignity are the key factors of social inclusion after the peasant workers achieved material satisfaction and success. In this sense, social care is playing important role in having the new citizens both spiritually and psychologically integrated in cities. Local municipalities, enterprises and NGOs need to not only create equal living and working atmospheres for peasant workers, but also care more for their psychological changes. It is necessary to provide psychological consultation and support, transform the closed nature of peasant workers' social communications, and strengthen their social assertion in cities.

4.3. Classified urbanization and ruralization

Not every Chinese peasant worker is ready or suitable to settle in cities since many of them still have very strong rural feelings. They come to work in cities either because of their landless status due to land requisition, or because the degrading countryside no longer suits to live and raise a family. Moreover, being a country of over 1.3 billion population, there must be certain amount of peasants doing farming work. Thus, classified urbanization according to peasants' willingness and capabilities should be promoted in China. For this concern, ruralization which consists of redevelopment of villages and towns, infrastructure renovation, industry cultivation and interest protection should be promoted in rural China[15]. Ruralization provides the peasants with a platform of employment or setting up own business in places where they can at the same time, take care of their families and farming land. Besides, ruralization can help relieve population and financial pressures in local municipalities and contribute to revitalize the countryside.

Since there are increasing rural laborers turning to non-agricultural work, new agriculture-management body must be encouraged and promoted in China accordingly. By way of land transfer, agricultural cooperatives or agricultural corporations can manage large amount of farmland while peasants can benefit from leasing their land. This prevents land abandonment and shifts from the traditional household-based farming pattern to large scale and specialized agricultural production. Thus, food security could be ensured in China in the long run.

All in all, urbanizing Chinese peasant workers is a natural process (Su 2010). Considering the current urban-rural relations, the realization of China's such ambition should be rested upon stimulating rural vitalities. This can enable the peasants to choose either migrate to cities or stay and participate in ruralization development. All these endeavors should be oriented by peasants' lives in peace and contentment.

[15] Liu Y. S., "Huide qu de Guxiang Xuyao Xinsilu (New idea is needed for backing to hometown)", *Renmin Ribao* (*People's Daily*), 11 March 2014.

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STUDY OF WOMEN'S PARTICIPATION IN MAMANGUN TUNTANG MAHAGA LEWU PROGRAM (PM2L) IN GUNUNG MAS DISTRICT, CENTRAL KALIMANTAN

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Abstract

This research is conducted in villages Rabauh,Tanjung Untung and Hantapang, Gunung Mas district, Central Kalimantan. The research uses descriptive analytical. The data collection is taken through observations and questionnaires on the relevant program, institutions and community groups. Rabauh rural women's participation in PM2L particular on basic infrastructure development program is inactive. Their involvement only as a receiver and connoisseurs of such assistance. Similarly, at the village of Tanjung Untung and Hantapang. The participation of rural women in PM2L in Gunung Mas is not directly involved due to most activities are carried out is handle by government agencies. In general, the villagers Rabauh, Tanjung Untung and Hantapang already have an understanding the importance of health, and in terms of women as decision-maker has contribute in family planning program in such as health care, immunization, bringing awareness to Pustu child, maternal and child health. Women's participation in in economic empowerment program as gender analysis had a positive impact through PM2L program which is improve the economy of villagers Rabauh, Tanjung Untung and Hantapang. However, in terms of gender equality such as direct involvement of women in the executive cadre is still less empowered. PM2L program as a whole in Gunung Mas need to be improved and support by government continuously through coordination, monitoring and evaluation.

Keywords: women's participation, PM2L
JEL classification: J160

1. Introduction

1.1. Background

Outlines of state policy mandates that the state administration is carried out through national development in all aspects of national life (Bappenas, 1996). In the execution of each party has a different role. In development, peoples as the main actors while the government has obligation to guide and create an environment to support and becomes a marching towards the achievement of national development goals as well as decentralization in any aspects including gender empowerment in regional area also become contribute to the goals (Jaweng, 2010; Fukuda and Parr, 2003) and the importance of market access and institutional arrangements are proportion of economic growth (Crescenzi and Pose, 2012; Lewis, 2013; McCulloch and Malesky, 2011). The development of people living in rural areas/villages in any aspects of life is still limited, such as social- economic, knowledge and capabilities (Anand and Ravallion, 1993). Therefore it is reasonable if government give more attention through development and coaching programs to encourage that conditions (Arif, 1997; Kuncooro, 1997; Poespowardojo and Soerjanto, 1993).

For Central Kalimantan government and other stakeholders need to accelerate rural development by synergizing regional and sectoral development programs and encourage community participation in Central Kalimantan through *Mamangun Tuntang Mahaga Lewu Program* called PM2L program so the level of welfare of peoples become sufficient.

PM2L is a program aims to alleviate rural/village become better from the past. It also embodies pilot villages were able to implement sustainable development independently and in exploiting its potential, so as to trigger the growth of the surrounding villages and innovative regional policies in terms of talented peoples (Pepinsky and Wiharja, 2011). PM2L is

implemented by of Central Kalimantan government in order to increase community participation in improve local economy, especially the strategic sectors which able to create productive and sustainable employment and improve incomes of peoples that brings prosperity (Kuncooro, 1997).

The capacity building of women in PM2L program is the objective. Activities to meet the needs of society, especially increasing income and family welfares. Human resources such as women's role in development are a barrier like low formal education (Hill and King, 1995; Ihroni, 1981; Young, 1993). Other problem in the development of women's empowerment that occurs is discriminatory practices against women (Priyono, Onny and Pranaka, 1996; Soetrisno, 1997).

The essence of development is make all people prosperous regardless of race, religion, place of residence and gender (Sumbulah and Mag, 2008; Tjokrowinoto, 1996). All residents acquire the same rights and obligations in all aspects of life which allows residents have many choices (Basrowi dan Sukidin, 2002) and the city where they live must be solved current problems in terms of urban politics and obligation of the peoples (Benhabib, 2004; Purcel, 2002). In fact in the process of development still has assumption that women are second-class citizens or women earn less than fair treatment. However, the assumptions are not supported by empirical evidence in various indicators that women still lag behind men in many aspects (Bungin and Burhan, 1991; Ihroni, 1981; Sumbulah and Mag, 2008; Soetrisno, 1997).

Increasing the degree knowleged of women became one priorities in national development strategies as stated in TAP MPR No. IV/MPR/1999 on Broad State Policy Guidelines 1999-2004, geared to improve position and role of women in national scope and to improve women quality through women's organizations while maintaining the value of unity of women to continue women empowerment family welfare. Women participation in PM2L support by Gunung Mas government can increase the potential of region, natural resources and human resources in the regions mentioned above (Chamber, 1987).

1.2. Objective

To increase the role and participation of women in PM2L program and be reference in carrying out the coordination, facilitation, dissemination and evaluation of implementation of PM2L in Gunung Mas in the future.

2. Research Methods

Research is conducted in villages Rabauh, Tanjung Untung and Hantapang, Gunung Mas district, Central Kalimantan which uses descriptive analytical. The data collection is taken through observations and questionnaires on the relevant program, institutions and community groups. The variables studied and developed in this study include participation, access, control and other socio-economic variables.

3. Results And Discussion

3.1. Observation Result

3.1.1. Rabauh village

Survey using a questionnaire to thirty-seven womens or 16.9% of total population of Rabauh village which shared to respondents aged range between 25 to 50 years old on the basis of productive age is classified. Respondents have different social and education background and all respondents were women who had been married. Some of the respondents were interviewed in order to determine the condition clearer.

A. Basic infrastructure development programme

Basic infrastructure development programs through PM2L manifested in the construction of rural roads and construction of water supply wells drilled as well as the provision of solar electricity (Amheka, Higano, Takeshi and Yabar, 2014). Road construction in the village of Rabauh implemented with the assistance of Settlement and regional infrastructure Gunung Mas through PM2L is a road that is paved. Basic infrastructure for clean water in village

Rabauh built from assistance through the Department of Public Works by making the wellbore which is one part of a four-point built for the Gunung Mas District.

Installation of Solar power infrastructure which is government assistance in collaboration with Department of Mines and Energy Gunung Mas through PM2L program in Rabauh village installed at residence of Rabauh village then connected to each house in the village.

The rural women participation in PM2L Rabauh in basic infrastructure development program goes well which their involvement only as receiver and connoisseurs of such aid in the form access of the road (to exit and enter the village). And the use of solar electricity means villagers Rabauh especially rural women can more easily obtain information and add insight and knowledge of the electronic media.

B. Education programs

Tabel 1. Distribution education level women (wives) and man (husband) in the village

Educational level	Woman		Male	
	Jumlah	%	Jumlah	%
No school	0	0	0	0
Elementary school	15	40,5	14	38
Junior high school	15	40,5	12	32,4
Senior high school	7	19	7	19
Diploma/Undergraduate	0	0	2	5,4
Total	37	100	35	94,8

Based on Table 1 shows the percentage of women (wives) on a low education level is higher than males (husbands), whereas at higher education level the percentage of male is higher up than women's diploma were only up to the level of high school education. Despite level education of women in rural Rabauh are enough, 100% have experienced school with a percentage of 40.5% has continued elementary and junior high schools and only 19% had been continued until high school. Means that women in rural Rabauh almost free of illiteracy, but in the economic ability of population in Rabauh to acquire education up to college is still lacking, where there are total respondents no education up to college.

In order to support the 9-year compulsory education, through PM2L has helped build a new elementary school building because the old one is unfit for use. PM2L not involve women directly in the education program for take a course or training and skills as example.

Tabel 2. Study childhood education in rural rabauh

Child Education Level	Amount	%
Kindergarten	0	0
Elementary school	31	83,8
Junior high scool	1	2,7
Senior high school	4	10,8
Diploma/undergradutae	1	2,7
Total	37	100

Based on Table 2, qualification children in the Rabauh no one were attended kindergarten, so for early childhood education has not been included due to the unavailability of kindergarten building. Children respondent started his education from the primary level is 83.8%. There is a child of the respondents who have completed their education up to the Diploma is 2.7%. This indicates especially women in Rabauh have realized that education is crucial to the highest level to eradicate poverty and underdevelopment.

C. Health program

Women's participation in government programs in Gunung Mas is quite large. Respondents expressed when their children are sick they chose to come to the nearest health center called *Pustu*. In order to improve the health of mothers and children, the government has provided integrated health posts called *Posyandu* which provided services immunization and prevention of malnutrition that can be utilized by rural communities, especially women in Rabauh to check the health of mother and child.

Table 3. Rabauh rural women's participation in the activities of posyandu

Posyandu Activities	Amount	%
Joint	23	62,2
Not joint	14	37,8
Total	37	100

Data of respondents stated that participate in the activities of *Posyandu* 62.2%, where 37.8% did not participate as shown in Table 3. Most of the respondents stated that their children had been fully immunized. Meaning that the women's participation in health program is not active as implementers and cadres but only involved as a participant.

Further, 67.6% have participated in Family Planning called KB, where contraceptives are the most widely used syringes which amounted to 59.5% and 8.1% were using the pill, while other contraception is not used with inconvenience reason. Respondents were not involved the planning prgram is 32.4% due to the inconvenience factor are old and widowed as shown in Table 4.

Table 4. Participation of women in family planning and contraception

Planning Family Program			Contraception		
	∑	%	Jenis	∑	%
Followed	25	67,6	Spiral	0	0
			Injection	22	59,5
			Pill	3	8,1
			Calendar	0	0
Not			Other	0	0
	12	32,4			
Total	37	100		25	67,6

The response of women to PM2L is quite good, especially availability of clean water from artesian wells that have been installed in Rabauh to facilitate them in obtaining clean water for cooking and drinking water, and toilets used in house first then they should go to the river.

D. People's economic empowerment program

Respondents are housewives 40.5%, 56.7% is farmers, and as merchants is 2.7%. This situation possible because mostly come from family farmers who are actually trained or conditioned to help work in agricultural program as indicated in Table 5.

Table 5. Types of women rural works Rabauh

Occupation	Number of Respondents	%
Housewife	15	40,5
Farmer	21	56,7
Trader	1	2,7
Government officer	0	0
Other	0	0
Total	37	100 %

The main source of income for most families 94.6%, followed by planting from tapping rubber of total respondents (vegetable rice and trade) respectively is 2.7%. To improve the welfare in Rabauh through PM2L has donated 20 thousand rubber seeds, fertilizer and 50 pigs. The aid distribution carried out by local village officials to several households. Women in Rabauh are not directly involved in the distribution of rubber seeds, fertilizer, livestock pigs. Their involvement only in the planting and maintenance of rubber seeds as well as helps maintain pigs. The pitch turned out to help pigs amounted to 35.1% but some pigs that died in the amount of 13.1%. According to respondents this is due to the help of pigs is given at the age of weaning is not ready as indicated in Table 6.

Table 6. Sources of family income

Main income sources	Number of Respondents	%
Planting vegetables and rice	1	2,7
Tapping rubber	35	94,6
Trade	1	2,7
Sell wicker	0	0
Bussiness salon	0	0
Total	37	100

In order to help the economy of rural communities PM2L also provides assistance in the form establishment of savings and credit cooperatives has named *Suka Maju*. According to respondents, women's involvement in the cooperative is not visible because the cooperative newly formed and has not received aid.

Table 7. Rural women's participation in the meeting rabauh village and farmer groups

Attendance	Number	%
Never	8	21,6
Once before	1	2,7
Sometimes	21	57,8
Often Comes	7	17,9
Total	37	100

According to respondents or farmer groups in Rabauh village where average age of farmers from 25-50 years old and most are women who are married, while the respondents who attended a village meeting are majority of men. Based on data in Table 7, the women involvement in village meetings still lacking, which the highest attendance 57.8%, sometimes present 17.9% and 2.7% are often present ever once present and who never attended 21.6%, when added together female respondents who agreed to attend is 78.4%. Approximately 24.3% of them will issue an opinion and approximately 75.7% in the group not came without any reason as shown in Table 8.

Table 8. Women's participation in speech

Give Opinion	Number	%
Yes	9	24,3
No, Because	28	75,7
Fear of being wrong	16	57,1
Shame	12	42,9
Do not understand	0	0
Not permitted	0	0
Other	0	0

This situation due to they are not accustomed to express opinions in the family, so results of the survey can be found women who had never convey ideas at the time of the meeting.

Table 9. Farmer groups in the village of Rabauh

Farmers Group	Number	%
Follow	11	29,7
Not	26	70,3
Total	37	100

In Table 9, members of the women farmer groups only 29.7%, meaning that the empowerment of women in rural Rabauh quite low. This is due to the village has been no activity specifically women's empowerment programs such as training courses or sewing, cooking and weaving. To add to their knowledge, members they should be included in the course, both are held by the Department of Agriculture and the Bureau of Women's empowerment. In Table 10, known high women's desire to participate in training activities, namely tailoring 40.5%, making cakes/cook approximately 35.2% and 24.3% braiding.

Table 10. Training skills

Skills training	Number	%
Sew	15	40,5
Baking and Cooking	13	35,2
Weave	9	24,3
Other	0	0
Total	37	100

3.1.2. Tanjung Untung Village

In the village of Tanjung Untung conducted a survey of thirty women or 11.8% of the 253 female populations of the village of Tanjung Untung obtained data as follows:

Respondents who attended a range of 20-50 years old and 30-40 years of age dominated, 100% of respondents were married and 10% of them married a widow with age range of 17-20 years old.

a. Basic Infrastructure Development Programme

Government agencies in collaboration with Department of Public Works through PM2L provide assistance in the form of construction of river ports, culverts and manufacture along the village road. Transmigration Provincial Office provides assistance in construction of water supply by 2 pieces of hand pumps. Women's participation in the activities is not active directly but their roles in the future are expected to be actively established. The electricity was not sufficient and uses other source of electricity such as genset.

b. Education Programs

Based on 30 respondents were recorded, none of the respondents were not in school, and all respondents can read and write, with a range of up to elementary school education 40%, junior up to senior high school is 36.7% and 23.3% as indicaed in Table 11.

Table 11. Distribution education level women (wife) and man (husband)

Education level	Women (wife)		Man (husband)	
	Number	%	Jumlah	%
No school	0	0,0	0	0,00
Elementary school	12	40,0	5	16,7
Junior high school	11	36,7	8	26,7
Senior high school	7	23,3	11	36,7
Diploma/undergraduate	0	0,0	1	3,3
Total	30	100	25	83,4

Table 11 shows the educational level of women is lower than men (husband) where women are at most only reach the level of elementary and junior high school education level whereas men at most levels of education to high of 36.7%, while the junior high school by 26.7%, and 16.7% for elementary school. In Tanjung Untung village there are only kindergarten and elementary school.

Table 12. Level of education in tanjung untung's child

Child education	Number	%
Kindergarten	12	40,0
Elementary School	22	73,3
Undergraduated	0	0

Based on Table 12, qualification of children in Tanjung Untung village there has been a kindergarten, where respondents send their children around 40%, children respondents who took some education from elementary is 73.3%.

Mamangun program in Tanjung Untung for education is to do maintenance for classroom is elementary school Tanjung Untung in order to support the 9-year compulsory education program. However, this program does not involve women in the village of Tanjung Untung

directly to implement. In order to build knowledge at Tanjung Untung female respondents throught television information 50% and 23.3% from radio as indicated in Table 13.

Table 13. Respondent's facility information

Information Facility	Jumlah	%
Nothing	8	26,7
Radio	7	23,3
Television	15	50,0
Books/Newspapers/Magazines	0	0,0
Other	0	0,0
Total	31	100

c. Health Program

Based on Table 14, around 73.3% of respondents were active as FP and only 26.7% are not as FP. Participation of respondents who followed the KB program by support stop the increasing number of children, respondents FP 30% have 3 to 4 childrens, 23.7% have 1 to 2 childrens, and 20% of respondents had childrens > 5.

Table 14. Number of children and planning family (KB) participants

Number of child	Participate KB		Not participate		Total	
	∑	%	∑	%	∑	%
Not available	0	0,00	2	6,7	2	6,7
1 - 2	7	23,7	2	6,7	9	30,0
3 – 4	9	30,0	1	3,3	10	33,3
>5	6	20,0	3	10,0	9	30,0
Total	22	73,3	8	26,7	30	100

In Table 15, PF respondents mention contraception most widely used is the injecting 72.7% and 9.1% were using the pill, 26.7% of respondents who do not use birth control because it has been argued that older, no children, and widows.

Table 15. Contraceptive use

Tool	Number	%
Spiral	0	0,00
Injection	16	72,7
Pill	2	9,09
Calendar	0	0,00
Other	0	0,00
Total	18	81,8

The 53% of respondents actively comes to Posyandu, 30% are not active. Respondents who had their children immunized complete is 76.67% as indicated in Table 16.

Table 16. Posyandu and childhood immunization

	Aktive Pos Yandu		Complete Imunization	
	Number	%	Number	%
Yes	16	53,0	23	76,7
No	9	30,0	0	0
Total	25	83,0	23	76,7

Tanjung Untung village women's participation in Posyandu plays an active role as well as a cadre is three peoples. This ata obtained from interviews with medical personnel and cadre's *Pustu* in the village. Posyandu activity such as child's weight, immunization and improvement of malnutrition are done every 3 months. Respondent awareness of children health is quite good. 90% of them, when children sick will delivery to health centers for treatment as shown

in Table 17, although community health clinic has only one paramedic with limitations of medicine and facilities.

Table 17. Treatment of children

Treatment	Number	%
Buy drugs in shops	2	6,7
Buy drugs at pharmacies	0	0,0
Seeking Pustu	27	90,0
Village treatment	1	3,3
Total	30	100

In order to increase public awareness of healthy living, PM2L has provided assistance such as hand pump, but the device does not function properly, so residents around the village in obtaining clean water from springs that supplied to each home for cooking and toilet, some respondents taken from the river.

Table 18. Toilet facilities

There latrines in	At home		No		Total	
	∑	%	∑	%	∑	%
At home	6	20,0	0	0,0	6	20,0
In The River	2	6,7	22	73,3	24	80,0
Public Latrine	0	0,0	0	0,0	0	0,0
Total	8	26,7	22	73,3	30	100

Based on Table 18, respondents who had their own latrines at home is 20% and 80% of the respondent use toilet in the river.

d. People's economic empowerment program

Table 19. Female job type

Occupation	Number of respondents	%
Housewife	24	80,0
Farmer	6	20,0
Trader	0	0,0
Government officer	0	0,0
Other	0	0,0
Total	30	100,0

In Table 19, there are 80% of respondents are housewives and only 20.0% as farmers, while their husband is 90% of respondents are farmers.

Table 20. Sources of income families

Main income sources	Number	%
Planting vegetables and rice	1	3,3
Tapping rubber	28	93,4
Trade	1	3,3
Sell wicker	0	
Open the tailoring	0	
Business salon		

The main family income is from rubber tapping is 93.4% and only 3.3% sourced from vegetable farming and trade as in Table 20. The PM2L program cooperation with Department of Labor donated sewing machine tools 2 pieces, 1 piece of machinery and equipment obras sewing material and sewing skills training for 15 women.

Bureau of Women's Empowerment in PM2L provide activities such as skills training and processing of agricultural products as well as cash assistance 15,000,000 IDR. The funds are divided to be managed by three groups, each received 5,000,000 IDR to develop skills

activities such raising broilers, orchid, cultivation/dispensary life and skills woven and carp cages. Women's attitudes toward these activities are very enthusiastic play an active role in which each group has clear organizational structure management led by the chairman of the group, secretary and 7 members. Each group is responsible for managing the business to succeed.

Women's participation group orchid cultivation/Pharmacies life has manage their business by providing seeds, polybag, paranet and fertilizers. As for the activities of their weaving skills provide raw materials such as rope billion (square of stiff plastic strap 1cm) and rattan obtained from the forest. Women's participation is fish cages group, their job activities by providing cages, seed carp, and feed.

The success of groups in manage their business become Pionier in empowerment of women in Tanjung Untung village. In addition to the above activities, the Veterinary Service through PM2L provides assistance of pigs by 50 tails to the family head in Tanjung Untung. In Table 21, a 66.7% of respondents had received pigs and 30% did not receive livestock support. Respondents who received assistance pigs goes up to 40% and 20% said pig livestock die due to several reasons.

According to data from Provincial and District (2008), PM2L rubber seedlings donated 500 rods and dolomite lime and fertilizer. The assistance is planned to be planted in the ground of the village. In Table 21 showed 76.7% never acquire agricultural material assistanc, 16.7% received help in the form agricultural materials. 93.3% claimed never received any support.

Table 21. Help villagers

Help	Agriculture materials		Livestock seeds		Agricultural Equipment	
	∑	%	∑	%	∑	%
Ever	5	16,7	20	66,7	0	0,00
Never	23	76,7	9	30,0	28	93,3
Total	28	93,4	29	96,7	28	93,3

In Table 22 which is 70% of respondents expressed no farmer groups, and 26.7% stated that there is a group of farmers in his village. Women's participation in farmer groups proved an 80% of respondents claimed not to join the group and 16.7% of farmers participating in groups.

Table 22. Farmers in the village

Kelompok Tani	Participate Farmers Group		Not participate		Total	
	∑	%	∑	%	∑	%
There's farmer group	5	16,7	3	10,0	8	26,7
No farmer group	0	0	21	70,0	21	70,0
Total	5	16,7	24	80,0	29	96,7

PM2L activities cooperation with Department of Cooperatives and SMEs shows women's participation in the activity is very low, as shown in Table 23. 86.7% of respondents did not join and 3.3% who are members of the cooperative due to newly formed cooperative units and the absence of a savings and loan funds are intended for members.

Table 23. Women's participation in cooperative activities

Cooperation	Number	%
Follow	1	3,3
Not Participate	26	86,7
Total	27	90,0

The participation success throught government programs in their activities such as PKK organization, as in Table 24, 26.7% of respondents said the head of women's leadership style is patient and gentle. For instance, the organization has strong contribute to reduce solid waste in Surabaya and surrounding (Amheka, Higano, Mizunoya and Yabar, 2015)

Table 24. Perceptions of women on women's leadership style chairman

Leadership Style	Number	%
Patient	8	26,7
Soft	8	26,7
Firm	6	20,0
Grumpy	0	0,0
Other	0	0,0

Respondent participation in the following activities is 10% had never participated in a village meeting, while often participate in meetings is 13.3% as showed in Table 25. Where when there is a time that is 73.3% of respondents their presence sometimes.

Table 25. Respondent's participation in village meetings

Meeting atrtendance	Number	%
Never		10,0
Once		0,0
Sometimes		73,3
Often		13,3
Total		96,7

In the meeting is 30% who give opinion and expression and 53.3% did not issue an opinion, not understood 20%, afraid 16.7%, was not given a chance 10%, and shy of 3.3% in Table 26.

Table 26. The view husband with women's activities

The views	Number	%
Disturb household	0	0
Adding insight	30	100
Strengthen relationships	0	0
A waste of time	0	0,0
Just throwing money	0	0,0
Total	30	100

The women participation to work outside home has support of her husband. Husband respondents to the activities of women considered to be very positive as shown in Table 26.

3.1.3. Hantapang village

a. Basic Infrastructure Development Programme

Water supply construction in Hantapang village is a relief from government in collaboration with Department of Population and Transmigration through PM2L to provide clean water for the villagers. In the village also has done any installation Solar Power Facility as government assistance in collaboration with Department of Mines and Energy Gunung Mas through. Women's participation in PM2L program particularly in basic infrastructure development program seems inactive and only involve as a receiver and connoisseurs of aid.

b. Education Programs

PM2L cooperation with Department of Education and Culture was renovating classrooms of elementary school Hantapang Mujai for 9-year compulsory education program. In order to improve knowledge and skills for school children, the government cooperated with office of the Provincial Community Empowerment provide assistance to improve capacity building of tachers (woman).

c. Health Program

PM2L cooperation with Provincial Health office provides assistance called *Jamkesmas* card and has involved woman participation.

Provincial health department in Central Kalimantan still develop support to Pustu/Polindes in Hantapang village and Health office of Gunung Mas provide additional food aid for the severely malnourished. In order to improve health services for mothers and children, the

government cooperated with office of Provincial Community Empowerment through PM2L provides financial assistance for the development of integrated health.

d. People's Economic Empowerment Program

In order to improve welfare of the villagers, the government in collaboration with several agencies through PM2L provides 500 rubber seedlings, 2 tons of dolomite lime and 100 Kg fertilizers to farmers' groups. Handtractor assistance has provided by Department of Agriculture of Central Kalimantan and Gunung Mas. Office of Community Empowerment of Central Kalimantan donated carpentry tools 1 piece. Department of Social Welfare Gunung Mas donated 10 pigs to youth group.

Women in village Hantapang trained technical skills in small industrial to produce cassava chips provided by the Department of Industry and Commerce.

3.2. Discussion

The discussion outlined an explanation of women's participation in PM2L Program in Gunung Mas:

3.2.1. Basic Infrastructure Development Programme

Rabauh rural women's participation in PM2L program particular on basic infrastructure development program are inactive involved, which only as a receiver and connoisseurs of such assistance similar with Tanjung Untung and Hantapang village. This is understandable because the infrastructure provided by government is in the physical form in which the implementation handled directly by the concerned government organizations. So the villagers, especially women PM2L in the district not directly involved. This means the gender analysis is considered to provide a positive impact. The positive impact can be seen in basic infrastructure development assistance in each village (Rabauh, Tanjung Untung and Hantapang) in Gunung Mas include the construction of paved roads, river ports, solar power and other sources of clean water wells drilled will greatly assist in advancing the village itself both in terms of the accessibility of exit and entrance of the village, the ease of obtaining information and the use of electronic tools and improving the quality of life of the villagers.

Problems encountered in development programs are still lack of basic infrastructure facilities and access road out to the village, especially in the village of Tanjung Untung. While hand pumps were built, the water does not flow smoothly so it can not be fully utilized. The existence of solar power has been quite helpful but will be maximized if the governments pursue rural electrification in order to increase the effectiveness of work of the villagers and enable to improve regional competitiveness prior engaged on ASEAN Economic Community and preparation to enter SDG's post MDG`s of Indonesian government by 2015 (Amheka and Higano, 2015; Amheka, Higano, Mizunoya and Yabar, 2014)

3.2.2. Education Programs

The women participation in PM2L program to increase education access is not directly involved because the activities carried out is still a physical activity that involves government agencies such as implementation of rehabilitation of elementary school buildings. Female villagers (Rabauh, Tanjung Untung and Hantapang) generally have realized the importance of education both for themselves and for their family members.

Educational attainment is not measured by a factor of intelligence, but measured by formal and non-formal education was undertaken. Education is the main requirement of basic human capability development. Through education, particularly formal education, one can increase his knowledge. Clearly, the person's level of education attained the more potential for self-development to improve the quality of life better. For women, higher education will have a very positive impact, besides being able to empower themselves, education also can free women from the shackles of a culture that tends to favor men. With better education levels, women are expected to be qualified human resources and efficiently for the benefit of himself and her family. Furthermore, in family, woman can expected produce young generation who more qualified and able to contribute to the advancement of the nation.

Expectations of rural women (Rabauh, Tanjung Untung and Hantapang) is getting a dedicated teacher, donated books to the library, the educational scholarships, as well as the assistance of qualified rehabilitation of school buildings. It added that the construction of educational facilities such as school buildings, not only in building rehab Elementary School , but also school buildings need to be built to a higher level in order to achieve a government program which is a program of compulsory 9 year.

As for the village women itself, expects more attention to the government in providing non-formal education such as training or vocational courses.

3.2.3. Health Program

In general, the villagers Rabauh, Tanjung Untung and Hantapang already have an understanding of the importance of health. From the liveliness of the respondents in the decision to follow the family planning program in the form of health care, immunization, bringing awareness to *Pustu* child, maternal and child health, poor nutrition and healthy living.

The assistance of PM2L water facilities will make it easier villagers in obtaining clean water before they should take from the river, so the cooking and sanitation activities can be done at home. But overall, not all households in three villages mentioned above the sanitation is activity at home, but still in the river. From the data of respondents described the village women's expectations will be bidets assistance in order to facilitate them in activities sanitation at home. If possible, this should be a concern to relevant government agencies.

3.2.4. People's Economic Empowerment Program

Women's participation in economic empowerment program in gender analysis had a positive impact. The positive impact is felt by women from government assistance through PM2L is to improve the economy of the villagers Rabauh, Tanjung Untung and Hantapang in Gunung Mas.

Gender-responsive relationship with women's participation in PM2L on economic affairs of people by the female respondents in Desa Tanjung Untung at fair value, as seen in the activities of group formation and skills of women who held firm funded by the empowerment of women. The group was formed specifically to develop Tanjung Untung rural women in order to organize properly, add insight, knowledge, more confident and independent and able to develop their potential so that owned the role and presence of women in the village no longer is retarded men, in addition they can be a good example for other rural women. While women's participation in village PM2L Hantapang Rabauh and gender responsive judged less, this can be due to the absence of program activities that support for coaching them to be more independent and self-development potential such as in the village of Tanjung Untung.

The need for direct guidance and monitoring of the government against programs that have been implemented as a follow-up of the establishment of the cooperative form of stimulant funds, mentoring skills activities and the provision of infrastructure for business marketing skills.

Productive economic activity itself is the fulfillment of the economic rights of women is increasingly perceived as one of the basic requirements to deliver an order of women in the struggle for justice and gender equality to improve the welfare of the family. With the functioning of the economic rights of women are expected family income increased, will increase the satisfaction of basic needs and social needs of families which will further support the efforts to achieve national development goals and the Millennium Development Goals.

If it would be more humane development, where the villagers used the subject as well as object, then knowledge about the aspirations, hopes, ideals needs/problems, knowledge and skills as well as other potential community-owned village is valuable to be met, enhanced and developed.

4. Conclusion And Suggestion

4.1. Conclusion

Women's participation in the PM2L program, in gender analysis of policies and programs implemented rated positively impact women, but when viewed in terms of gender equality as the direct involvement of women in the executive cadre or the above-mentioned program is still less empowered.

Should PM2L in the coming years more directly involve the participation of women in every program PM2L priority, and PM2L overall implementation in Gunung Mas District is necessary government support continuously in terms of coordination, monitoring, evaluation. Further, PM2L in the future to be successful required more directed coordination, supervision, and a clear division of tasks between the relevant government agencies from Provincial and District government.

4.2. Suggestion

a. Rabauh village

- Bureau of Public Empowerment should make women skills training programs (weaving, sewing, making cakes) and grooming for independent business
- Department of Education and Culture of kindergarten and junior high school building as well as providing scholarships for excellent childrens.
- Expect the rural electrification
- Department of Transportation should provide transportation
- Forest Service, Department of Agriculture, Department of Animal Husbandry and should plan and implement the program extension and training product utilization and agriculture.

b. Tanjung Untung village

- Department of Public Works should improve access roads to the village were damaged
- Expect the rural electrification
- Propagated family skills training for rural women
- Health facilities such as medical personnel, medicine and health education more intensive
- Assistance in the home closet (sanitation) for villagers
- The existence of coaching on any activities implemented

c. Hantapang village

- Department of Public Works should help build village roads
- PLN should go up to the village
- Department of Education and Culture should build kindergarten and junior high school buildings
- Empowerment of women should be increased due to advance public awareness of existing

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ALBANIAN BANKING EFFICIENCY ANALYSIS: A PRODUCTION DEA APPROACH - COMPARISION OF CRS AND VRS MODEL

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Abstract

For performance evaluation purposes of economic entity one should consider different aspects of its activity. In case of banks this objective is quite difficult since they offer a wide range of services and the activities performed are such complex. Researchers all over the world have adopted different approaches and techniques for bank evaluation from different point of view: from shareholder`s or regulators. From the literature review we cannot observe the most preferred approach implemented for this purpose. Last years the economic models , parametric and non-parametric approaches have gained much interest in the field. In this study we propose a non-parametric approach for bank evaluation known as Data Envelopment Analysis (DEA). Shortly, here in it is presented the DEA background and its development from the original work of Charnes, Cooper and Rhodes (1978), followed by a literature review on the implementation of this approach in the banking sector in the region and more. Third, there are discussed some important issues on adoption of DEA in banking sector followed by its implementation in Albanian Banks for 14 out of 16 banks, for the period from 2006-2013. We found that larger and smaller size banks can be either efficient and the inefficiencies are found also from different capital ownership.

Keywords: efficiency, DEA, production approach, CRS, VRS, Albanian banks
JEL classification: G210

1. Introduction

According to literature review there are two main deterministic approaches for efficiency evalua-tion: parametric and non-parametric. DEA, as a non-parametric approach, is a data oriented model for evaluation of relative efficiency of a set of economic entities called as decision making units (DMU), which convert multiple inputs in multiple outputs (Cooper, Seiford, Zhu:2004). The term DMU is flexible since it was first used for the purpose of implementing DEA approach in different sectors. Then it was used in evaluating the efficiency of profitable and non-profitable entities, government units, educational institutions, study program etc. During the last years, DEA is used in different con-text, countries and purposes due to a few number of constraints which allow a successful implementa-tion.

The first efforts made from Farrel (1957), were followed by the introduction of the linear pro-gramming terms from Rhodes (1966) and Afriat (1972). The final shape of the model was material-ized from Charnes, Cooper and Rhodes (1978), which called the approach Data Envelopment Analy-sis. The basic concept of this approach relates to efficiency evaluation which consist on the opportu-nity to estimate the outputs relative to inputs consumed to realize them.

Through DEA, we can estimate different aspects of efficiency like technical efficiency (TE), allo-cative efficiency (AE), cost efficiency(CE), scale efficiency (SE) etc.

TE represents the input conversion in outputs relative to the best performer of the DMU group. TE changes due to the size of operations known as SE, or due to management practices known as non-SE. AE refers to the situation when in every production level, inputs are used

in that proportions in order to minimize the production costs where the input prices are known.

On the other hand if a DMU operates in circumstances of TE and AE, with a known production level, quality and output mix with minimal costs, in terms of known technological level, it is the case of CE.

In their first model CCR, Charnes, Cooper and Rhodes proposed that the efficiency can be achieved from any DMU if it can maximize the ratio between the weighted outputs relative to its weighted in-puts, subject to the situation where all other DMU`s are evaluated with the same efficiency ratio which can take values from 0 to 1.

This definition was presented in the following form:

ors and x_{2j} = number of nurses used by
;) y_{1j} = number of outpatients and y_{2j} = (1)

ure the efficiency of each DMU once and
each DMU_j to be evaluated. Let the D

y_{rj}, x_{rj}, represent the known outputs and inputs of DMU j, and u_r, $\upsilon_i \geq 0$, are the variables weights that are generated from the solution of the model. This model is known as the Primar Model of DEA. So through DEA we can estimate from a group of **n** DMUs that consume **m** inputs to produce **s** outputs, which is or are more efficient relative to the others. DEA is an approach which is oriented through frontiers and not to central tendencies, identifying in this way the set of efficient DMUs. The other DMUs are compared to the efficient ones. So the relative efficiency score is from 0 to1. The relative efficiency allows us to estimate the efficiency of DMUs also if we do not have information of input prices or variables weights. If the input prices are known than TE can be either developed in terms of AE and PE(price efficiency).

The first improvement to the above models were made by Banker, Charnes and Cooper (1984) referring to the returns to scale. The basic DEA models were developed under constant return to scale (CRS) which means that an increase in the amount of input is followed by the proportional increase in the amount of output. The new DEA model, BCC, was extended to the fact that DMUs perform usually at different return to scale known as variable return to scale (VRS) in either input or output maximization. So in this context, VRS means that an increase in the input amount may decrease or increase the output quantity non – proportionally.

According to Anounze (2010), since models with CRS give the same results, their application is equal if it is expressed in terms of number of studies. On the other hand he states that the CRS model should be used if all the banks operate in optimal operating scale otherwise the VRS model should be used. In banking sector factors like imperfect competition, market concentration, bank regulation etc. affect condition of the operating environment (Wheelock,Whilson:1999).

Avkiran (1999) dhe Noulas (1997) state that the CRS model is more favorable since it allows to compare banks with different size. This model was the base for further improvements. The most important improvements to the basic DEA model, according to Cooper, Seiford, Zhu (2004), Hayes (2005) can be grouped as below:

discrete and non-discrete variable-some variables are important to the analysis and some others not. Some of this variables are under control of management while the others not.

-categorical variables- in some cases variables are not expressed in quantity measures so this should be considered in DEA approach.

-apriority limitations of the weight variables- the basic models are based on the fact that the variables must have zero or positive values.

-relationship between weights of variables-a given amount of output needs a given level of input.

-variable substitution-sometimes is common where different DMUs consume different levels of inputs and realize the same level of output. In this case there is a relationship between the inputs rather than input-output.

Later some other forms of DEA are called “additive” and “multiplicative”, also some modifications are made due to the limitation of the value of variables since all of them have

positive values. The latest forms known as RDM (Radial Measure), SORM (Semi Oriented Radial Measure) and VRM (Variant Radial Measure) consist on the modification of DEA forms considering the new variable values.

2. Literature review

According to Moulynex (1996) for financial bank evaluation the first users of DEA were Sherman and Gold (1985). Seiford (1995) classified about 400 studies till 1995 while Emrouznejad (2008) declared that the publications which adopted DEA were increased about 226 per year for the period 1995-2005 and about 360 per year from 2003-2007. If we refer to the banking sector in 2007 there were about 135 journal published papers (Emrouznejad, 2008). According to Berger and Humphrey (1997), who realized 130 parametric and non-parametric studies in 21 countries, about 75% of the studies werw realized in financial institutions in USA, 20% in other developed countries and only 5% in developing countries like Mexico, India etc.

DEA is implemented also in developing countries from different researchers (Arjomandi,2011). Actual studies in these countries are focused in identifying the inequality between banks with different size and ownership. Among other reasons we can distinguish the developing level of the banking system of these countries, banks may be government owned, or the privatized banks are followed by foreign investments.

According to Arjomandi (2011) there are two main directions that drive bank efficiency evaluation in developing countries: first, in order to evaluate the policy implementation for banks and from banks such as the effect that privatization, market structure and mergers and acquisition between banks can affect their efficiency. Second, DEA is used for efficiency comparison in different time periods.

Casu and Moulynex (2003) realized a study for productivity evaluation purposes in EU banks from 1993-1997, at the time of UMP (Unified Market Programm), to identify if there is a convergence between 750 banks studied. They found that there was little improvement in productivity efficiency except Italy. The differences identified between banks were due to specific aspects of information systems adopted from banks in different countries. As a result the UMP had not given the right results in the period of study.

Hallo and Naggy ( ), realized a study for evaluation of efficiency differences in banks from new EU member countries against banks from older EU member countries. The study was realized in 2459 banks, from 25 EU member countries for the period 1999-2003.

From the study the new member EU countries showed weak X-efficiency and profit efficiency compared to the older member countries.

Other important studies on bank efficiency evaluation that have adopted DEA are; Comanho and Dyson (1999, 2005, 2006), Vujcic and Jeremic (2002), Fiorentino, Karmann and Koetter (2006), Brown (2006), Sherman and Zhu (2006), Sherman and Rupert (2006), Das et al (2007), Pasioras (2007), Noulas et al (2008), Kosmidou and Zopounidis (2008), Tahir et al (2009), Toci (2009), Nitai (2009), Brack and Jomboreon (2009), Havraneck and Irsova (2013), Titko and Jureviciene (2014) etc.

The authors mentioned above have implemented different forms of DEA in their studies.

Finally we can conclude that there are some important opportunities to implement DEA since:

- It is not necessary to define the production function between the variables,
- Through the studies are found relationship between variables that cannot be identified with other methods,
- The variables selected for analysis can be of multiple kinds,
- The variables can be measured in different units,
- The inefficiency source can be measured and analyzed for any DMU,
- It can be used even there are a small number of DMU under study.

On the other hand there are some constraints that limit DEA application or have to be considered carefully during implementation:

- The results are sensitive to the selection of the variables,
- The results cannot be statistically tested,

- With the increase of the number of variables there is the possibility that the number of the efficient units in the frontier increases too. There is a limitation in the number of the variables selected, usually the number of variables should be 1/3 of the DMUs in the sample, (Avkiran, 2010)

3. Data and Methodology

According to Berger and Humphrey (1992) commercial banks represent a service industry for which it is difficult to identify the output, technological change and productivity increase. The variable identification and selection process for DEA implementation purposes in banking sector is still developing. This can be observed from the above mentioned studies.

The process of variable selection- inputs and outputs- is a very important part of performance evaluation. Actually, there are three main approaches for this purpose in banking sector. First, asset approach, known also as intermediation approach (Humphrey, 1985), value added approach known also as production approach and user cost approach. Each of the above approaches is based on the traditional micro economy theory in the banking sector. Their difference consists on the way the banking activities are defined (Kumar, Gulati, 2014).

The production approach, first mentioned by Benston (1965), considers banks as service providers and does not any categorical distinction between inputs and outputs. Outputs are considered the services the banks offer to its clients like number of transactions realized, number of documents filled etc (Kumar, 2014). If this data is not available, then can be used the number of deposit accounts, loan accounts etc., while for inputs one can consider physic variables like labor, number of employees, information systems or their respective costs. This approach focuses on operating costs, avoiding interest and revenue expenses.

Asset approach proposed by Sealey and Lindley (1977), considers banks as intermediary institutions that receives deposits to convert in assets like loans, commercial investments etc. The most important difference between the two approaches is the treatment of deposits. Asset approach considers deposits as input while the production approach as output. Neither of the approaches cannot represent all the functions that a bank fulfills. The production approach was met in studies of Cook, Hebabou and Tueter (2000), Comanho and Dyson (1999,2005,2006), Porembski et al (2005), Sawlati and Paradi (2004), Giokas et al (2008b), Sherman and Zhu (2006) etc.while the asset approach was met in studies of Parkan and Wu (1999), Das et al (2007), Noulas (2008), Giokas (2008a), Athanassopouss and Giokas (2000) etc.

Finally, the user cost approach selects the inputs and outputs according to the net contribution the variable gives to the bank revenues. Hancock (1985) was the first that used this approach in the banking sector in order to determine the weights to alternative assets and liabilities for output index and price output calculation.

For variable selection purposes there is another point of view. Marita and Avkiran (2009) propose statistical experiments to distinguish variables in inputs and outputs. They suggested that inputs should be considered those undesirable variables and vice-versa for outputs. In their study they used external variables as Nikkei Index 500.

Anounze (2010), reviewed 204 studies about bank efficiency from which 109 used DEA forms. He found that about 63% of the studies used asset approach, and 19% of the studies used the combination of asset and production approach. The most interest of this review was that deposits were considered as inputs in 148 studies and outputs in 48 ones[1].

Lou, Bi and Liang (2012), proposed the cash flow added for variable selection. They implemented this form on Chinese banks, using the financial statements data.

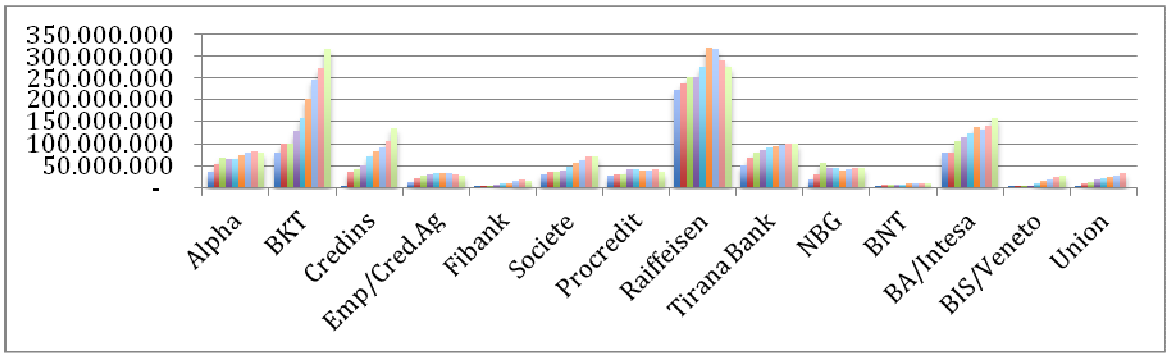
After analyzing the above studies we can conclude that in all the variables considered neither of them reflect the risk inherent in bank activity. So, it is important to include either variables that reflects somehow bank risks.

[1] Abel Anounze (2010), "Evaluating Productive Efficiency.Comperative study of commercial banks in Gulf Countries", PhD thesis, p. 40-65

4. Empirical Analysis

Banking system in Albania is comprised of 16 banks two of which are Islamic banks and are excluded from the analysis. The rest are commercial banks mostly foreign ownership: Alpha Bank Albania, National Commercial Bank (BKT), Credins Bank, Credit Agricole Albania, First Investment Bank, International Commercial Bank (BNT), National Bank of Greece (NBG), Tirana Bank, Procredit Bank, Raiffeisen Bank Albania, Societe Generale Albania, Veneto Bank, Intesa San Paolo (ISP) and Union Bank. Herein is presented the trend of bank activity increase during 2006-2013. BKT and Raiffeisen Bank are the largest banks in the country with Turkish and Austrian ownership respectively, the second group in size may be Alpha Bank, Tirana Bank, Credins Bank and Intesa SanPaolo Bank with Greek ownership (the first two), Albanian and Italian ownership the last. While in the third group we can include Credit Agricole Bank, Societe Generale Bank with French ownership, Procredit Bank with German ownership and NBG with Greek ownership. The last group are the smallest size banks like First Investment Bank, BNT, Veneto and Union Bank.

Graph 1. Assets of banks from 2006-2013 (in ALL)



Source: Author's presentation (Annual Reports)

From the observations we see that until 2011 -2012 there is an expansion in bank activities while at the middle of 2012 and on some banks are restructured or even decreased their coverage in terms of employees, number of branches and capital employed.

Almost the same trend is observed in other variables like number of employees and bank branches.

For this study is chosen the production approach for variable selection purposes. In this context the inputs are: number of employees, number of bank branches and capital (expressed in ALL), while for outputs are considered the deposits (expressed in ALL).

In this way the number of variables (inputs and outputs), fulfill the constraint requirement ($3 + 1 \leq 14 \times 1/3$). The analysis was based on the annual reports of the banks from 2006-2013. For this study we employed the DEA model under VRS and output oriented and CRS output oriented.

These models should be solved in two stages. First by maximizing the output, ignoring slacks or wasted inputs and then optimizing them.

For data analysis is used DEAOS an online software. The descriptive statistics about the sample from 2006-2013 are given in appendix.

In our case n= 14, m=3, s=1 and we are trying to maximize the deposits in order to optimize the usage of inputs selected.

For the period analyzed there are calculated the efficiency scores under constant return to scale and variable return to scale or each of the banks. Also, it is important that before any calculation the data under evaluation are normalized due to differences in size between the banks under study.

Below there are presented the efficiency scores under CRS , output oriented.

Table 2: DEA-score, CRS model-Output oriented

	2006	2007	2008	2009	2010	2011	2012	2013	Av.
BA	100.00%	100.00%	94.81%	76.94%	64.95%	100.00%	84.22%	82.37%	0.879
BKT	100.00%	100.00%	100.00%	100.00%	100.00%	94.85%	100.00%	100.00%	0.994
BK	61.20%	94.86%	87.79%	94.00%	100.00%	74.30%	85.82%	90.93%	0.861
BCA	32.41%	29.36%	27.08%	28.02%	32.38%	27.65%	36.24%	42.38%	0.319
BPI	12.42%	6.72%	16.12%	31.46%	48.97%	43.02%	94.16%	100.00%	0.441
BSG	86.69%	52.80%	70.64%	61.65%	72.15%	68.92%	77.09%	74.56%	0.706
BP	56.91%	61.80%	55.27%	53.16%	70.90%	42.55%	69.85%	63.27%	0.592
BR	100.00%	91.36%	100.00%	89.32%	97.15%	100.00%	100.00%	90.16%	0.960
BT	67.87%	56.68%	58.14%	63.74%	75.57%	75.50%	79.18%	78.41%	0.694
BKG	39.42%	45.16%	40.38%	38.98%	52.30%	59.11%	60.85%	62.05%	0.498
BNT	25.80%	32.91%	28.31%	37.12%	37.43%	38.97%	44.82%	43.21%	0.361
BISP	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	1.000
BV	17.72%	22.00%	29.08%	27.30%	48.58%	47.85%	56.43%	62.58%	0.389
BU	14.00%	24.24%	62.44%	54.32%	75.39%	41.45%	100.00%	98.52%	0.588
Av	0.5817	0.5842	0.6215	0.6114	0.6970	0.6530	0.7776	0.7775	

Source: Author's calculation

Under normalized data set, we can compare the banks as DMU's, as presented above. From 2006-2013, the banks operate in different efficiency levels. As it can be observed there are calculated the mathematical average efficiency score for each of the banks and the average efficiency score per year of the entire system comprised of 14 banks. The only full efficient bank from 2006-2013 seems to be BISP. If we refer to the same group where BISP is classified, it has better performed than BA, BK and BT. The last three also has distinguished differences since BA is an efficient DMU for three of eight years, followed by BK one of eight, and the last one BT which has never performed at full efficiency. The first group seems to have differences too. BKT and RB are the largest banks in the system so it is expected also to be full efficient banks. As we can see, BKT had a decrease in 2011 but for the rest is efficient, while BR was efficient at half of the period. The largest decline in efficiency is observed in 2009. Since it is a very large bank, BR has significantly a large impact in system's efficiency. Among the small size banks, the one that improved its efficiency rapidly is BU which in 2013 is full efficient and BPI which has improved its position at the last years. On the other hand the rest of the banks has never been full efficient, and their efficiency scores are less than annual average. So, if we rank the banks for the entire period according to their average scores, BISP is followed by BKT, BR, BA, BK, BSG, BT, BP, BU, BKG, BPI, BV, BNT, BCA.

Table 3: Average bank efficiency scores for 2006-2013

DMU	Ranking	Group	Ownership	DMU	Ranking	Group	Ownership
BISP	1	2	Italy	BP	8	3	Germany
BKT	2	1	Turkey	BU	9	4	Albania
BR	3	1	Austria	BKG	10	3	Greece
BA	4	2	Greece	BPI	11	4	Bulgaria
BK	5	2	Albania	BV	12	4	Italy
BSG	6	3	France	BNT	13	4	Malaysia
BT	7	2	Greece	BCA	14	3	France

Source: Author's calculation

In the summary above it is obvious that large size banks are more efficient than small size ones, since the five first ranked are banks from the first and the second group. Relating to ownership of capital, there is not a clear result since Greek banks seems to be in the top five like BA, in the seventh rank like BT and in tenth rank like BKG. So differences in average efficiency may be due to the size, industry focus and practices from banks.

Another point of view of the CRS model, which is as important as the one described above, is the average annual efficiency score for the entire system. The annual average presented above, for each of the eight years, is not at optimal levels. It shows a light improvement on time, from 0.58 in 2006 to 0.77 in 2013. The efficiency frontier is made up from four banks in 2006 (BA, BKT, BR, BISP) and 2012(BKT, BR, BISP,BU), while for the rest of the period the number is smaller. It is interesting that among the largest full efficient in 2012 is at the same frontier one of the smallest size banks, BU. Even there are efficient banks in either of the years, the number of efficient banks is smaller compared to the inefficient ones. So, it must be considered the entire system performance, focusing on non-performing banks which would need more attention from stakeholders.

The second model chosen for bank efficiency analyze for the same period and data set, is VRS model –output oriented.

Table 4: DEA-score, VRS model-Output oriented

	2006	2007	2008	2009	2010	2011	2012	2013	Av
BA	100.00%	100.00%	99.77%	80.45%	100.00%	100.00%	88.00%	84.89%	0.941
BKT	100.00%	100.00%	100.00%	100.00%	100.00%	98.98%	100.00%	100.00%	0.999
BK	61.22%	100.00%	100.00%	100.00%	100.00%	75.47%	85.93%	92.44%	0.894
BCA	44.03%	35.27%	32.45%	32.51%	37.16%	31.47%	41.17%	44.28%	0.373
BPI	28.46%	24.80%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.817
BSG	100.00%	54.02%	77.98%	68.17%	78.65%	72.10%	85.96%	78.74%	0.770
BP	71.58%	63.99%	60.29%	55.15%	71.55%	43.37%	69.88%	66.91%	0.628
BR	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	1.000
BT	71.63%	60.98%	58.20%	64.46%	76.38%	76.72%	80.63%	79.74%	0.711
BKG	48.89%	50.10%	45.80%	41.72%	56.00%	66.57%	69.01%	68.63%	0.558
BNT	62.85%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	0.954
BISP	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	1.000
BV	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	1.000
BU	37.44%	37.28%	100.00%	91.77%	90.09%	45.49%	100.00%	100.00%	0.753
Av	0.733	0.733	0.839	0.810	0.864	0.793	0.872	0.868	

Source: Author's calculation

From the table above, it is quite clear that the efficiency scores are higher under VRS compared to CRS. On average for the entire period there are three full three efficient banks: BR, BISP (the same as under CRS), and BV followed by BKT, BNT, BA, BK, BPI, BSG, BU, BT, BP, BKG and BCA.

Table 5: Average bank efficiency scores for 2006-2013

DMU	Ranking	Group	Ownership	DMU	Ranking	Group	Ownership
BR	1	1	Austria	BPI	6	4	Bulgaria
BISP	1	2	Italy	BSG	7	3	France
BV	1	4	Italy	BU	8	4	Albania
BKT	2	1	Turkey	BT	9	3	Greece
BNT	3	4	Malaysia	BP	10	3	Germany
BA	4	2	Greece	BKG	11	3	Greece
BK	5	2	Albania	BCA	12	3	France

Source: Author's calculation

As we can see from the summary of the efficient banks and the frequencies per year part of the reference set presented in the table, it is obvious that the most stable bank is Raiffeisen Bank since it is full efficient through the entire period. On the other hand, Raiffeisen Bank was a benchmark to 8 of 14 banks in 2006, that means that 8 inefficient banks could be able to reach Raiffeisen Bank standarts at that time. After 2006, this bank cannot be a benchmark to a large number of banks, diminishing from 8 to 2 and 1 till 2013, which means that it expanded efficiently its activity larger than other banks in the group analysed, that's why its results can be reachable only from one bank (Tirana Bank). The same things almost can be stated for ISP and BKT while they seem to be more stable relating to reference set.

Another interesting result of this analysis, are the small size banks that seem to be efficient. Veneto Bank and BNT Bank are efficient almost all the time.

It is obvious that some banks like Procredit Bank, Tirana Bank, NBG Bank does not appear as efficient neither of the years studied. Even some banks that appear efficient sometimes have expanded earlier to their capacities do operate in those conditions, resulting to inefficiencies.

From the results, we observed that in order to maximize the deposits, the inefficient banks should reduce the number of employees and the number of branches as the result may be better through their efficient usage.

If we see from another point of view the inefficient banks, considering their origin of capital we can state that Greek banks are inefficient except Alpha Bank in four from eight years of study. Second French banks like Societe Generale and Credit Agricole are mentioned only one time each representing the same position as the Greek ones mentioned above. Italian banks are efficient all the time: the only Albanian bank, Credins is efficient from 2007-2010, that means that even it is expanded recent years it could not keep the optimal input usage. Another important comparison holds for Procredit and Raiffeisen Bank. They are of different size but the first has not ever performed in efficient conditions and the second was always efficient. So, it is obvious that the banks under analysis differ in size, ownership and infrastructure, but that is important to be emphasized is that some of them gained and maintained the efficient position and some other not. This does not happen due to the size but especially to the capacities engaged in management and day to day operations.

5. Conclusions

To conclude this study, first we made an introduction of Data Envelopment Analysis as a non-parametric approach, followed by a literature review on banking context application. In this way we tried to apply this approach in Albanian Banking System. For this purpose the model selected is the first attempt to understand from another point of view bank activities and their efficiency.

Since Albanian banking System is a new one, as after ’90 it was organized in a two tier banking system, the opportunity to enter in Albanian Financial Market was greater from foreign banks. In this context after 25 years of development, now its time to see how efficient they are.

From this study we conclude that efficient banks are from different size; the first group banks are efficient all the time except BKT in 2011 with light decline in 98.8%; the second group banks have much differences since Tirana Bank has never operated efficiently while Intesa SanPaolo Bank was always efficient, so their difference may be affected from the country’s origin of capital in this case Greece; also in the third group French banks are inefficient followed by the fourth group while the last one seems to have differences too. Veneto Bank is efficient at all the time, followed by First Invest-ment and Union. Due to the differences found in the banks analyzed the interested parties should go further or deeper analysis of the banks itself, analyzing the individual bank branch efficiency. This may generate more accurate and interesting results.

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CRITICAL ANALYSIS OF THE ALGERIAN STRATEGY FOR LOCAL WASTE MANAGEMENT: THE CASE OF THE PROVINCE OF TIZI-OUZOU

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Abstract
The purpose of this article is to provide an assessment of the Algerian policy of local waste management. Through a series of semi-direct interviews with a number of local actors (politicians, mayors, development agents) in three of the largest municipalities (local authority) of the province of Tizi-ouzou, we looked, first to analyze the degree of the efficiency of local policies and secondly, to provide a measure of the costs of the local waste management. Bottlenecks at the local level as well as at the national level are highlighted. Our research attempts, in the last point, to identify two possible ways of improving the local waste management through inter-municipal cooperation and rationalization of waste management costs.

Keywords: environment, local management, waste, Algeria
JEL classification: H7, Q5, O2

Introduction

These recent years, the environment in Algeria knew a strong degradation at the same time as the acceleration in the economic growth of the country. Algerian Cities as well as countryside face an unprecedented degradation of their natural environments'. In front of this situation, the problem of waste management arises increasingly with acuteness. Environmental policies implemented within the framework of the national strategy are struggling to respond effectively to the exponential increase of all type of waste (Rahmani, 2002). The question of evaluation and prospects of current policies is at the center of researchers and policy concerns (Dorbane, 2004).

In this paper, we propose a critical analysis of the measures implemented through an assessment of their impact at local level. After a brief description of the fundamental principles of sustainable management of waste in a first point, we will take a critical look at the current environmental policy of Algeria. In a third point, we will evaluate the costs and limitations of the local waste management in the department of Tizi-ouzou. We dedicate the last point to offer some economic and political guidelines that can help and allow improving the current waste management in Algeria, particularly at the local level.

1. Fundamental principles of sustainable waste management

In common parlance, the term waste refers to garbage, filth, trash, fall, chip and other residue rejected by, what is no longer usable or consumable and therefore does not have a value anymore. A waste is defined as any substance or object which the holder discards or intends or is required to discard, and thus it strikes a blow at the environment (MAET, 2003).

Therefore, from the 1970s, meetings and conferences are held (Stockholm Conference in 1972 and the 1992 Rio) to raise awareness and stimulate environmental preservation policies. The concepts of sustainable development, preservation of nature, right of future generations are then increasingly put to legislators and community concerns (Buclet, 2011). The concept of waste tends to change since it tends to become a real resource, or even a valuable product, a raw material that gradually enters a cycle of recovery and recycling (the stock of certain waste is already a reality). In this new context, the wastes produced are not wastes and the best waste is the one which is not produced.

Before drawing up the steps of the integrated wastes management, it is necessary to show the life cycle of a product to understand the need to consider the waste that results from the production process.

In fact, usually the industrial producer manufactures and markets a product without considering its future after use. At the end, when nobody wants a used product, it leaves the responsibility and the cost of eliminating it to the local authorities and the public treasury.

In advanced countries where environmental policies are already working, this happens differently due to new regulations that determine responsibilities (Burgnmeier, 1987). The producer ensures the product liability for all its life; this implies the responsibility for its good processing after use. The producer must estimate a product throughout its life cycle and thus support the cost of recycling or elimination, if the revaluation turns out to be impossible or economically unprofitable.

Waste management includes several principles obeying to an integrated management approach. They fit the context of sustainable development defined by the Bruntlandt Committee (1987) as "development that meets the present needs without compromising the ability of future generations to meet their own needs." These principles are put forward in the reports of international organizations that have a direct concern with the issue of sustainable development. This involves (Azzoun, 2002) :

- Prevention principle: The priority is given to reducing waste through the use of clean technologies and techniques reducing the harmfulness and quantity of waste;
- Polluter must pay principle: The general duty of care, at their expense, of the collection and treatment of waste by those who have generated them within the respect for the environment;
- Valuation principle: Current guidelines require states to first promote waste recycling, this disposal only intervene for wastes that are more likely to valuation at a reasonable economic cost.
- Proximity principle: The limited mobility of the waste. This responds to a local waste management appearing within sustainable local development logic.

The integrated waste management is based on the following principles (Azzoun, 2002) :

- Waste production should be reduced to the acceptable economic limits;
- The recovery and recycling of waste should be practiced within the limits of profitability;
- Waste that can’t be avoided or recovered without prohibitive cost should be disposed of in a way that doesn’t harm the environment;
- Among the existing methods to eliminate waste, we must choose the least harmful to the environment;
- Any disposal of raw waste that may degrade the natural environment must be avoided if possible by a pretreatment before discharge.

Methodological box
Survey research protocol

Objective: local political Diagnosis waste management in Algeria through a survey of local authorities.

Period: September to November 2014

Procedure: Interview Grid

Locations: three municipalities in the province of Tizi-ouzou – Tizi-ouzou, Draa Ben Khedda and Tirmitine

Data: nature and sources

- Primary: through surveys by interviews with elected mayors and Development Officers.

- Secondary through an evaluation of the national waste management policy, a press review and a literature research.

Sample: Thirty interviews with elected (10) officials, (9) mayors and development (11) agents.

Representativeness: Our sample represents three typical municipalities of Tizi-ouzou. A small one (Tirmitine), medium one (Draa-Ben-Khedda) and a large one (Tizi Ouzou). These municipalities reflect the territorial configuration within the predominantly mountainous department. Tirmitine is a small mountainious municipality with low resources and rugged terrain. Draa Ben Khedda is an average municipality located partly in hilly area and partly in plain area. While the Tizi-ouzou - town is the largest municipality in the department with also a relatively ragged terrain

Method of administration: Face to Face Interviews.

Method of analysis: interview data processing, analysis of common profile and diagnostic mechanisms of waste management costs through a reading grid adapted from the literature.

Method of administration: Face to Face Interviews.

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Limitations: The limitations of this survey are related to the methodology because it is essentially qualitative

2. A critical look at the Algerian strategy for waste management

The speed how the density of the Algerian population increased and the improvement of living standards, produce a permanent increase in waste (Hadjou, 2012). The strong urbanization, the waste through abandonment, introduction into the market of new non-biodegradable products such as plastics thus the low rate of recovery, are the main causes (Rahmani, 2002).

The amount of waste generated is expressed in weight or volume. However, because of their compressibility, only the weight is a reliable and readily measurable data. Then we express the quantities produced in Kg / habitant / day or per year. The amounts of garbage thus expressed in weight or volume produced per capita per day naturally vary from country to country. The rate varies from 0.35 kg / capita / day in the least developed countries to 1.1 or 1.2 kg / capita / day in the big cities of industrialized countries (Rahmani, 2002). The average annual rate of urban waste discharge is about 200 kg / capita / year, or about 5 million kg / year. This figure is to double if we consider all solid waste (household and similar waste and industrial waste).

In Algeria, the average amounts of household waste produced is estimated at 0.7 kg / capita / day (Chenane, 2007). This rate is much higher in urban centers such as Algiers, where he reached the rate of 1.2 kg / capita / day (Dorbane, 2004). These are high rates compared to the average for developing countries. This demonstrates the importance of environmental issues in Algeria.

In the Algerian context, it is appropriate to note that the conditions of collection, evacuation and disposal of municipal waste are deteriorating day by day. It is clear

that the population growth, rapid urbanization and the improvement of living conditions are causing higher and higher volumes of waste.

The human, material and technical means mobilized for the accomplishment of this public service mission are no longer suitable. This situation seems to have no improvement according to mayors surveyed. It tends rather to intensify in all cities of the country.

That is why the government tends to make the municipal waste management a priority area of work in its environmental strategy and action.

Law No. 01/19 of 12/02/2001 related to the management, control and disposal of waste is, in this respect, the starting point and the reference framework of the new policy in this matter.

The National PROgramme integrated municipal waste management "Le PROgramme national de Gestion intégrée des DEchéts Municipaux" (PROGDEM), wants a phased implementation approach of the framework law.

The PROGDEM aims to eradicate certain phenomena causing the degradation of the environment in the Algerian cities and countryside's, following the wild dumps. It also attempts to reorganize the collection, transport and disposal of waste under conditions ensuring the safety the preservation of environmental health.

The translation of this program in the field shows a lot of limitations. Many authors (Dorbane, 2004), emphasize the inefficiency of the measures and the lack of rigor in the implementation. Many shortcomings have been identified from the viewpoint of the management of the collection and recycling. The collection process is facing a severe lack of resources for collection and transportation of waste especially in urban areas. While increasing amounts of waste dumped every day, the human and collection of materials remain inadequate. Waste disposal is thus carried out in difficult conditions, often in unsuitable trucks, letting out along the way a big part of their content.

Add to this, the virtual absence of consumer awareness campaigns in the production and disposal of waste. It seems that the current environmental policy toil to develop a true environmental culture among consumers. The regulation and enforcement are inefficient. Faced with these shortcomings, the urban and rural environment continues to deteriorate daily. Waste spread on public roads, rivers are polluted by discharges of solid and liquid waste, agricultural land and landscapes are completely affected.

Regarding waste disposal conditions, the situation is also of concern despite the efforts made (Rahmani, 2002). Similarly, we find in the country toxic waste from the economic activities and care facilities including biological waste which are dumped illegally at the same time as household waste (Dorbane, 2004).. This results in the emergence and development of uncontrolled activities of recovery of reusable materials.

The survey conducted by the MATE (**Ministère de l'Aménagement du Territoire et de l'Environnement**, Ministry of Spatial Planning and Environment) reported 2,100 illegal dumps in the country including 360 at level 40 major cities, occupying an area of 22,000 hectares. These dumps are often located along the wadis, or on agricultural land or livestock roads, or even in forest areas.

Waste management costs in Algeria in their fixed and variable components (taking into account the amortization of investments) are estimated by the MATE at 50 US $ / ton, 4000 DA / tone (Rahmani, 2002). This gives an indication to target in the application of the polluter pays principle. However, the delineation of current costs is hampered by the practiced accounting framework (not taking into account the real value of assets). Estimates in some local authorities are raging between 1100 and 1500 DA / ton (Chenane, 2007).

Tax Abduction of Household Waste (TEOM : La Taxe d'Enlèvement des Ordures Ménagères), which was 350-500 DA / year / household was upgraded (**2001, Finance law**) at 500-1000 DA / year / household. His recovery rate remains low (20-30% on average). Even passed its maximum rate, fully recovered, it represents only 40% of the current service (Chenane, 2007).

The costs of services call for other tax revenues levied as much of the local government budget (15-20%).

In the following section, we provide a detailed analysis of the costs of waste management in local communities of the department of Tizi-ouzou. Our case study focuses on three communes of the department (Tizi-ouzou municipality, Draa-Ben- Khedda and Tirmitine) involved in the management of an inter-scale landfill.

3. Costs of the local waste management: the case of municipalities in the department of Tizi-Ouzou

Our assessment of the Algerian public waste management policies in the field can be illustrated by a case study of local authorities in the department of Tizi-Ouzou. Indeed, the problem of waste management on this scale truly reflects the difficulties previously reported at the national level.

Our case study of municipalities in the department of Tizi-Ouzou shows the extent of waste material difficulties. At this department, the amount of waste generated per capita per day is estimated at 0.7 Kg (Chenane, 2007). In relation to the total population of the department (about one million and three hundred thousand inhabitants), this gives a total daily amount waste production of around 910 tons.

Official data from the Environment supervision of the department of Tizi-Ouzou, report 34 landfills of which 29 are run by municipalities (municipalities management mode) and 5 by the inter-municipalities management mode (Dorbane, 2004). The local authorities note 15 uncontrolled dumps. These data significantly underestimate the number of dumps (Chenane, 2006). According to our own surveys, the number of illegal dumps amounts is at least 4,200 uncontrolled landfills. The province has indeed nearly 1,400 villages, each of which has at least three dumps more or less important depending on the number of inhabitants.

The issue of waste management at the level of Tizi-Ouzou department, arises thus with acuteness, both at the collection and transport but also in storage, disposal and recycling. Elected officials and leaders of the 67 municipalities of the department of Tizi-Ouzou, are trying to find adequate solutions but without much success. Indeed, the proliferation of illegal dumps in the department and the sharp deterioration in urban and rural landscapes reflect the inability of national and local policies to deal with the problem of waste management. Also, recycling is struggling to develop. The economic and fiscal incentives in this area are weak and inefficient.

The municipalities that we investigated (Tizi-ouzou, Draa-Ben-Khedda and Tirmitine) enrolled in an inter-municipal approach to the management of their waste. This original approach is driven by public authorities in the context of an integrated waste management. Here inter-municipalities relays primarily on the joint creation of a landfill center at the town of Draa-Ben-Khedda and a management agency for this center. It does not fit in territorial waste management logic. The sector based approach is not comprehensive.

In the following table, we present a comprehensive analysis of the average per capita cost of waste management. The municipalities having different size and means, management costs per habitant vary from one municipality to another. The reason is mainly due to the limited capacity of small municipalities and to their inability to manage the waste collection and transport service, despite the efforts of the relevant departments to streamline management.

Tableau 1: Estimated cost of waste management for three municipalities.

Municipalities / Designation	Tizi-Ouzou	Draa-Ben-Khedda	Tirmitine
Total operating expenditure (DA)	13 214 216	5 387 034	2 200 000
Annual tonnage collected (Tons) averaged	30 000	6 935	2 500
Collection costs in DA / Tonne	441,37	776,78	880,00
Population (A.C.L)	95 623	25 209	11 927
Collection costs in DA / capita	138,47	213,69	184,45
By housing occupancy rate (T.O.L)	6 persons	6 persons	6 persons
Cost of collection / DA / household	830,82	1 272,14	1 106,70

Source: sanitation and road services of the three municipalities and our classifications

Indeed, the cost is low in the town of Tizi-ouzou (DA 441.37 / ton) while it is relatively high in small towns in Draa-Ben-Khedda and Tirmitine.

Knowing that the amount of the local tax used to cover waste management costs are significantly lower than the actual costs incurred by municipalities. This charge known as

TEOM (Taxe d'Enlèvement des Ordres Ménagères /Removal tax of household waste) amounted in fact to 500 DA / household. This amount is set by the state administratively. Furthermore, the recovery poses a major challenge since a large part is not paid by households, while traders' taxpayers pay it in whole.

This difficulty of collecting the local tax and its low amount burden severely the budget of municipalities (Dorbane, 2004). In addition to the difficulty of the collection also raises the question of the amount of the concerned tax. **Furthermore, the flexibility of local governments is limited**. In fact, their role in setting the amount of the tax and their ability to recover it depend on the decision of the municipal assemblies. This process is hampered for cultural and political reasons elected person. This situation affects small towns for their waste management costs which are much higher, as noted in the table above.

Therefore, for a more rationality of the management of this service, it is necessary to streamline the costs management and the pooling of local resources in the inter municipalities context. In the following section, we will detail both suggestions.

4. The need for rationalization of the local waste management strategy

Local authorities in Algeria are facing major difficulties in the management of their waste. Several constraints were identified in our surveys. They are both linked to the inefficiency of instruments used, the mismatch between the resources mobilized and extent of waste to be managed, low culture of recycling and sustainable development at the consumer and producers level. The lack of qualified human resources and territorial engineering is also at the center of the difficulties of the municipalities. The constant and rapid evolution of waste discharge quantities in a high economic growth context forced the local authorities and often leads to enroll in daily management strategies (current), in lieu of a strategic vision (long term). Sector based approaches continue to dominate the action of the State (Dorbane, 2004). These are completely disconnected from the realities and territorial specificities of each municipality. Hence the need to move towards a territorial approach and decentralized waste management.

Inter-municipality thus represents a relevant scale for the development of an integrated territorial project on environmental management and not only wastes (Chenane, 2007). It is also necessary to streamline management costs. These are the two areas that we propose to improve the efficiency of Algerian environmental policies on household waste management in particular.

Inter-municipality, a relevant scale for integrated environmental management

Inter-municipality on waste management is a necessity to ensure the continuity of the service and reduce the negative externalities (Bourjol, 1995). The achievement of controlled landfills often lays the localization problem for municipalities. Inter-municipality helps, in this sense, to reduce the number of landfills and encourages interaction and sharing of good practices. So the landfill site in the municipality of Draa-Ben-Khedda allowed municipalities members in the Inter-municipality to streamline the location of waste disposal site. The size of the site can also help to consider creating sustainable recycling companies. But the nature of the developed Inter-municipality remains fairly brief as this cooperation is limited to the creation of a common landfill site. This type of Inter-municipality management builds up a beginning which should be transformed quickly into an inter-municipal project. Environmental actions can thus be considered comprehensively and efficiently. The pooling of resources will also allow municipalities with limited means to benefit from additional human and material resources (Le Saout and *al*. 2004).

Rationalization of costs and recovery policy of local environmental taxes

Clear definition of service standards (Flipo, 2001) and the correct calculation of the associated costs are necessary to improve waste management and minimize costs for municipalities. Underestimated costs are source of distortion. This directly affects the finances of local authorities.

Rationalization is required at the local tax collection dedicated to the financing of waste management policy. Uncollected taxes severely burden the budget of municipalities. It is therefore urgent so that the municipalities find effective way to collect taxes and streamline costs and expenses.

Rationalization of Costs and management standards are necessary in view of optimizing the operation of public operators and the gradual introduction of private actors. In other words, the integrated waste management must be rational in terms of cost control and environmentally sound.

5. Conclusion

At the end of our study, we can argue that in Algeria waste management is facing multidimensional problems related to lack of financial, human and material resources of municipalities. This was confirmed by our surveys and our analysis of the case of local authorities (municipalities) of Tizi-Ouzou department. Household waste management costs are high while the local tax collection capacity is low. This creates a gap which greatly affects local finances and the sound management of waste costs. In addition, sector based policies implemented by the State through its decentralized agencies post modest results. In addition to their inefficiency, it should be noted the mismatch with the specificities and the territorial realities as diverse as large in Algerian local authorities.

In this context, we have proposed two possible ways to improve the effectiveness of current policies of household waste management in Algeria. In the first instance it comes to rationalize the management costs of waste management, and in the second instance, to drive on inter-municipal cooperation dynamics to pool resources (economies of scale) and enroll in a real territorial sustainable development project.

Furthermore, it is necessary to mobilize new resources and to expand the business of recycling and recovery of waste. The objective is to create a new market that can generate business and jobs.

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ENVIRO-ECONOMIC INSTRUMENTS AND WASTE MANAGEMENT: THE PROSPECTS OF APPLYING THE INDIFFERENT CONSUMERS –PAY PRINCIPLE IN MALAYSIA

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Abstract

The continuing struggle of local authorities in addressing waste management issues would call for a close examination of the economics of waste management and the need to search for the most appropriate enviro-economic policy instrument that can be introduced in the context of a fast developing economy such as in Malaysia. A number of instruments had been put into practice by various authorities in Malaysia and in other countries, however, the effectiveness of each one of them is being questioned. Moreover, in Malaysia, there has not yet been any widely published research that has described the prospects of Indifferent Consumers Pay Principle. It is hereby proposed that a new instrument be introduced in Malaysia, which is a variation of the "Polluters-Pay" Principle, as outlined in the 9th Malaysia Plan (2006-2010), its first target ought to be the consumers, not necessarily the producers: those who participate in a recycling scheme are not required to pay a certain levy, when purchasing new goods. In return, when they deposit the unwanted items into recycling bins designated for different types of material, they will be rewarded with equivalent credit points which can be redeemed at points of sale. The anticipated positive impact of the application of the proposed instrument would be as follows: (i) waste-materials will be sorted at source into: "dry", "wet", and "toxic"; (ii) any litter in the streets or drains will be somehow picked up by "poor" souls, because of its value on redemption; (iii) those indifferent consumers would in effect pay for the "collection" services; (iv) the costs of collection and sorting will be greatly reduced; (v) thus, the costs of production of packaging materials containing recyclables will be lower, (vi) the recycled goods will be more competitively priced; and (vii) any Waste-to-Energy scheme will become more viable now than ever. Only under such a management that it would attract private investment to develop and finance the full-chain of waste sorting-to-materials, logistics, recyclables-exchange, and waste-to-energy streams, and waste-residue repository. In short, instead of carrying on only with the current 3R programme: Reduce, Reuse, and Recycle; the programme ought to be extended to 5R Scheme: Reduce, Reuse, Recycle, Recovery of Energy and Materials, and Repository, and not landfilling. Thus, the waste recycling industry, as envisaged since the 8th Malaysia Plan (2001-2005), would soon be realized.

Keywords: Waste, Indifferent Consumers-Pay Principle, Polluters-Pay Principle, Waste to materials and energy, cleaner production, Non-profit, Non-private Organization (NP2O), Recyclables-Commodity Exchange (RCE), Malaysia.
JEL classification: Q5,Q2

1. Introduction

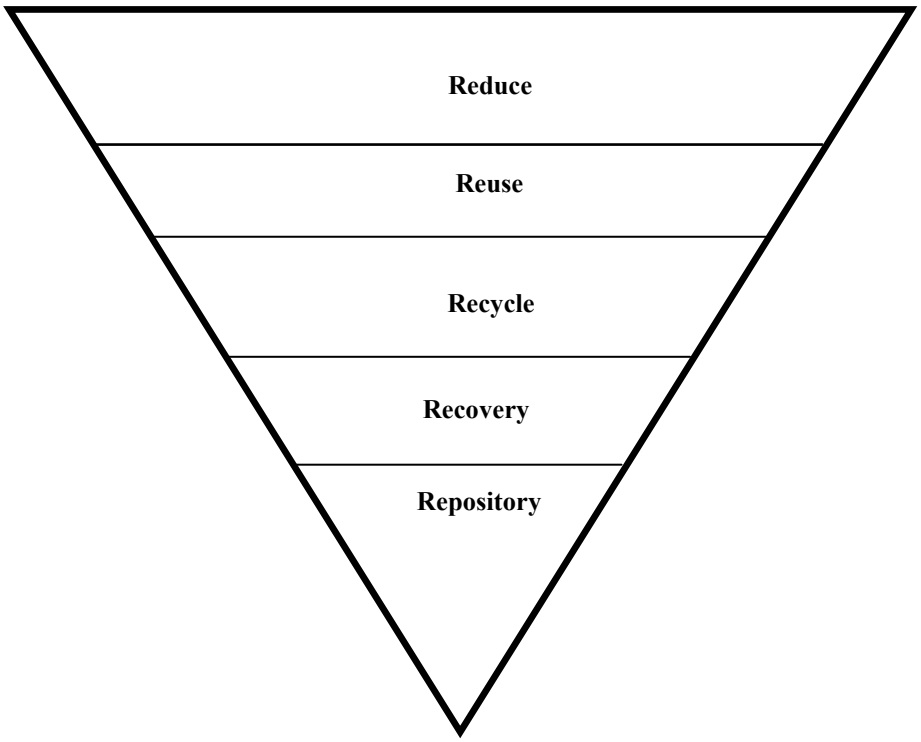
The unprecedented scale of waste generation is attracting increasing attention due to its environmental, social and economic impacts. The national perspective on solid "waste collection and disposal" is changed at least since 1972 Statement of Malaysia at the UN Conference on Human Environment in Stockholm from a simplified version to increasingly ever a challenging one: In urban areas "solid waste collection was satisfactory but the disposal system was largely by controlled tipping and burning. The disposal of waste was like those in many countries, and an organized programme in this direction was needed. The local authorities in many cases were hampered by lack of trained and experienced personnel, financial resources and knowledge of the effects of health." In rural areas, "solid wastes were buried or burnt but there was room for considerable improvement in this area (Malaysia, 1971). The present challenge, as posed in the Outline Perspective Plan (2001-2010) (OPP3), is the need for the Government of Malaysia to adopt "a comprehensive waste management policy, as well as to formulate strategies for waste reduction, reuse, and recycling (3Rs)." (Malaysia, 2001). In other words, the 3R strategies have to be in place with the remaining equally critical 2Rs: Recovery for Energy, and Repository of "non-marketable" materials for future use, and not dumped into and buried forever in landfills (Fig.1).

During the Eighth Malaysia Plan Period (2001-2005) (8th MP), the local authorities had to handle an estimated 16.2 million tonnes of waste throughout the country, a nationwide recycling campaign was launched in December 2000 "to promote greater awareness among the public on the need to recycle and reuse waste so as to reduce the amount of waste generated" and to be disposed off (Malaysia, 2001). However, it was estimated that about 76 per cent of the generated municipal solid waste were collected, while the remainder deposited in illegal dumps, drains, watercourses, or rivers. Of the collected waste, only about 1-2 per cent, was recycled, and the remainder taken to disposal sites (Mohamad Saib, 2004). In other words, over 20 percent of waste generated remain uncollected or littered about, and there has been hardly any waste-materials sorted at-source, which explains the very low rate of recycling in Malaysia compared to 62 per cent in Flanders, 47 per cent in the Netherlands, 30 per cent in USA, and 15 per cent in Japan (PSDC, 2004). Thus, one of the key aspects in the continuing search for an improved management of the waste was for the local authorities to take up the challenge of the 8th Malaysia Plan (MP) inter alia "to introduce various initiatives and appropriate economic approaches such as incentives and collection charges to reduce the amount of solid waste" (8th MP, 2001). Unfortunately, it was not taken up.

It is therefore the aim of this memorandum as much to reflect the potential use of various economic instruments in solid waste management, as to propose the most appropriate set of instruments in the case of a fast developing economy like Malaysia.

The remainder of this paper is structured as follows. Section 2 provides the review of appropriate enviro-economic policy instrument. Section 3 explains the context by discussing the proposed socio-enviro-economic policy instrument along with the imagined practices drawn from the proposed Indifferent Consumers-Pay Principle, and policy support. Finally, the concluding remarks of the research are presented in Section 4 together with some recommendations.

Figure 1. Most Favorable Waste Hierarchy for Waste Management in Malaysia.



2. Review of Appropriate Enviro-Economic Policy Instrument

Appropriate waste management is recognized as a vital prerequisite for sustainable development (UNEP, 2011; UNHSP, 2010). In urban contexts, public waste management focuses on eliminating potentially dangerous substances or materials away from human settlements (Wilson et al., 2012; Velis et al., 2009). As the socio-enviro-economic implications of unsustainable use of raw materials and growing waste generation in both the short and long term became apparent (The Government Office for Science, 2011a; Stern, 2006), waste management began to shift from a just pollution prevention and control exercise, towards a more holistic approach.

Frameworks and concepts, such as the waste hierarchy the '3Rs', extended producer responsibility, polluter pays principle (Engal et al., 2008), life cycle assessment and Sustainable Consumption and Production (SCP) (Pires et al., 2011), were introduced and the paradigm of 'sustainable resource management' was development (Barton et al., 1996). Sustainable resources management is grounded on the notion that 'waste' can be a 'resource' (Bringezu and Bleischwitz, 2009). Restricting resource use to more sustainable levels and applying resource efficiency can effectively reduce Greenhouse Gas (GHG) discharges linked to climate change, as well as offer other benefits of socio-economic nature (Barrett and Scott, 2012; Defra, 2011; WRAP, 2010).

As a federated nation-State like Malaysia is set to realize its Vision to be a developed country by the year 2020, it has to rise up at least to the 4th Challenge: "to establish a fully moral and ethical society" in order to ensure that "our valuable natural resources are not wasted; our land must remain productive and fertile, our atmosphere clear and clean, and our water unpolluted, the beauty of our land must not be desecrated," (Malaysia, 1991). However, ethics alone may work for some people, but not for all; as a reminder by George Orwell: "on the whole, human beings want to be good, but not too good, and not quite all the time (Orwell, 1941 in Porter, 2002). Thus, argued Richard C. Porter: "economic incentives, that is prices and taxes, can be devised as much to reinforce intrinsic moral motivation" as "to internalize the externality" by levying a tax equal to the marginal external cost, called a Pigovian tax after A.C. Pigou (Pigou, 1920 in Porter, 2002).

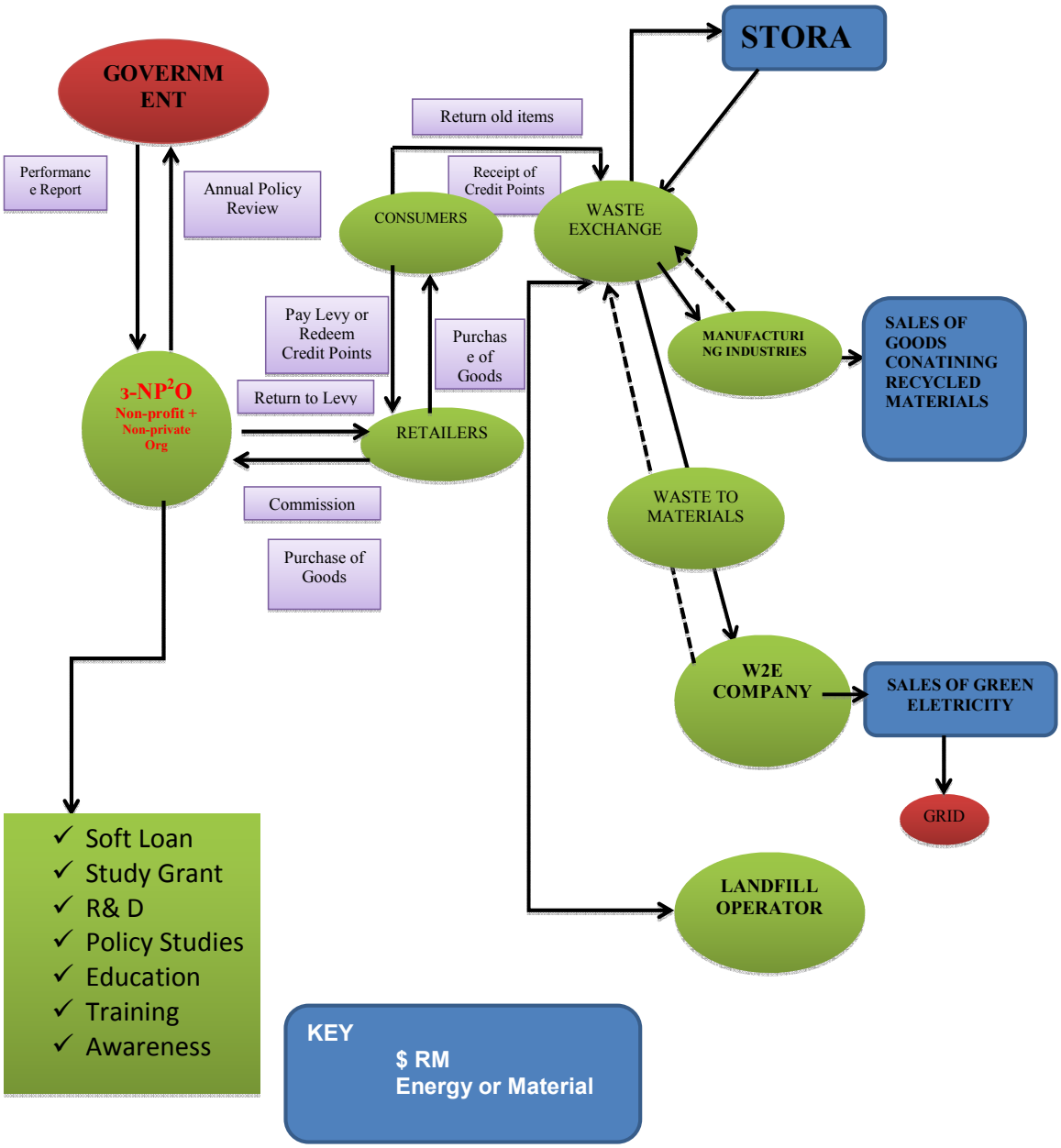
A recent review by Jamal et al., 2001 of various enviro-economic policy measures and strategies adopted in both developed and developing economies indicates at least 13 instruments have been put into place: "(i) product bans; (ii) packaging taxes; (iii) landfill taxes; (iv) household waste charges or packaging taxes-fees per bag"; (v) returnable disposal fees; (vi) taxes on virgin materials used; (vii) prohibitions on land-filling certain products; (viii) bottle deposits; (ix) voluntary or mandatory material separation; (x) recycled or recyclable labels on products; (xi) loans and technical assistance for recycling programs; (xii) public constructions of incinerator plants, and (xiii) tax credits for recycling equipment and investment by private firms. The degree of effectiveness of every type of instrument in the USA is reviewed by Porter, 2002, in Germany particularly on waste-take-back policy, and in Japan on recycling programme by Moore et al., 1994. Essentially, the application of the instruments is targeted at various stakeholders or "actors": (i) producers; (ii) consumers; (iii) retailers; (iv) house or dwelling owners; (v) recyclers; (vi) waste contractors; (vii) financial-loan institutions; and (viii) Government.

In Malaysia, the responsibility to manage the waste rests with the Local Authorities: Cities and Municipalities by the Guidelines of the Ministry of Housing and Local Government; and other non-urban or rural areas by the supervision of the Ministry of Health, through their appointed contractors, or as an interim measure prior to the enactment of the pending Solid Waste Management Bill, through their respective designated concessionaires: Idaman Bersih Sdn Bhd (formerly Northern Waste Industries), Alam Flora Sdn Bhd, Southern Waste Management Sdn Bhd, and Eastern Waste Management (Mohd Nazeri Salleh, 2001). Issues and problems arising from the current practice were highlighted by Jamaludin Md. Jahi, 2001, but the suggestions to address these issues were confined to institutional measures, but short of recommending an application of economic instruments other than that "the residents be made to pay extra" for having generated more than an allowable amount of waste. Continuing search by Jamal et al., 2001 discover the "deposit and refund" scheme was the most preferred policy instrument by 369 respondents of various socio-economic background, over two other competing instruments: "fee per bag", and "tradable discharge permits'. But "the problem with all such deposit-refund systems is that they require a second waste collection that duplicates the first system" (Porter, 2002). Furthermore, the "deposit" is imposed on every purchaser or consumer, whether or not one cares to "recycle".

3. Proposed Socio-Enviro-Economic Policy Instrument: Indifferent Consumers- Pay Principle

It is, hereby, argued and proposed that, those who care to recycle, do not have to leave a deposit-for-refund; and those who do not care or are indifferent toward any recycling programme or efforts, instead, have to pay a certain form of "levy" at points of sales. Those who return unwanted items at designated collection centres are to be rewarded with "levy-equivalent credit points" which can be redeemed at the time of purchase of controlled items or goods. The List of Controlled Goods, with Published Levy-Equivalent Credit Points, could be developed based on the nature and extent of different types of waste being generated, or littered about, as per jurisdictional area of local authority. The immediate effect of the proposed "Indifferent Consumers-Pay" (ICP) Principle and its application as a socio-enviro-economic Policy Instrument, would be that any litter on land, in the street, drains, streams, rivers, or in the seas would be picked up by "poor" souls, as "waste" and "resource" are essentially the same substance, except in value (A. Bakar Jaafar, 2001). In other words, the application of the proposed Principle has the effect of adding value to the "waste" substance into becoming "resource" (see Fig.2).

Figure 2. ICP Principle.



3.1. Envisaged Practices Drawn from the ICP-Principle

Waste generators would voluntarily sort the items to be "disposed off" into at least three major "material streams": "Toxic", "Dry" or not perishable, and "Wet" or perishable, and deposit them, in order to earn "credit points" with equivalent cash value, at designated collection centres, either fully manned or with full automation, equipped with sorting-bins for different types of materials or recyclables: such as metals (ferrous and non-ferrous), bottles and other glasses, plastics, papers (magazine and newsprints), paper-boxes, and wood and timbers, etc. Those who gather, sort, and deposit any "toxics" at the designated centres would earn premium credit points. All are encouraged to handle the perishables themselves at source, either by composing the materials in their yards, or by rapid bio-enzyme process in-situ; if not, such waste be put out, as usual, for scheduled collection by local contractors or concessionaires for further regionalized resource recovery or treatment.

The immediate positive impact of such a practice, waste-to-material sorting at source, can be numerous, including the following:

(i) the costs of sorting and collection to "appointed recyclers", for recyclables, would be greatly reduced, as these costs are now shifted to waste generators who want to avoid paying

the levy. The saving, in the cost of door-to-door collection alone, to the recyclers can be as high as US$ 123 per tonne, and in sorting, by US$ 50 per tonne (Ackerman, 1997). In Malaysia, the saving can be as high as 60 to 70 per cent of the total costs of managing solid waste by the current practice: door-to-door collection, transfer, and landfilling;

(ii) the quality of the recyclables is maintained, not tainted nor damaged; and thus, it can attract premium value;

(iii) as a result, the costs of producing new goods containing recyclables would be lowered;

(iv) the frequency of door-to-door waste collection can be reduced, if all perishables are composed or bio-digested at source. There is a premium for good quality compost in organic gardening or landscaping; and

(v) the sorted "toxics" are now prevented into entering the waste streams, and thus, the environment.

Once the waste-materials are well-sorted out, and accumulated, they would require other supporting measures, including the following Policy instruments:

(i) "Recyclables-Exchange of Malaysia" (REM) be established;

(ii) consistent with the adoption of ISO 14000 series of standards, and other product-stewardship programmes, including Responsible-Care, manufacturers can now be required to produce new products containing recyclables, and are encouraged to go for eco-labelling;

(iii) energy-materials that can no longer be recycled be utilized for power generation, for which, the waste-to-energy producers be given an attractive tariff and other fiscal incentives for the promotion of the renewable programme;

(iv) sorters for the "toxic wastes" be rewarded with premium credit points or equivalent monetary incentives, and such wastes be sent to prescribed resource recovery facilities or toxic and hazardous waste concessionaire for further treatment and repository;

(v) any remaining waste-residues should not be landfilled, but rather deposited at managed-repository facilities for future use-options;

(vi) the earned "credit points" are transferable, and can be traded in the secondary market;

(vii) to maintain the value of the credit-points, and to add value to those points, traded or otherwise, it is anticipated that the Government of Malaysia would increase annually, after Budget review and tabling in the Parliament, the extent of the levy imposed to those having not earned credit-points which can be redeemed at points of sales of "controlled Goods" under the Recycling Programme;

(viii) "the rate of recycling" within a State-constituency, or within a Federal-Territory, be introduced as one of the Key Performance Indicators (KPIs) of every Yang Berhormat, or even Yang Amat Berhormat; and

(ix) a Non-Private, Non-Profit Making Organization (Enviro-NP2O), with its Governance to oversee the collection of the Levy into a Trust Fund and its disbursement for promotional and supporting activities including R&D, be established, as the "driver" or "manager" of the above scheme of measures, as advocated earlier by the author (A. Bakar Jaafar et al, 2002).

The only downside of the proposed solid waste management scheme, for Malaysia and perhaps, for other countries, would be an expected increase of petty theft which can be overcome by tightening security measures, including the following:

(i) every waste sorting and collection centre (WSCC) be fully manned, and even equipped with sophisticated recording and surveillance equipment; and

(ii) each item that is to be received at the WSCC be screened for "stolen" goods, and any suspect-carrier be required to declare his or her identity.

Table 1. Problem and solution of waste by ICP.

PROBLEM=WASTE	
SOLUTIONS	
Concept	Waste Resource, no difference except in value
Principle	Indifferent consumers must pay
Method	Consumers buying new goods must return the old ones, if not, they pay in the form of levy
Effects	(i) consumers will return old items and earn smart credit points AND (ii) Any litter in the street or drainage will be somehow collected; because it has value.
Practices	(i) "Dry", "Wet", and "Toxic" Waste are sorted at source. (ii) Those who return old/used items at designated smart-collection centres. will earn points

3.2. Policy Support

The proposed Policy, with its Scheme of policy measures, is in line with the current Outline Perspective Plan (OPP3): "the Government will consider the adoption of a comprehensive waste management policy as well as to formulate strategies for waste reduction, reuse, and recycling." (Malaysia, 2001:187); and in support of the provisions of the 8MP:

(i) "The adoption of a comprehensive waste management policy to address the issues of waste reduction, reuse, and recycling";

(ii) "the conduct of relevant studies and demonstration projects to ascertain the viability and the acceptability of a waste recycling industry";

(iii) "the introduction by local authorities of various initiatives and appropriate economic approaches such as incentives and collection charges to reduce the amount of household waste";

(iv) "a clearing house mechanism be established to facilitate industrial symbiosis, whereby one industry's waste could be another's resource." (8MP:550).

4. Conclusion and Recommendation

The need for the Government of Malaysia to introduce a very specific socio-enviro-economic Policy instrument based on the recently advanced "Indifferent Consumers-Pay Principle" (ICP), targeted first at "consumers", with the support of "retailing business and commerce", and secondly, at "industrial producers" would make a significant difference to the current practices and approaches in solid waste management of Malaysia. The experience of other countries in applying various other Principles and Policy instruments prove to be irrelevant in Malaysia, where enforcement is much to be desired; discipline rather lacking; the right culture for recycling yet to evolve fully; less "the will-to-pay" for common services, and thus, short of "political-will" and public finance. Thus, the generation of the Fund through the collection of the proposed "ICP Levy" would help support the expected non-profit making activities: policy review and studies, R&D, public information, education, awareness campaign, training, and promotion of public-private partnership and participation. The responsibility to manage the proposed Waste Management Scheme should rest with the proposed Non-Private, Non-Profit Organization for the Environment (Enviro-NP2O), which should be incorporated by the Registrar of Company, rather than by the Registrar of Society. Only under such a management that it would attract private investment to develop and finance the full-chain of waste sorting-to-materials, logistics, recyclables-exchange, and waste-to-energy streams, and waste-residue repository. In short, instead of carrying on only with the current 3R programme: Reduce, Reuse, and Recycle; the programme ought to be extended to 5R Scheme: Reduce, Reuse, Recycle, Recovery of Energy and Materials, and Repository, and not landfilling.

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THE ROLE OF UNIVERSITY ON STUDENTS MONEY MANAGEMENT PRACTICES

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Abstract

Students financial behaviour has been on focus of many academics and practicioners for decades. Reseachers have found that students do not take healthy financial decisions. One of the factors revelead to influence students money management practices is school. The financial knowledge and training gained during university studies is supposed to equip students with the neccessary knowledge and attitude towards financial issues. This is translated in better financial behavior. The current research aims to explore the role of universities on students financial behavior. The main objectives of the paper are: i) firstly to investigate on the importance of school on students money management practices; ii) secondly, provide a literature review on students financial skills and behavior; iii) thirdly, to identify the role of universities in students financial behavior in the case of Albania; and iv) finally, to draw some conclusions and policy recommandations for universities in order to improve their curriculas and help students to be wise consumator. The main research questions raised in this research are: 1) Do Albanian students percept school as their primary source of gaining financial knowledge? 2) Do Albanian universities play their role optimally on equipping students with the best skills on money management?

This study is based on a survey conducted on 637 students from different universities accross Albania. Descriptive statistics, Tukey Post Hoc technique and analyse of variance are utilized to address the research questions. Statistics demostrates students to consider school as the most important source of gaining financial knowledge. Although this result, university is exposed to not play its best role on helping students establishing good financial habits. This research suggest universities to include a modul in personal finances in their curriculas and making them more practical and effective. This is incredeably important since managing personal finances is a matter that last forever. Future studies can be conducted to examine the effectviness of universities curriculas on students life. In addition, further researches can be undertaken in order to identified other factors impacting students financial behavior.

Keywords: Students Money Management, University.
JEL classification: A2

1. Introduction

Students' financial skills and behavior is becoming a very important topic for many researchers. Studies have declared family, school, media, peers and work experience as the major financial influencer on students' money management practices. Financial education is reported as a significant technique to improve students' money management, since it is useful to increase students' financial knowledge and consequently improves their financial behavior. Literature defines financial literacy as: "the process by which individuals improve their understanding of financial products and concepts; and through information, instruction and/or objective advice develop the skills and confidence to become more aware of financial risks and opportunities, to make informed choices, to know where to go for help, and to take other effective actions to improve their financial well – being and protection (OECD, 2015)". Considering this definition it can be identified three dimensions of financial literacy: financial knowledge, financial attitude and financial behavior. Financial knowledgeable consumers are

supposed to have basic financial concepts and take reasonable financial decisions. Garman & Forgue (2006) suggest that good financial behavior is displayed on: cash flow planning and managing, setting up short term and long term financial goals, purchases of insurance, auto, home and financial services. Worldwide states are taking measures to employ national strategy on financial education. National Council on Economic Education (2005) reported that 38 states in the USA have implemented their system education based on personal finance standard. Seven states have personal finance as a mandatory course for graduation in the high school. The importance of a healthy financial education became vital in Europe in 2007 with a European Commission Communication in Financial Education. It highlighted the beneficial of financial literacy for individuals, society and the economy. In his speech in Tirana, Umberto Filetto[1] suggested individuals' financial education based on three principals: the opportunity principle – financial education in the right time, the usefulness principle – usefulness financial education and offering principle – financial education in the right way.

This study aims to investigate the role of university on students' financial skills and behavior. It provides a comparison on Albanian students' perception about different ways of gaining financial knowledge. In addition, this research attempts to provide evidence regarding the discrepancies in students' financial behavior based on their priorities in money management learning tools. Furthermore, it explicates whether curricula on personal finance, taught in universities in Albania, is practical and useful to improve Albanian students' financial skills and behavior. The main research questions raised in this study are:

✓Do Albanian students percept school as their primary source of gaining financial knowledge?

✓Do Albanian universities play their role optimally on equipping students with the best skills on money management?

2. Literature Review

Financial literacy has been on focus of many academics, researchers and practitioners for decades. Many authors have considered financial literacy as a core skill for people financial wellness. Generally, studies undertaken on this topic have been conducted on different categories of population. For example in the working of Ansong and Gyensare (2012), a study conducted in Ghana, the financial literacy is defined as ability to understand finance. The focus of their study was working-students and their financial literacy. The authors raised the hypothesis whereby some have tried to assess the connection that can exist between financial literacy and some variables that they have considered important. To realize their study, a questionnaire was distributed to 250 students of a university with 20 multiple-choice items, compiled by the authors themselves. From the statistical analysis of the collected data, they appreciated that financial literacy has a positive relation between age and education level of the parents of the student. They also estimated that the higher the mother's education level, the financial literacy the student had. Meanwhile, as for the father's education, work location or access to the media, had not resulted to have any positive impact on the student's financial literacy. According to the results achieved, male students demonstrate higher financial literacy compared to the female ones. Also students who were involved in a business, their financial literacy was higher than others. The level of study does not have a positive impact on student's financial literacy. The authors explain this by lack of appropriate curricula in schools. The main constraint of their study was the collection of data by the students of a single university.

Another author, Harnisch 2010, also addressed financial literacy in one of his works. He emphasizes that financial literacy plays an important role in the decisions that the individual receives. He considers financial literacy as a major cause of problems that show individuals with debts or bad loans worldwide. He stresses that individuals should definitely improve their financial literacy, to take optimal decisions for a given set of needs and budgets. He underlines the role of schools, especially the role of universities, in improving the financial literacy of individuals. However, he still considers weak this role. Despite the fact that in

[1] The ninth International Conference of Bank of Albania. Buiding our future according Financial Culture. Tirana, September 15, 2015.

schools are, treated curriculums related to financial literacy, students do not give much importance to them. This happens because many of them are still financially dependent on the parents. Therefore, they do not take financial decisions, something that is associated with future consequences. The main objective in his work was once again the improvement and review programs for financial literacy in schools, so that the university can fulfill this important role, which is to make applicable in practice knowledge acquired in school. With a sound financial education, people will manage in a better way their debts, will draft saving plans, says the author. In this way, they would be able to undertake significant investments in their lives. Investments related to the purchase of a house, retirements, education of children, etc... In contrast, the financial decisions of people with low financial literacy would cost a lot to them as well as to the community where they live for a long time. He appreciates as low the financial literacy on ordinary people. A large majority of them have failed in making decisions for the future. The reason is that they have obviously not seen all alternatives or have failed to understand credit conditions.

For this reason, he once again suggests the review of the schools and universities curriculums related to financial literacy. Furthermore, he recommends the creation of a new curriculum for financial literacy. In addition, students can create an online social network, through which could receive financial advice important for their decisions. Financial literacy, as the author emphasizes, poses a significant challenge for the future of the individual, the family and the country as a whole.

Krizek and Hradil 2012, have raised a very interesting hypothesis in their paper: do the students serve as financial advisers in their communities? To assess this, the authors set some standards through which they would assess the financial ability of the students. They appreciated the positive relation that exists between financial literacy and age, financial literacy and gender, were males also resulted to have higher financial literacy of females, the level of financial literacy and years of study. Furthermore, through the verification of an hypothesis raised previously, they confirmed that students offer advice on the surrounding community, in connection with personal finances or consumption and savings.

Johnson and Sherraden, 2006, in their paper consider financial literacy as very important, but not sufficient. They point out that knowledge is valid for as long as they use it. In this way, they value financial capability, like the ability to establish a direct link between human activity and knowledge obtained through different pedagogical methods. In their paper, they treat a number of different programs, which will increase the financial capability of individuals. In these programs were included children and their parents, such as opening a bank account for the child, etc. To assess the real financial capability of the person, they pointed out that there should be built measurable indicators, so that would appraise not only financial knowledge but also financial decisions, savings or debts. The authors underline the significance of financial education in increase of financial capability. They also suggest that the increase of access to financial institutions through savings would have its positive effects on financial capability. Children with their savings accounts will be able to implement in reality what they learn in different school programs related to finances.

Cude et al ., 2006, consider family as very important in the financial literacy of young adults. The authors evaluated different ways of how young people obtain financial information. Many young people preferred the Internet; some thought it was the duty of the university to give financial knowledge. Some thought there could be established campus for this purpose. The study estimated that greater effort was required by parents to financially inform their children. Meanwhile, the students themselves stated that parents intervene in their decisions about money and spending. Even the parents must be educated on how to behave with their children about financial problems. We can help a network coming online parent-colleague.

Rodrigues et al, 2012, have developed their study of 612 students in Portugal. In the study of these authors, students pose different levels of financial literacy. Over age, they became more financially capable. In addition, the level of financial literacy does not appear the same in different genres. Even these authors conclude that men pose with higher financial literacy than women do. The course they follow also represents an important factor in their financial skills. The intervention of parents in student financial decisions was estimated to have a positive effect in this study.

Hahn et al, 2014, states that if we understand the factors that affect the financial literacy of young people, we will be able to develop the appropriate and effective policies for them.

Taking into account the above studies and others alike, in this work we are trying to analyze financial literacy based on the conditions of Albania. In Albania, there have been few previous similar studies in this field. For this reason, we have based our study on the use of foreign literature of the same field. We put our focus on financial literacy survey of Albanian students. This is done for two main reasons, to measure their financial literacy and to evaluate the effectiveness of the school in increasing financial literacy. Also in this work, we try to evaluate whether school programs have had a positive effect on financial literacy. It seems that there is a gap between theory and practice obtained in school. This is best evidenced with the low points of the students who have received finance lessons. As the above authors have mentioned, the financial capability of the youth is very important. It expresses their practical skills in relation to the financial management of certain conditions. Linking theory with practice constitutes one of the major challenges associated with this issue.

Although, a large literature studied financial culture, there is still a lack studying this topic in Albania. Since the studies related to this field in Albania are realized very little, we tried in the first place to make an overall assessment of the financial behavior on university subjects. In addition, in Albania, school is considered as the only source of knowledge for financial literacy. Hence, we focus our research on investigating whether universities in Albania play optimally their role on equipping students with the best financial knowledge in order to take smart financial decisions.

3. Research Methodology

This study makes use of a survey conducted on 637 students from eight universities accross Albania. In this research participated five state universities and three private ones. State universitites participate in the resstudy are: University “Eqrem Çabej”, Gjirokaster; University of Tirana; University “Aleksander Moisiu”, Durres; University “Aleksander Xhuvani”, Elbasan and Agriculture University of Tirana. Private university involved in this study are: University “Marlin Barleti”, Tirane, University “Kristal”, Branch Permet and Universiy “Nehemia”, Pogradec. The questionnaire consisted on two main parts. The first part collected personal information about the participants and the second one tested specific questions about students skills and behavior. The socio-demographic information consisted on: age, gender, work experience, maritul status, region, accomodation during university studies, fees paid, personal income, having attend a course in personal finances, etc. Meanwhile, the specific question on financial literacy were divided on three sections. The first section considered 15 questions testing students financial knowledge on investment, saving, insurance and borrowing. The second section involved 11 questions capturing students attitude towrads personal finances. The third sectioncomprised 8 question testing students behavior towards money managemnt. A five Likert scaled instrument is employed to identify the level of financial behvior. Students who displayed best financial behavior are selected at 5 point, whereas those with nonhealthy one are selected at one. A mean financial behavior score is then considered to make relevant comparisions among different categories of students.

The validity and consistency of the construction are tested based on the dimension reduction method and the Cronbach Alpha test. The questionnaire response rate states at 95% (607/637). Descpritive statistics of different tools of money management learning are considered to explore whether school is percepted as the primary source of gaining financial knowledge. The second research question is addressed based on the values of the mean financial behavior scores. The Fischer test is utilized to investigate whether students who have taken a course on personal finance display better financial behavior in comparison with their counterparts. The assumtion will be rejected if the significance of the Fischer test is greater then 0.05, based on 95% level of significance.

4. Data Analizing and Findings

- Sample Profile

Table 1 below displays information about sample profile. Statistics exhibit the majority of the participants to be females (71%), attending a module in Personal Finances (78.4%) and majoring in business (71.7%). Most of the respondents are shown to report school as the primary source of money management learning (39.4%). Less than a third (29%) have declared family as the most important source, slightly greater than a fifth considers experience as the major one (22.2%), and only a few of the participants (8.9%) considers friends or mass media.

Table 1: Sample Profile

	Frequency	Percentage
1. Gender	**607**	**100.0%**
Female	431	71.0 %
Male	186	29.0 %
2. Modul in Personal Finances	**607**	**100%**
a) Yes	476	78.4 %
b) No	131	21.6 %
3. Area of Study	**607**	**100%**
a) Economic	435	71.8%
b) History – Geography	32	5.3%
c) Medicine	77	12.7%
d) Journalism	15	2.5%
e) Judicial	47	7.7%
4. Money Management Learning	**604**	**99.5 %**
a) In my family	176	29.0 %
b) In the school	239	39.4 %
c) Conversation with friends	21	3.5 %
d) Media	33	5.4 %
e) Experience	135	22.2 %

✓ *Research question 1: Do Albanian students percept school as their primary source of gaining financial knowledge?*

In concert with the descriptive statistics, table 2 and 3 below provide evidence about the frequency of students who perceive different source of money management learning and the mean financial behavior respectively. Figures show a minimum of one and a maximum value of 5 in students' financial behavior (see table 2). The mean value of financial behavior ranges from 3.46, in the case of "other" source of primary source of money management learning, to 3.73 in the case of Media.

Table 2: Descriptives Statistics

Primary Source of Money Management Learning	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
				Lower Bound	Upper Bound		
Family	3.61	.865	.034	3.55	3.68	1	5
School	3.67	.938	.031	3.61	3.73	1	5
Conversation with friends	3.06	1.053	.123	2.81	3.30	1	5
Media	3.73	.685	.064	3.60	3.86	2	5
Work Experience	3.51	.849	.039	3.43	3.58	1	5
Other	3.46	.871	.130	3.20	3.73	2	5
Total	3.60	.898	.019	3.56	3.64	1	5

The majority of students consider school as the most important source of gaining financial knowledge (39.4%, table 3). Although the greater part of the participant considers school as the primary source of learning money management, they are shown not to score the highest

point in financial behavior. The best result in money management practices is performed from students who declared mass media as the greatest tool for improving financial knowledge. The results of Fischer test (F = 8.347; Sig. = .000) proves these differences to be statistically significant. Hence, the question is: If students consider school as their primary source of gaining financial knowledge, does school play its role optimally to equip them with the best skills on money management?

Table 3: One Way Welch ANOVA

Money management learning	Frequency	Percentage	Mean Financial Behavior	Fischer Test
a) School	239	39.4 %	3.67	**F = 8.347**
b) My family	176	29 %	3.61	
c) Conversation with friends	21	3.5 %	3.06	**Sig. 000**
d) Media	33	5.4 %	3.73	
e) Work Experience	135	22.2 %	3.46	

✓ *Research question 2: Do Albanian universities play their role optimally on equipping students with the best skills on money management?*

Table 4 below represents the mean difference on financial behavior scores among students who consider school as the primary source of learning and those who consider family, peers, media and experience. Results of the Tukey Hoc Post analysis show a statistically significant difference on students financial behavior between students who declare school and those who declare peers or experience. Statistics of the analysis of variance (table 3) displays students who consider school, family or media scoring at the range of 3 to 4. This performance is shown to be good (greater than the neutral point of three), but not optimal.

Table 4: Tukey Post Hoc

(I) Primary Source of Money Management Learning	(J Primary Source of Learning	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Family	School	-.057	.046	.820	-.19	.07
	Form the conversation with friends	.558*	.110	.000	.24	.87
	Mass media	-.115	.091	.803	-.37	.14
	Work Experience	.107	.054	.340	-.05	.26
	Other	.150	.137	.884	-.24	.54
School	Family	.057	.046	.820	-.07	.19
	Form the conversation with friends	.614*	.108	.000	.31	.92
	Mass media	-.058	.089	.986	-.31	.20
	Work Experience	.164*	.050	.014	.02	.31
	Other	.207	.136	.651	-.18	.59
Form the conversation with friends	Family	-.558*	.110	.000	-.87	-.24
	School	-.614*	.108	.000	-.92	-.31
	Mass media	-.672*	.134	.000	-1.05	-.29
	Work Experience	-.450*	.112	.001	-.77	-.13
	Other	-.407	.169	.152	-.89	.07
Mass media	Family	.115	.091	.803	-.14	.37
	School	.058	.089	.986	-.20	.31
	Form the conversation with friends	.672*	.134	.000	.29	1.05
	Work Experience	.222	.093	.161	-.04	.49
	Other	.265	.157	.539	-.18	.71

(I) Primary Source of Money Management Learning	(J Primary Source of Learning	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Work Experience	Family	-.107	.054	.340	-.26	.05
	School	-.164*	.050	.014	-.31	-.02
	Form the conversation with friends	.450*	.112	.001	.13	.77
	Mass media	-.222	.093	.161	-.49	.04
	Other	.043	.139	1.000	-.35	.44
Other	Family	-.150	.137	.884	-.54	.24
	School	-.207	.136	.651	-.59	.18
	Form the conversation with friends	.407	.169	.152	-.07	.89
	Mass media	-.265	.157	.539	-.71	.18
	Work Experience	-.043	.139	1.000	-.44	.35

*. The mean difference is significant at the 0.05 level.
Dependent Variable: Mean Financial Behavior; Tukey HSD

The homogeneous groups are provided in table 5 below. Statistics identify Other, Work Experience, Family, School and Mass media as a consistent group.

Table 5: Homogeneous Groups

Primary Source of Money Management Learning	N	Subset for alpha = 0.05	
		1	2
Form the conversation with friends	20	3.06	
Other	12		3.46
Work Experience	128		3.51
Family	174		3.61
School	242		3.67
Mass media	30		3.73
Significance		1.000	.187

Tukey HSD. Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 121.210.
b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

To further investigate the role of university, an ANOVA technique is employed considering the mean financial behavior among students who have attended a course in personal finance and their counterparts. Table 6 below illustrates information about the mean, standard deviation, minimum and maximum values. In concert with the results of the previous analysis, students of both categories are shown to score in a range of 3 to 4 in financial behavior. The difference in financial behavior among students who have taken a course in personal finance and those who have not taken is shown to not be statistically significant (F = .748; Sig = .387) based on 95% level of significance. This result demonstrates that taken a course in personal finance does not improve students' financial behavior. This fact provides evidence that Universities do not play optimally their role on equipping students with the adequate financial knowledge.

Table 6: ANOVA

Module in personal finance in School	Mean	Std. Deviation	Std. Error	Minimum	Maximum
Yes	3.61	.933	.022	1	5
No	3.57	.788	.036	1	5
F = .748 Sig. = .387					

5. Conclusions, discussions and recommandations

This research examined the role of university in students' money management practices. It firstly identified the discrepancies in financial behavior among students with diverse perceptions about the most important source of learning money management. Then it attempted to reveal whether taken a course in personal finance is useful to improve students' financial behavior. Statistics of the description analysis exhibited school as the primary source of gaining financial knowledge. Harnisch 2010, underlines the role of schools, especially the role of universities, in improving the financial literacy of individuals.

The analysis of variance and the multiple comparison technique revealed students who declared school as the best tool of learning to not gain high financial behavior scores. In addition, attending a course in personal finance is proved not to be effective on improving students' financial behavior. These outcomes demonstrate that universities do not play optimally their role on equipping students with the adequate financial knowledge. Ansong and Gyensare (2012), realised that level of study does not have a positive impact on student's financial literacy. The authors explain this by lack of appropriate curricula in schools. Harnisch, 2010, evaluated that, despite the fact that in schools are treated curriculums related to financial literacy, students do not give much importance to them. For Albanian student, this result might be explained by the fact that curricula on personal finances are not practical and effective. The lack of a sound financial educational curriculum has costly consequences since impacts people to not take wise financial decisions.

Universities should be aware about the importance of offering a sound financial education. They must modify their curricula on personal finances in order to be useful and effective. In addition, it will be valuable to offer a course in personal finances in every areas of study, since it is an everyday issue that lasts forever.

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REGIONAL SPECIALIZATION AND GEOGRAPHICAL CONCENTRATION OF INDUSTRY IN RUSSIA

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Abstract
The goal of the research is to analyze spatial economic dynamics by evaluating specialization of the Russian regions and concentration of production in our country. In this article the theoretical basis of the scientific problem is represented for this purpose, the methodical evaluation tools are shaped, the manufacturing industry concentration and specialization of the Russia regions are analyzed. Concentration was estimated as the dynamics of Herfindahl-Hirschman index on the industrial output, capital stock investments, the employment and GDP of regions, the dynamics of Gini index and Krugman concentration index by 12 subsectors of the processing industry. The production concentration which depends on the degree of manifestation of scale effect was analyzed by 97 industrial groups, and indexes CR3 and CR4 were calculated. The regional specialization of Russian industry was estimated through the dynamics of Krugman specialization index. The groups of the most and least specialized regions were defined, where the additional analysis was made.
Keywords: New Economic Geography, industrial concentration, Russian regions
JEL classification: O18, R1

1. Introduction.

Inequality of Russian regions in terms of social and economic development in recent years has a tendency to strengthening. For example, the Gini index for the GRP in 1995 was 0.517, in 2000 – 0.594, reached its maximum value in 2007 – 0.628 - and in 2012 amounted to 0.612 (authors' calculations). If we analyze the Gini index in terms of employment, in 1995 the figure was 0.422, in 2000 – 0.425 in 2005 – 0.439 and peaked in 2012 – 0.449 (authors' calculations). Increasing differentiation of regions of Russia is largely due to intense competition for limited resources. 24.14% of the labour resources of the country are concentrated in five regions (in 2002 the share of these same regions in total employment was 22.14% - authors' calculations). In the five regions - the leader in terms of attracting foreign direct investment in 2012 was concentrated 48.45% of such investments (for comparison, in 2002, the top five in terms of regions was concentrated 74.77% of direct foreign investment - the authors' calculations). Thus, we can suppose a high concentration of resources and economic activities in some selected regions of the country.

Growth of differentiation of regions in terms of social and economic development requires effective policy, which should be formed as a basis of the results of empirical research using economic-mathematical methods and theoretical positions of the leading world scientific schools. The aim of our study is to analyze the spatial economic dynamics by evaluating specialization of Russian regions and concentration of production in the country, as well as analysis of factors of such concentration.

We formulate the main hypotheses of the study. Hypothesis 1: selected centres where economic activities are formed historically; during the analyzed period and in the future there are preconditions to their economic leadership. Hypothesis 2: the global economic crisis has affected the concentration of economic activities in the Russian regions insignificantly and, to a greater extent, in the direction of dispersion.

2. Theoretical background and bibliography.

Issues of specialization and concentration of spatial economy were considered in three scientific courses: neoclassical theory, new trade theory and New Economic Geography. Let us consider some of the approaches to the study of regional specialization and geographical concentration in economics (table 1).

Table 1. Basic economics approaches deals with spatial economics specialization and concentration

	Neoclassical theory	New trade theory	New Economical Geography
Main references	Ricardo, Heckscher, Ohlin (1933), Balassa (1964, 1985), Samuelson (1948, 1964)	Krugman (1980), Helpman & Krugman (1985), Grubel & Lloyd (1975), Brülhart & Torstensson (1998)	Krugman (1991a, 1991b, 1992, 1993, 1994), Venables (1996), Krugman & Venables (1996), Puga (1999), Head & Mayer (2004), Fujita & Thisse (2002)
Type of market competition	Perfect competition in all markets	Monopolistic competition	Monopolistic competition in industrial markets
Other admissions	Constant economies of scale, homogeneous products, full rent for the owners of factors of production, growth through capital accumulation, intra-branch trade	New: intra-and interbranch trade (globalization and integration), the aggregated economies of scale due to external effects of localization, endogenous size of the market	New: the existence of transport costs (costs of shipping, transaction facilities, trading costs, non-tariff barriers), internal economies of scale, good's differentiation, direct and reverse connections
The determinants of placement	Provision of natural resources or factors of production, the differences in technological development	The level of the growing production return, the degree of substitutability of dissimilar goods	The level of transport costs, financial externalities (labour market, input-output connection, demand, stimulating migration), the tension between centrifugal and centripetal forces, technological externalities in some models.
Effect on welfare from trade liberalization	Net welfare gain, owners of factors of production lose	Net welfare gain, large countries benefit more than smaller ones, possibility of winning for the owners of factors of production	Net welfare gain, U-shaped relation in real wages of two regions at the time of the reducing of transport costs, the interconnection "core-periphery" can be destroyed in the middle or final stage of integration

Source[20]

The factors that explain regional specialization of production can be divided into two groups: primary (physical geography and natural resources) and secondary (geographical distance between economical agents) [18]. The neoclassical theory emphasizes on the role of primary factors. Economical activity is concentrated in the regions in accordance with the presence of production factors, natural resources and technologies. These types of economy specialize in manufacturing products based on their comparative advantages (Ricardo) or availability of production factors (*Heckscher-Ohlin*). However, the growth theory predicts a lesser specialization in the long-term period due to tendency of narrowing the profits via alignment of the factor productivity. The postulates of economic theory in this sphere became significantly more complicated in 1980s, when the model of monopolistic competition was applied to the theory of trade and economic geography.

The new theory of trade unites such primary factors of regional specialization as market size (size of work force in the country), if the immobility of labour is suggested; and the secondary factor is the geographical distance between economical agents. If the trade expenses decrease, the industry aims to concentrate in the region with the high market potential ("core") in order to realize manufactured goods to other regions in the future ("periphery"). The new trade theory, where at construction of models the externals from the technological development and human capital are taken into account, explains the specialization by the self-intensifying effects from the externals. In these models the trade integration leads to exchange of knowledge and technologies.

The New Economic Geography evaluates the allocation of production based on the ratio of two powers: agglomeration ones (such as the scale effect and direct and reverse connections) and de-agglomeration ones (such as trade expenses and difference in prices for the production factors) [8]. The differences in the interregional demand are considered as endogenous [5]. If there is a growing return and trade expenses the companies and workers are trying to concentrate in the vicinity of major markets. In its turn, the major market is the market on which a large number of companies and workers operate [7, 13]. The New Economic Geography models the agglomeration processes based upon the interregional mobility of the workforce [11] and the mobility of the companies having demand for the intermediate goods [19].

The absolute and relative concentration should be discerned. The sector of industry is absolutely concentrated, if several countries regardless of their sizes have large enough shares in the total amount of the given production [12]. The sector of industry is relatively concentrated, if any one type of activity differs from those that are averagely widespread within the amount of production in the countries. The neoclassical theory usually deals with the relative concentration, the New Economic Geography deals with the absolute concentration, the new trade theory considers both types mentioned above [10]. In table 2 we can see factors of regional specialization and geographical concentration in economics.

Table 2. Factors of regional specialization and geographical concentration in economics

Factors of spatial concentration	Reference
Regions will specialise in areas in which they have a comparative advantage	Traditional trade theory
Depending on the level of trade costs, economic activities will either cluster or disperse	Newer trade theories
Access to raw materials or more generally industries (extractive industries), historically from the industrial revolution (traditional industries (textile and leather), knowledge spillovers (high technology industries).	[9]
Increasing regional integration may lead export-oriented industries to locate at greater distance from each other in order to enjoy benefits from locations with lower factor costs	[6]
Primate cities and ports, historical legacy, physical geography	[15]
FDI acts as a centrifugal force for technology-intensive industries while it operates as a centripetal force on labour-intensive ones. It is due to the different nature of investments in these two distinct groupings. Technology-intensive industries have been more	[1]

Factors of spatial concentration	Reference
geographically concentrated compared to the non-technology intensive ones.	
Geographic clustering is most prevalent in the mining sector, less so, but still significant, in the agriculture and manufacturing industries, and not very evident in the services sector. Manufacturing industries that are intensively involved in international trade, either as importers or as exporters, are significantly more geographically concentrated than manufacturing industries with less involvement in trade.	[14]

3. Methodology and Data.

Prior to starting the analysis let us introduce the main notions. The concentration is defined in relation to the kind of economic activities, a sector, a subsector, a production group and so on and means the degree of concentration or sparseness of industrial production within the specific territory. Specialization is considered in relation to the region, namely, its occupational structure, and reveals the situation, when some kinds of production in the region dominate, or the production equals to diversification.

To analyze the concentration of industrial production we are going to use Herfindahl-Hirschman index, Gini index, Krugman and CR_3 and CR_4 concentration indices. The regional specialization will be evaluated by calculation of Krugman index (table 3).

Table 3. Methodological tools for assessment of the geographic concentration and regional industry specialization

Index	Calculation	Notation conventions
Evaluation indicators of the geographic concentration		
Herfindahl–Hirschman Index of industrial concentration (*HHI*)	$HHI = \sum_{i=1}^{n} x_i^2$	x_i - share of region *i* in total population size
Gini coefficient (*G*)	$G = 1 - 2\sum_{i=1}^{k} dx_i dy_i^n + \sum_{i=1}^{k} dx_i dy_i$	dx_i – share of group *i* in total population size; dy_i - share of group *i* in total feature size; dy^n_i - accumulated share of group *i* in total feature size.
Krugman Concentration index $CONC_i$	$CONC_i = \sum_j \left\| s^C{}_{ij} - s_j \right\|$, где $s^C{}_{ij} = \frac{E_{ij}}{E_i} = \frac{E_{ij}}{\sum_j E_{ij}}$, $s_j = \frac{E_j}{E} = \frac{\sum_i E_{ij}}{\sum_i \sum_j E_{ij}}$	E - the number of employed in the economy; $s^C{}_{ij}$ - the share of employed in the industrial sector in the region *j* in the total number of employed in the industrial sector in the country i; s_j - the share of total employed in the economy in the region i among the employed in the economy; i - the industrial sector; j - region.
Concentration index CR_3	$CR_{3i} = \sum_{j=1}^{3} s_{ij}$	i – the industrial sector; j – region (one of three or four) with the highest

Index	Calculation	Notation conventions
Evaluation indicators of the geographic concentration		
Concentration index CR_4	$CR_{3i} = \sum_{j=1}^{4} s_{ij}$	share of employed in the sector i; s_{ij} – the share of employed in the region j in the total number of employed in the sector i.
Evaluation indicators of regional specialization		
Krugman specialization index ($SPEC_j$)	$SPEC_j = \sum_i \left\| s^S{}_{ij} - s_i \right\|$, где $s^S{}_{ij} = \frac{E_{ij}}{E_j} = \frac{E_{ij}}{\sum_i E_{ij}}$, $s_i = \frac{E_j}{E} = \frac{\sum_j E_{ij}}{\sum_i \sum_j E_{ij}}$	E – the number of employed in the economy; $s^S{}_{ij}$ - - the share of employed in the industrial sector in the region j in the total number of employed in the industrial sector in the country i; s_j - the share of employed in the industrial sector i in the total number of employed in the country's economy i - the industrial sector; j - region.

Source: Amity 1998; Traistaru, Nijkamp, Resmini 2002; Wandel 2009

4. Results and Discussion.

For calculation of Herfindahl-Hirschman index as initial indicators, which will be used for evaluation of concentration, let us define the volume of industrial production, amount of capital stock investments, the employment (number of workers) and GDP of regions (fig. 1).

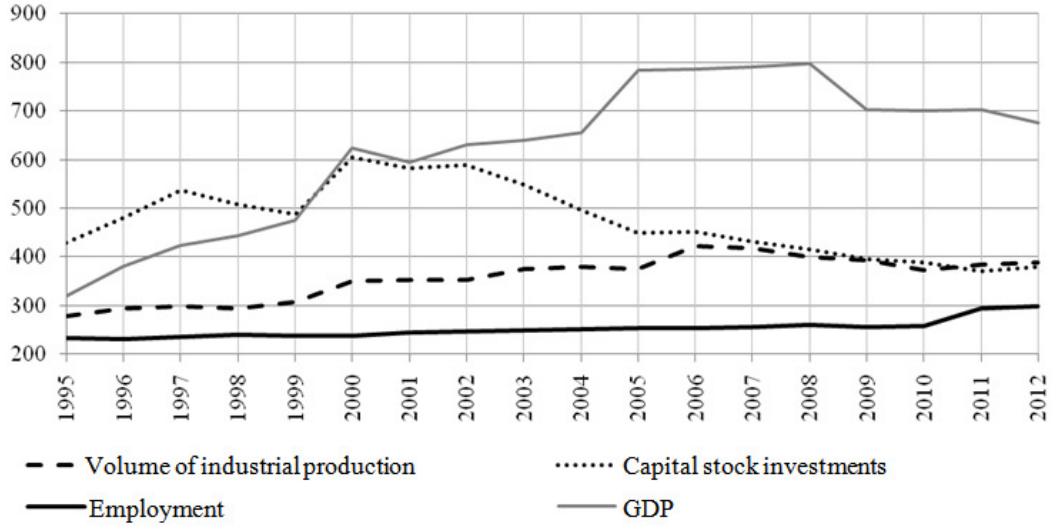

Fig.1 Dynamics of Herfindahl-Hirschman index calculated by volume of industrial production, amount of capital stock investments and number of employed ones in economy in 1990 – 2012

The concentration of industrial production by output volume and number of workers is stably increasing, while the capital stock investments become more diversified. GDP is increasing to 2008 and then it becomes more diversified.

Gini index, calculated for the analyzed period (by the number of workers in the industrial production), shows the growth of concentration up to 2008 (from 48.18% to 50.29%) and further stable decrease to 48.95%. In our opinion, this proves that the crisis phenomena enhance the production diversification among the Russian regions.

The Krugman index provides evaluation of concentration by certain types of the processing industry. Concentration in certain sectors can be discussed, when the significant part of production is realized in a small number of regions. The higher is the index, the higher is the level of concentration in the given sector of industry [20].

Then we will try to answer the following questions. How are the Russian regions specialized or diversified? What changes in the regional specialization took place during the period analyzed? Is there a connection between specialization of the region and economic efficiency?

In general, for the analyzed period the reduction of specialization index took place in 78.5% of regions, in three regions there were no changes, in the remaining regions the growth is observed. Averagely the highest level of specialization was noticed in 2003 (0.61), and the lowest one – in 2008 and 2010 (0.55).

Among all the regions let us highlight two groups with the highest index (over 0.75 for 5 years and over) and the lowest index (less than 0.35 during 5 years and over). Attributed to the group of more specialized regions can be 14 regions, and to the group of less specialized regions – only 11. Therefore, the remaining 53 regions have an average level of specialization. Let us calculate by two groups such indicators as the Gross Regional Product (GRP) calculated per capita, labour efficiency (as ratio of GRP to the number of workers), the average nominal wages and the unemployment rate.

We found out, that in the regions with a high degree of specialization such indicators and GRP per capita, wages and unemployment rate slightly exceed the average values in the country, and the labour efficiency is close to the average level in Russia. Thereby, we know that out of 14 regions of this group in seven regions the mining industry is actively developing[1]. Based on this fact we guess that the group with high index of specialization should be divided into two subgroups: regions with the strongest mining sector of economy (I subgroup) and other regions (II subgroup). The results of analysis are represented in table 4.

Table 4. –Average indicators of the most and least specialized Russian regions during the years 2003-2012

№	Region	Krugman specialization index, index	Average GRP per capita, rub. per person	Economic growth, index	Labour productivity, rub. per person	Average monthly nominal wages, thousand rub.	Export to GDP, %
1	2	3	4	5	6	7	8
	Russian Federation	0.60	204398	1.18	431513	15190	0.16
Regions with the highest level of specialization							
I subgroup - regions with a strong mining sector							
1	Chukotka Autonomous Okrug	1.41	576465	1.19	816967	35766	0.61
2	Arkhangelsk Region	1.11	222861	1.19	455979	16389	0.27
3	Sakhalin Region	1.03	631688	1.30	1108868	25999	0.56
4	Magadan Region	0.91	272393	1.14	479790	26395	0.06
5	Komi Republic	0.90	294024	1.18	585792	19366	0.15
6	Karelia Republic	0.86	154544	1.15	308599	14771	0.37
7	Sakha Republic (Yakutia)	0.78	311657	1.17	619176	22305	0.28
8	Samara Region	0.76	182268	1.16	376739	12619	0.41
Average value of the subgroup I		0,97	330738	1.19	593989	21701	0.34

[1] It should be noted, that the Krugman specialization index used in grouping the regions was calculated only based on the mining industry data. The conclusions on significant influence of the mining sector in these regions were made by us based on the structure analysis of their GRP.

№	Region	Krugman specialization index, index	Average GRP per capita, rub. per person	Economic growth, index	Labour productivity, rub. per person	Average monthly nominal wages, thousand rub.	Export to GDP, %
1	2	3	4	5	6	7	8
	Russian Federation	0.60	204398	1.18	431513	15190	0.16
Regions with the highest level of specialization							
Subgroup II – other regions							
9	Kamchatka Krai	1.12	223689	1.17	402236	25590	0.13
10	Ivanovo Region	1.1	73522	1.17	160848	9327	0.06
11	Tyva Republic	1.06	69773	1.19	205294	12503	0.01
12	Jewish Autonomous Region	0.94	132720	1.21	297238	14125	0.02
13	Republic of Ingushetia, Chechnya	0.93	99422	1.55	707045	9229	0.39
14	Altai Republic	0.92	80867	1.17	184927	10343	0.07
15	Adygea Republic	0.89	75804	1.23	219688	9267	0.03
16	Kalmykia Republic	0.86	66415	1.15	166274	8286	0.14
17	Lipetsk Region	0.83	179229	1.16	383749	11545	0,55
Average value of the subgroup II		0.96	111271	1.22	303033	12246	0.15
Average value of the group		0.97	221004	1.20	448511	16974	0.25
Regions with the lowest level of specialization							
1	Rostov Region	0.24	113192	1.19	253306	10970	0.20
2	Moscow Region	0.25	196352	1.22	470929	18268	0.09
3	Bryansk Region	0.27	87700	1.18	194248	9141	0.10
4	St. Petersburg	0.28	263936	1.20	507076	19112	0.33
5	Novosibirsk Region	0.29	145324	1.18	304379	13320	0.11
6	Bashkortostan Republic	0.3	155249	1.19	350520	12018	0.37
7	Nizhny Novgorod Region	0.33	149847	1.17	289886	11840	0.18
8	Smolensk Region	0.33	114383	1.17	230636	10613	0.22
9	Kaluga Region	0.35	138349	1.22	289492	12761	0.07
10	Chuvash Republic	0.37	98478	1.19	213555	9524	0.06
11	Orel Region	0.37	105996	1.14	212752	9637	0.11
Average value		0,31	142619	1.19	301525	12473	0.17

* Regions referred to a subgroup with a strong mining sector and the other in terms of the share of mining in GRP in 2012 (over 14.1%).

Thus we can see that in the group "regions with a strong extractive sector," the average value of the index of specialization P. Krugman is 0.97, which is 0.37 (or 1.62 times) higher than the average national value. GRP per capita exceeds the national average in 1.62 times, the dynamics of economic growth is virtually identical (1.19 vs. 1.18 – in the Russian Federation). Labour productivity are also higher in these regions in 1.38 times, and wages - 1.43 times. It is logical to suggest that the economy of regions with a strong extractive sector is export-oriented. This is confirmed by the export quota, value of which in the group is much higher than national average (0.34 vs. 0.16).

The average value of the index of specialization P.Krugman in the group "other regions" is 0.96. We must note that GRP per capita is almost two times lower than the national average, with more confident dynamics of economic growth (index - 1.22). Productivity is also lower in this group of regions, it is 303 033 rubles/ per person (the national average - 431513 rubles), salary - 12 246 rubles (the national average - 15 190 rubles). These regions can not be considered as export oriented (with the exception of the Republic of Ingushetia and the

Chechen Republic, the export quota where is 0.39% of the GRP and the Lipetsk region (0.55%)). Average export quota in the group is 0.15%.

The third group - the regions with the lowest level of specialization - has a median P.Krugman 0.31. GRP per capita below the national average, but a few higher than the previous group. The rate of economic growth has national average value. Labour productivity (as well as the export quota) is two times lower than in the group with a strong extractive sector. Average monthly wage in the regions of this group are comparable with the group "other regions" (average for the period under review - 12473 rub.).

5. Conclusions.

Thus, we see that the most important factors of economic development of the region by a number of indicators becomes its endowment (and extraction) minerals, as well as export-oriented economy. We can draw attention, that the narrow specialization in any sector of the industry "can afford" themselves only regions, providing development of their economies due to mining production. In other cases, a profound specialization of Russian regions are ineffective.

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NON-LINEAR REGIONAL INCOME DIVERGENCE AND POLICIES: TURKEY CASE

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Abstract

The literature on economic convergence is strongly influenced by Neo-Classical Growth model. It describes a monotone saddle path along which each economy converges towards a unique steady state. Commonly employed method in convergence analysis is the linear cross-sectional regressions which links the annual growth rate of regions to their initial income level. Ignoring the non-linearities is important from a policy perspective that implications obtained from a linear regression can be very different to the policies learned from a non-linear case. Aim of the present study is to analyze regional income convergence in Turkey by using nonparametric convergence regressions. We implement our study for 67 provinces and a period 1975-2000. We find that the relationship between initial income and growth takes a inverted-U shape which means that the very low-income and high-income group of provinces experince a slow growth pattern compared to middle-income group. This has several implications for regional economic policies. First, middle-income provinces are able to stimulate their economies and fulfill their potential for convergence by market forces. Second, however, the very low-income provinces need a substantial help and assistance.It, therefore, becomes a natural necessity to direct policy instruments such as subsidies, direct and indirect income transfers, tax exemptions and other resources to these areas. In this way, nonparametric estimations provide a very useful guide to the way how the resources should be allocated across provinces.

Keywords: Convergence, nonparametric regressions, Regional Policies
JEL classification: R11, R12

1. Introduction

The literature on economic convergence is strongly influenced by Neo-Classical Growth model. (Solow, 1956; Barro, and Sala-i Martin, 1991;1992). It describes a monotone saddle path along which each economy converges towards a unique steady state (Solow, 1965; Barro and Sala-i Martin, 1991;1992) . At the steady state, each economy will have an equalized level of per capita income (Solow, 1965; Barro and Sala-i Martin, 1991;1992). From a regional perspective, convergence process is present only if initially poorer regions experience higher growth rates than richer ones. (Barro and Sala-i Martin, 1991;1992). This catch-up proposition has been tested by a large number of empirical studies. The most famous ones are implemented by Barro and Sala-i Martin (1991) who examine the regional convergence across 48 contigous U.S. states from 1880 to 1988 , Rey and Montouri (1999) across 48 States over a period 1929-1994, Armstrong (1995) across EU regions for a period 1950-1990, Mankiw et al. (1992) across 121 countries over a period 1960-1985. All have reported evidence in favor of converging patterns except Mankiw et al. (1992).

From a methodological point of view, commonly employed tool is the cross-sectional regressions in this field. In detail, it links the annual growth rate of regions to their initial income level (Barro and Sala-i Martin, 1991;1992). This is known as beta-convergence in terminology. A negative (positive) relationship indicates the presence of income convergence (divergence) (Barro and Sala-i Martin, 1991;1992).

So far, in the literature, this relationship is assumed as parametric and linear in variables. Ignoring the non-linearities, however, creates two major drawbacks. First, convergence speed found in linear form can be excessively lower or higher than the non-linear form. In such a

case, speed of "convergence" can be overly or underestimated. Second drawback is related to regional policies. The policy implications obtained from a linear model can be very different to the policy lessons learned from a non-linear case.

Therefore, in this study, we find it valuable to investigate the possible non-linearities in convergence (or divergence) processes. Aim of the present study is to analyze this issue for 67 Turkish provinces for a period 1975-2000 and understand how non-linearity can significantly alter the policy implications.

With regard to our place for study, Turkey is a very interesting case among others. It includes large spatial and economic imbalances. A number of studies on regional income inequalities and convergence has been implemented over the last few decades Their findings in general point to the lack of convergence and highly persistent regional inequalities between east and west part of the country.

There are number of empirical papers that evaluate the regional convergence in Turkey. Filiztekin (1999), for instance, has analyzed the convergence patterns among Turkish provinces from 1975 to 1995 and found a persistent pattern of inequalities with a club convergence and polarization. Karaca (2004) has analyzed the same issue for Turkish provinces for a period 1975-2000 and found evidence of diverging regional incomes. Kırdar and Sirinoglu (2006;2008) has found divergence among 67 provinces for a period 1975-2000. Similarly, Gezici and Hewings (2007) point to an increase in interregional disparities from 1980 to 1997. Finally, Yıldırım et. al. (2009) have investigated the evolution of disparities across regions (NUTSI and NUTSII) and reported evidence of declining inequalities from 1987 to 2001.

A number of reasons behind the observed inequalities and divergence patterns in Turkey were discussed in the literature. Liberal economic policies during 1980s and 1990s are claimed to favor the already developed urban areas (i.e. metropolitan cities) while leaving the rural and backward regions unfavoured (Gezici and Hewings, 2007, Yıldırım et al. 2006;2009, Karaca, 2004; Filiztekin, 1999). Intensity of trade openess and massive financial liberalization in recent decades are claimed to create several growth poles which has led to the further widenning of the gap between poor and rich areas. Cohesion policies, such as five-year development plans and subsidy programs targeting the priority places in development have been in force since the 1960s which are often criticised to be inadequate to maintain economic and territorial equality (Gezici and Hewings, 2007, Yıldırım et al. 2006;2009, Karaca, 2004; Filiztekin, 1999). Moreover, migration patterns can also be referred as an important factor behind divergence as the backward regions loose their human capital base through the out-migration (Kırdar and Sirinoglu (2008)).

Structural problems of underdeveloped regions such as lack of developed infrastructure, inadequacy of human and physical capital are among the reasons of backwardness (Gezici and Hewings, 2007, Yıldırım et al. 2006;2009, Karaca, 2004; Filiztekin, 1999)

With regard to the methdology adopted in this paper, we employ various parametric and non-parametric regressions such as LOESS (Cleveland, 1979; 1981, Cleveland and Devlin, 1988) Kernel Regressions, Nadaraya-Watson (Nadaraya, 1964; Watson, 1964) and Local Polynomial Regressions (Fan and Gijbels (1996))

Remaining part of the paper is organized in a following way: in section 2, we adopt a linear framework to test the absolute beta and sigma-convergence. in section 3, we introduce nonlinearity in regressions. Finally, we conclude our study in section 4.

2. Regional convergence tests, linear model.

The first step in our empirical analysis is to choose a variable of interest . It is per capita real GDP for 67 provinces. The dataset used in this paper has been obtained from Kasman and Turgutlu (2009) and Karaca (2004) who constructed it using resources from Özötün (1980;1988) SPO (State Planning Organization) and Turkstat (Turkish Statistical Institute).

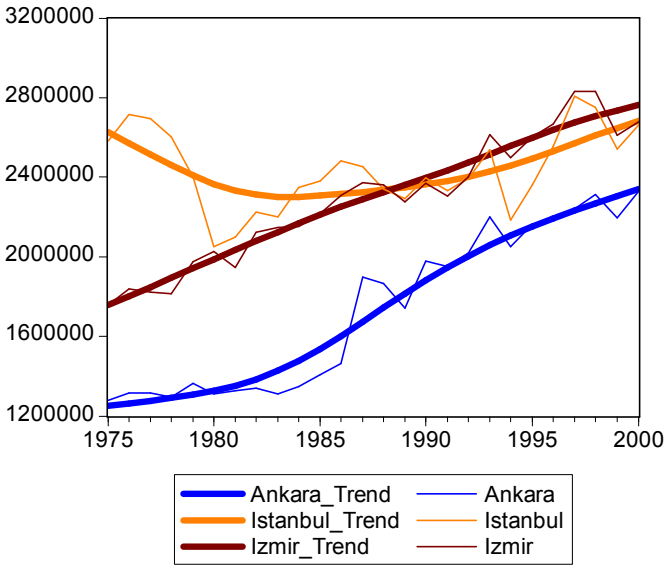
Before starting our convergence analysis, a technical concern should be cleared. In general, per capita incomes are subject to business cycle fluctuations in the short-run which might significantly bias the long-run convergence results. This distortion has been clearly shown in Magrini et al. (2015) and Gerolimetto and Magrini (2014). To handle this, we apply a Hodrick-Prescott (1997) (HP) filtering to 67 provincial incomes which removes the cyclical fluctuations and focus solely on the long-term trend.

In detail, let y be the income, then HP filter minimizes the following term with respect to long term trend of the variable (τ) (Hodrick-Prescott, 1997; Duran, 2014):

$$\min \sum_{t=1}^{T} (y_t - \tau_t)^2 + \lambda \sum_{t=2}^{T-1} \left[(\tau_{t+1} - \tau_t) - (\tau_t - \tau_{t-1}) \right]^2$$

The first component shows the deviations of income from its trend while second part demonstrates the variation of trend in time. λ is the penalty parameter which determines the degree of trend smoothness. We set λ=100 as commonly accepted in the literature. As an example, we present graphically the provincial income and trends of 3 biggest cities which cover approaximately 1/3 of country's population. The HP filtered long term trend of incomes $(\hat{y})$ are depicted in smoothed thick lines where fluctuating ones are the actual incomes (Figure 1).

Figure 1. Income trends of 3 biggest provinces



In order to test the regional income convergence, we follow the conventional regression equation (Barro and Sala-i Martin 1991; 1992):

$$\frac{1}{T}\log\left(\frac{\hat{y}_{i,2000}}{\hat{y}_{i,1975}}\right) = \gamma - \left(\frac{1-e^{-\beta t}}{T}\right)\log \hat{y}_{i,1975} + e_i \quad (1)$$

in which β is commonly estimated using a nonlinear least squares approach in the literature (Karaca, 2004; Ersungur and Polat, 2006; Kırdar and Sirinoglu, 2006;2008). However, the result of equation (1) produces only a unique parameter β and, thus, it gives us a linear relationship between initial income and growth, although the estimation procedure is nonlinear. To illustrate the nonlinearity explicitly, we follow a nonparametric regression approach in section 2.

However, for the linear case, we use a simplified version of equation (1)

$$\log\left(\frac{\hat{y}_{i,2000}}{\hat{y}_{i,1975}}\right) = \delta + \rho \log \hat{y}_{i,1975} + e_i \quad (2)$$

The independent variable $\hat{y}_{i,1975}$ is the trend-income (logged) of province i at year 1975 (initial year). The dependent variable is the growth rate of provinces, logged differences of per capita trend -income between year 2000 and 1975. e_i is the error term that is assumed to follow an independent, identical normal distribution with zero mean and constant variance. Hence, a negative (positive) and significant estimation of β would indicate the evidence of converging (diverging) provincial incomes.

Table 1. Beta-convergence Regression Results

	model (1)	model (2)	model (3)	Model (4)
constant	-0.84	-0.80	-1.27*	-1.10
log_yt	0.17*	0.196*	0.236*	0.215*
log_pop		-0.033	0.009	0.0015
d_istanbul			-0.295***	
d_three				-0.09
R_Squared	0.05	0.06	0.12	0.07
F_Stat	3.75*	1.98	2.83**	1.63
White	2.34	4.09***	2.62**	2.84**
Breuch-Godfrey	0.68	0.60	1.30	1.01
N	67	67	67	67

Notes: *** significance at 1%, ** at 5 %, * at 10 %, in models (2), (3),(4), White-heteroskedasticity robust standard errors are used.

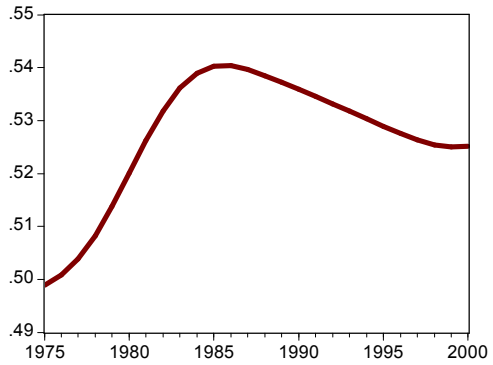
The results are summarized in table 1. In the first column, equation (1) is fitted, in the second, third and fourth columns, population of provinces, dummies for istanbul and three biggest provinces are added respectively. In all cases, β is positive and significant. So, it indicates evidence of income divergence, hence, increasing disparities across provinces.

To support this finding, we analyze the validity of divergence using also a time series approach; sigma-convergence. We calculate coefficient of variation (CV) across 67 provinces:

$$CV = \frac{\sigma(\bar{y})}{\bar{y}}$$

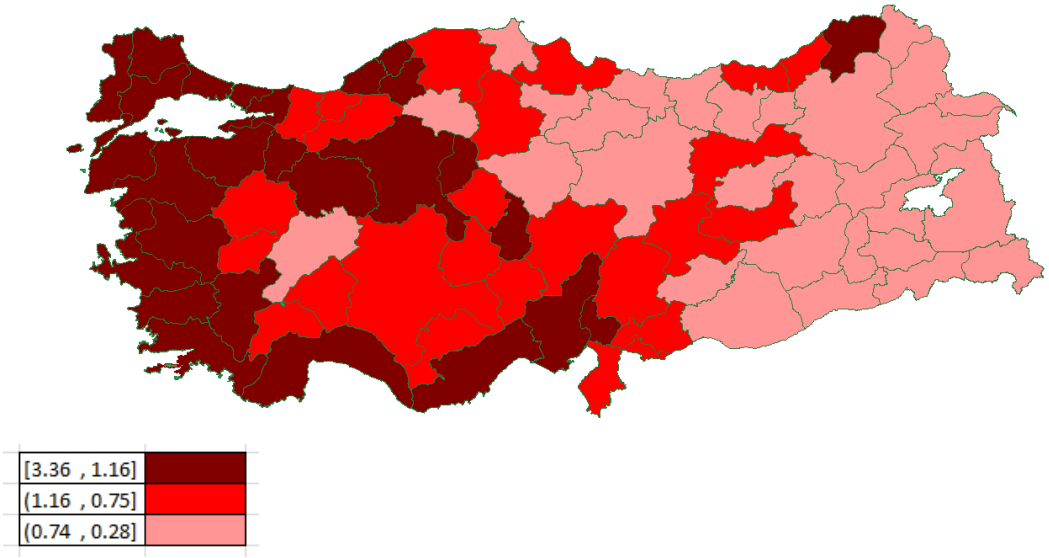
which CV is calculated by dividing cross-sectional standard deviation of income $\sigma(\bar{y})$ into its mean, $\bar{y}$. We calculate CV for each year. Its evolution is presented in Figure 2. It follows a very clear upward trend until the late 1980s and a small decline afterwards. It therefore respresent a confirmation of income divergence found in beta-convergence analysis.

Figure 2. Coefficient of Variation, Evolution of income disparities



To illustrate the geographical distribution of income over time, we map the relative incomes (averaged over the period 1975-2000) of provinces by categorising them into 3 sub-groups (high-medium and low incomes) (Figure 3):

Figure 3. Geographical Distribution of relative income, average=1



A very important feature appears to emerge from the map. It is the severity of income gap between low and high income group. Such that the richest province has real relative income 3.36 times more than an average province. Moreover, the poorest province has only 20 % of income relative to an average province.So, the richest has real income about 11 times more than the poorest one which indicates a dramatic imbalances across regions.

3. Non-linear convergence patterns

As anticipated, introducing the nonlinearities might give quite different implications than the linear case. Hence, we pursue this analysis in the present section.

In terms of methdology, we use several non-parametric fitting techniques. For all techniques, the following function is estimated:

$$\log\left(\frac{\hat{y}_{i,2000}}{\hat{y}_{i,1975}}\right) = F\left(\log \hat{y}_{i,1975}\right) + u_i$$

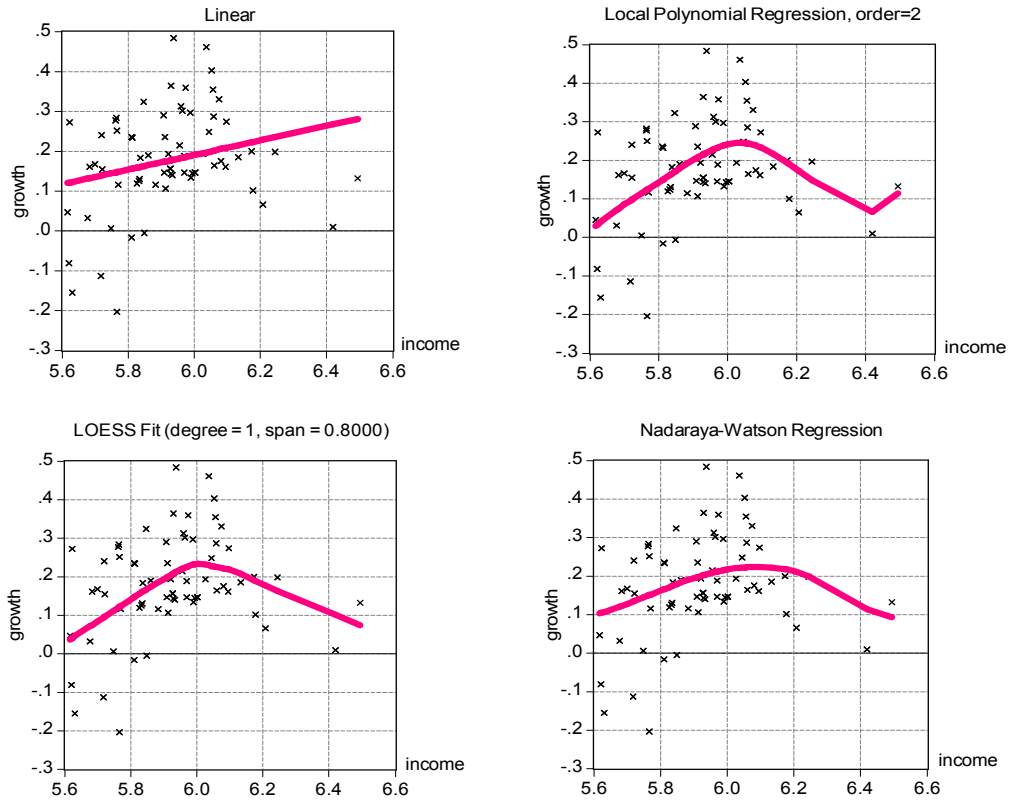
Specifically, we employ the following fitting techniques; linear regression, LOESS nonparametric regression, local polynomial regression of second order and Nadaraya-Watson regression which is a type of Kernel regression. (Cleveland, 1979; 1981, Cleveland and Devlin, 1988; Nadaraya, 1964; Watson, 1964; Fan and Gijbels,1996). The estimations are presented in Figure 4.

Linear case exhibits a clear positive relationship, as found before. However, in others, the relationship between initial income and growth takes a inverted-U shape. This bell shaped relationship is consistently present in all nonparametric estimations

It basically means that the low-income and high-income group of provinces experince a slow growth pattern compared to middle-income group which seem to grow quite fast. This has several implications for regional economic policies.

First, middle-income provinces are able to stimulate their economies and fulfill their potential for convergence by market forces. Hence, additional resources shall not be directed to these areas.

Figure 4. Nonparametric Convergence Regression Results



Second, however, the very low-income provinces need a substantial help and assistance.It, therefore, becomes a natural necessity to direct policy instruments such as subsidies, direct and indirect income transfers, tax exemptions and other resources to these areas. Moreover, structural problems of these backward regions should also be solved by improving the physical and social infrastructure, health, education, physical and social capital formation.

In this way, nonparametric estimations provide a very useful guide to the way how the resources should be allocated across provinces which contrasts with the linear case.

4. Conclusions

This paper has investigated the tendency of provincial inequalities in Turkey and importance of nonlinearities in the divergence process. In terms of methodology, we used both a cross sectional linear model, a time series approach and non parametric regressions.

The study reaches to two important conclusions. First, income disparities across provinces tend to intensify over the period 1975-2000 which indicates a long run divergence pattern. This finding has been robustly shown with a cross sectional (beta-convergence) and a time series method (sigma-convergence).

Second, once we introduce the nonlinearities in regressions, an inverted-U shaped relationship between intial income and growth rate of provinces is observed. Hence, it implies that middle-income provinces are growing at the fastest pace while the very poor and rich ones grow slower.

Overall, it has been clearly shown that nonlinear pattern can significantly change the policy implications compared to the linear case. According to this, additional public sources like subsidies, tax exemptions, direct and indirect transfers, should be directed to the very-underdeveloped areas instead of middle income places which will help maintaining social and territorial cohesion.

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THE SPATIAL DIMENSION OF ENVIRONMENT-RELATED ATTITUDES: DOES URBAN OR RURAL ORIGIN MATTER?

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Abstract

Aim of this research is to analyze the role of the urban or rural origin of students in their environment-related attitudes. Standardized questionnaires were completed by 315 students of environment-related departments (Forestry, Farming Enterprise Management, Crop Production and Landscape Architecture), originating from various villages, towns and cities of Greece. The research was conducted from 2007 to 2013. Spearman test (bivariate correlation) was used and in-depth interviews were conducted. The following results have derived: The environmental profiles (more anthropocentric or eco-centric) as well as the susceptibility to hunting do not depend on the origin. The organized involvement in environment-related issues (participation in associations) is more restricted in rural-originated interviewees. They latter also present a greater tendency to abuse animals than the urban-originated students. Interviewees of both urban and rural origin appear to be similarly receptive (or critical) to the institutional necessity of the Ministry of Environment. Urban interviewees are more familiar with certain environmental policy concepts (e.g. "environmental education", "biodiversity problem") while rural-originated students are less receptive (or more deconstructive) to these. The perception of naturalness appears to be quite independent of the origin. The attractiveness of certain environmental elements is differentiated between urban- and rural-originated students, depending on either the feeling of familiarity or on the need of escaping from anxiety or monotony. The way of familiarization with the notion of "forest" does not markedly differ between rural- and urban-originated interviewees (the urban-originated ones are more influenced by comics). Rural-originated students tend to consider their study as a practical training while urban students as a science, mainly focusing on physico-biological subjects. Issues such as the propagandistic instrumentalization of the notion of "environmental problem", the deconstructive or defensive discourse toward "environmental issues", perception of landscape, in-situ experience, and universal aesthetic values in relation to origin are discussed.

Keywords: environmental attitudes, family-related and region-related origin, environmental education

JEL classification: Q5, R2

1. Introduction

Subsequent to previous article (Goula et al. 2015), which suggests a spatial-based typology of students' attitudes toward environmental issues, the present work aims at depicting the influence of students' origin on their attitudes toward environment-related issues. The origin is distinguished in region-related (permanent residence of student in village, small towns and

big cities, particularly Athens and Thessaloniki), which is the explicitly spatial dimension, and in family-related (rural or urban job or home of parents), which reflecting an implicitly spatial dimension, as the characterization of a job or home as "rural" or "urban" is rather a perceptual approach of each interviewee (student).

The article of Goula et al. (2015) focused on determinants of attitudes separately in the sample of 101 students from villages and 99 from Athens and Thessaloniki (total sample=200), considering these extreme conditions of rurality and urbanization as explicitly different settings, in which various determinants influence in different ways the attitudes and the environmental profiles of students, without examining the effect of their origin on these attitudes and profiles.

In the present paper, the sample has been extended to 315 students (incl. the 200 students of the previous study=101 from capital cities+ 99 from Athens and Thessaloniki, and 115 more, who are permanent residents of capitals of prefectures). The origin (region- or family-related) is considered not as a setting (namely as a background/condition, under which the effect of various determinants on attitudes and profile is differentiated) but as a determinant of attitudes. The diagnosis of origin parameters influencing or being irrelevant to the environment-related attitudes of the students is expected to constitute the academic added value of the present article for Regional Science and the possible practical added value for policy-making and Environmental Education.

As this paper and the paper of Goula et al. (2015) are based in part on the same primary data and handle attitudes to environment-related issues, they use the same literature. Both papers have been in part motivated by spatial-planning issues raised by and in the framework of the multi-level EU integration process, which interact with local driving forces and the implications of regional governance and make the exploration of their role in environment-related issues necessary (Gioti-Papadaki 2014, 2013, 2012a, 2012b, 2008, Gioti-Papadaki & Papadaki 2011, Gioti-Papadaki et al. 2014). The importance of socio-political and developmental dimensions of spatial planning also build a framework of significant importance for the environmental attitudes (Leotsakos et al. 2014, Papadopoulou et al. 2012, Scott et al. 2013, Prager et al. 2015, Ives & Kendal 2013, Baur et al. 2013). Insightful results pointing out the spatial character of environment- and development-related attitudes but only in case of landowners and not of students have also been proposed (Bastian et al. 2014).

Particular regional-analytical approaches in relation to environmental policy, land use policy analysis and Natural Resource Management have also been extensively discussed (Ladias et al. 2013a, Ladias et al. 2013b, Ladias et al. 2014α, Ladias et al. 2014b, Ladias et al. 2013c). The role of regional differences in the building of environmental attitudes has been depicted but in primary and not in Higher Education (Ürey et al. 2009). Considering further studies, the relation of these issues to education policy at Higher Education is still just a little explored field (Lozano et al. 2013, Karatzoglou 2013, Vicente-Molina et al. 2013). It has been supported that social-personal parameters, incl. origin, influence the environmental attitudes (Meerah et al. 2010, Zsóka et al. 2013, Yu 2014, Masud & Kari 2015). However, the list of possible characteristics which may influence environmental attitudes as well as of the possible prejudices which still exist and can be deconstructed are unexhausted.

2. Method

2.1. Data collection and process

Standardized questionnaires have been completed from 2007 to 2013 by 315 students. In-depth interviews were also conducted. This sample was academically distributed as follows: 31% from the Forestry department at the Technology Institute University of Kavala (branch of Drama), 34,3% from Landscape Architecture department (at the same institution of Kavala, branch of Drama), 9,8% from Farming Enterprise Management department at the Technology Institute University of Thessaloniki-Sindos and 24,9% from the Crop Production department (at the same institution of Thessaloniki-Sindos). Spatially, their permanent residence were distributed as follows: 32,7% from non capital cities (small towns-villages), 35,2% from capital cities of prefectures and 32,1% from Athens and Thessaloniki (the two largest cities of Greece). Their age varied from 18 to 60 (mean= 23). The study duration varied from 1st to 20th semester (mean=6th). 66,1% were female and 33,9% were male students.

Although the aim of this research was not to produce representative descriptive statistics and, thereby, no random sampling was necessary, the questionnaires were completed by students in laboratories where the participation was compulsory. Thus, students of all possible characteristics were included in the sample and not only those who are most attentive. In other words, the particular descriptive statistics is expected to be present properties of a representative random sample. Of course, the features may vary from year to year, as students of different "quality" (school grades and performance) are enrolled.

The data were processed with the bivariate correlation test of Spearman at significance level 5%(*) and 1%(**). Such a non parametric test eliminates the possible effect of outliers.

2.2. Particular comments on Charles Spearman test

This is a bivariate correlation test between X and Y, as Pearson test. However, the Spearman formula (1) does not use the observed values but transform them in a scale of equal intervals (e.g. X1=1, X2=5 X3=9 X4=13 X5=97 are transformed in $\chi1=1$ $\chi2=2$ $\chi3=3$ $\chi4=4$ $\chi5=5$, respectively). In this way, the impact of the outliers, which could "deform" the reality of the dominant tendencies, is eliminated. Simultaneously, effects of non-linearity are also excluded (with all subsequent advantages or disadvantages regarding credibility or accuracy).

$$\rho = 1 - \frac{6\sum (x_i - y_i)^2}{n(n^2 - 1)} \qquad (1)$$

The counter-argument is that Pearson test is more reality-credible, as it incorporates all observed values, even the outliers, enabling a total detection and depiction of the reality, without the "arbitrary" transformation of Spearman test, which produces just "smart" results. From another point of view, Spearman test yields "safer" and more "reserved" results in the framework of a restricted (micro-) reality, "compressing" the outliers in the narrower scale of a more cohesive scatter plot.

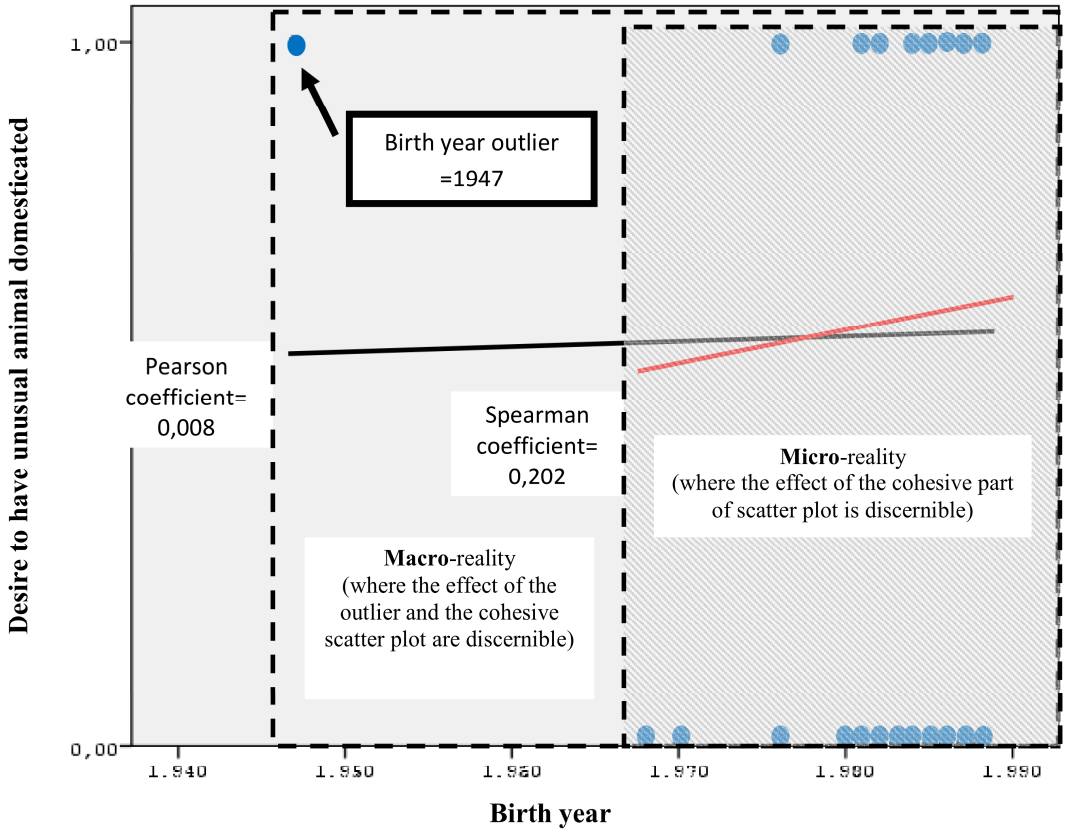
On the other hand, Pearson test yields results of the macro-reality, including all observed values as measured and not only pairs of values which are located close to each other (part of the whole observed scatter plot). The coefficient ρ varies from +1 to -1, depending on whether the equation y=f(x) is increasing or decreasing. It is possible to produce interpretable results for binary as well as for any so-called "ordinal", "interval" and "ratio scale" variables.

In the present research the variables measured in ordinal scale of a few ranks. Most of them are binary. Thus, there is actually no question of outliers. The results have also been verified by the non parametric Kendal test and by the parametric Pearson test as well. These have produced significant coefficients of same sign (+, -) in the respective cases of correlation.

For reasons of deeper understanding, the following diagram 1 from Goula et al. (2015) is presented. In this diagram the birth year included values that could be considered as outliers which can cause differentiation of the results between Pearson και Spearman test. Due to the outlier 1947 the parametric Pearson test yields the weak coefficient 0,008 between the "*Desire to have unusual animal domesticated*" and the "*Birth year*", which implies independence between these variables. On the contrary, due to the "compression" of the outlier, Spearman test depicts (and Spearman coefficient expresses) a stronger correlation between these variables.

Thereby, applying the "deforming" test Spearman in the particular research seems to be useful for extracting "safer" conclusions. At this point, it is sensible to emphasize that as a rule in any social research the correlations do not have a calculative but just an indicative purpose, regarding the dominant tendencies.

Diagram 1. Comparative depiction of Pearson and Spearman test (Goula et al. 2015)



3. Results and discussion

3.1. Environmental profile

In table 1 it is noticeable that no significant correlation appears. It could be expected that students with rural origin would be more susceptible to exploitative and anthropocentric attitudes. Thus, they would have markedly avoided vegetarianism in comparison with urban students. However, such a hypothesis is not supported by the particular findings.

The desire to keep domestic carnivore animals and subsequently to feed them with mead of other animals shows a racist attitude toward animals and not an equity-based and generally eco-centric handling toward them. Such a desire does not significantly depend on the origin. The desire for a closer familiarity with peculiar ("exotic") natural values (domestication of unusual animals) seems also to be independent of any origin pattern.

The sensitiveness to natural entities (e.g. desire to save a tree in the personal house yard) is also not strongly differentiated between rural- and urban-originated students, though it would be expected that rural population does not tend to adopt the natural values of urban people, as the rural people are de facto brought up with more nature-exploitative values.

Table 1. Environmental profile

	Region-related origin	**Family-related origin**							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Being a vegetarian by ideology (no=0, yes=1)	,019	-,011	,060	,007	,112	-,020	,024	-,011	,013
	,740	,850	,296	,905	,051	,730	,678	,841	,814
Desire to have a carnivore domesticated (dog, cat etc) (no=0, yes=1)	,003	,050	-,027	-,018	-,009	-,018	,023	,059	-,050
	,956	,382	,631	,757	,878	,747	,683	,296	,378
Desire to have unusual animal domesticated (monkey, wolf, lion, bear etc) (no=0, yes=1)	,047	-,012	-,061	-,019	-,101	,056	-,047	,032	-,028
	,404	,828	,280	,734	,077	,323	,408	,566	,622
Desire to save a tree in your house yard in case of technical works (no=0, yes=1)	-,018	,009	-,047	,024	-,103	-,014	,010	-,003	,001
	,745	,880	,414	,673	,071	,803	,866	,956	,988

3.2. Social embedment

The organized involvement in environment-related issues such as animal welfare and protection, environmental conservation as well as scouting (which is a pedagogy method strongly connected with natural values) through membership in associations appears to be negatively related to the parents rural profession (-0,141 to -0,113 and -0,133 to -0,167).

Thus, the rural way of life seems to restrict free time or scope for developing interest in such an organized participation. The intensive occupation with rural work, the simultaneous adoption of exploitative attitudes toward natural environment and in certain areas the geographical inaccessibility makes the involvement in associations difficult. Such associations represent conservationist ideologies, which normally find resonance in urban population.

Table 2. Social embedment

	Region-related origin	**Family-related origin**					
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job rural (no=0, yes=1)**	**mother's job rural (no=0, yes=1)**	**father's home urban (no=0, yes=1)**	**father's home rural (no=0, yes=1)**	**mother's home urban (no=0, yes=1)**	**mother's home rural (no=0, yes=1)**
Membership at animal protection/ welfare association (actual=2, desirable=1, not all=0)	,079	**-,141(*)**	**-,133(*)**	,083	-,080	,054	-,059
	,160	**,013**	**,019**	,142	,156	,339	,300

	Region-related origin	Family-related origin					
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job rural (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Membership at environmental association (actual=2, desirable=1, not all=0)	,033	**-,113(*)**	-,100	-,031	,025	-,023	,021
	,558	**,046**	,079	,588	,660	,680	,718
Membership at scout association (actual=2, desirable=1, not all=0)	,044	-,020	**-,167(**)**	,077	-,072	,038	-,035
	,441	,724	**,003**	,176	,208	,508	,539

3.3. Susceptibility to hunting

The susceptibility to hunting is one more constellation of attitudes that appears to be totally independent of the origin parameters measured in this research. Neither the character (urban or rural) of the residence nor even the family character (urban or rural) seems to influence the tendency to the students to deal with hunting or not. Urban- or rural-originated students present equal susceptibility to be hunters (organized in hunting association) or even support the prohibition of hunting or coming in conflict with hunters. Thus, practice or idea of hunting (or disagreement with the practice or idea of hunting) does not have any origin. There are various species which are suitable quarry both for rural and urban population. There are also areas which are equally accessible for both of them.

Concerning hunting as value and idea, this seems to be compatible with the value systems of both population. Although rurality seems to be incompatible to animal protectionism (s. table 2), it does not to enhance hunting idea more than urban value system. Obviously, hunting seems to be connected with an attitude different from being protectionist or friendly to animals or not. Apart from that, it should not be disregarded that hunters are cooperating with dogs, which also are animals and can be appreciated or even loved as non-human "friends" by the hunters.

Table 3. Susceptibility to hunting

	Region-related origin	Family-related origin						
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Membership at hunting association (actual=2, desirable=1, not all=0)	,049	-,025	,072	-,084	,011	-,007	,067	-,066
	,392	,662	,204	,141	,852	,900	,235	,247
Agree with prohibiting hunting (for all species=2, for some species=1, for no species at all=0)	,055	-,038	-,082	-,091	,004	-,020	-,011	,004
	,329	,504	,151	,112	,939	,725	,841	,948
Conflict with hunters about whether hunting is something "bad" or "good" (no=0, yes=1)	,031	-,035	,070	,060	-,053	,033	-,007	-,003
	,579	,534	,215	,290	,355	,565	,898	,962

3.4. Behavior to animals

In table 4 the exploitative attitude of rural population toward animals is revealed (0,138 to 0,130; 0,181 to 0,128; 0,149 to 0,157; -0,120 to 0,142) and the protectionist attitude of urban population is depicted (-0,124; -0,135 to -0,133; -0,117; -0,139 to -0,152; -0,116 to -0,140).

In contrast to table 1, where no tendency to exploitation of nature in general is detected, in table 4 the animal is a particularly focused natural element which is considered to be more familiar to the human feelings. Thus, the rural up-bringing which is intensively oriented to nature exploitation is needed to overcome hesitations against any behavior to animals which can be considered as abuse.

The possible tendency of killing of poisonous animal in nature, even in case of not direct threat for the human life seems to be equally appearing in both urban and rural population (insign. coefficients). Evidently, even the potential threat is enough reason for everyone to kill animal.

Table 4. Behavior to animals

	Region-related origin	**Family-related origin**							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job urban (no=0, yes=1)**	**father's job rural (no=0, yes=1)**	**mother's job urban (no=0, yes=1)**	**mother's job rural (no=0, yes=1)**	**father's home urban (no=0, yes=1)**	**father's home rural (no=0, yes=1)**	**mother's home urban (no=0, yes=1)**	**mother's home rural (no=0, yes=1)**
Would you kill poisonous animal in nature, even if it did not threat you directly? (no=0, yes=1)	-,035	-,045	,023	-,004	,012	-,036	,032	-,044	,035
	,535	,428	,679	,943	,829	,531	,577	,440	,534
Have you abused animals before the age of 10? (no=0, yes=1)	,006	-,070	**,138(*)**	-,021	,111	**-,139(*)**	**,149(**)**	-,094	,099
	,920	,219	**,015**	,715	,051	**,014**	**,009**	,095	,080
Have you abused animals after the age of 10? (no=0, yes=1)	,020	**-,135(*)**	**,164(**)**	-,089	**,181(**)**	**-,125(*)**	**,133(*)**	**-,116(*)**	**,120(*)**
	,728	**,018**	**,004**	,120	**,001**	**,028**	**,019**	**,041**	**,035**
Have you abused animals today? (no=0, yes=1)	-,006	**-,133(*)**	**,130(*)**	**-,117(*)**	**,136(*)**	**-,152(**)**	**,157(**)**	**-,140(*)**	**,142(*)**
	,918	**,019**	**,022**	**,041**	**,017**	**,007**	**,006**	**,014**	**,012**
Have you killed animals after the age of 10? (no=0, yes=1)	**-,124(*)**	-,036	,004	-,024	**,128(*)**	-,040	,026	-,010	,013
	,028	,525	,943	,670	**,024**	,487	,650	,857	,822

3.5. Perception to environmental concepts

How critical the attitudes toward environmental concepts are seems to be depends, to certain extent, on the origin (table 5). The purely spatial characteristic, namely the rural or urban character of the residence, does not appear as relevant to the any attitude (insign. coefficients). Thus, population of any area or family-related origin, independent of its rural or urban character, seems to be equally receptive and susceptible (or not) to the necessity of a separate policy field called "environmental policy" and of a respective institution responsible for this (ministry of environment). The deconstructive attitude that the so-called "environmental problems" can be more effectively confronted by other specialized ministries (e.g. pesticides impacts by the ministry of agriculture, marine pollution by the ministry of marine affairs, potable water pollution by the ministry of health etc) as well as the politically

constructivist attitude that "environmental problems" constitute a new type of "problem" and subsequently the existence of ministry of environment makes sense is equally possible to appear in both rural or urban population.

The former attitude, that the ministry of environment is useless, implies latently but clearly that this institution as well as its object, the "environment", the "environmental policy" and the "environmental issues" are not really new legal and politico-administrative entities but just new nominal entities aiming at creating new posts for appointing civil servants and politicians, new jobs in private sector (e.g. planners, engineers involved in environmental impacts assessments) as well as new political issues for debates and new discourses aiming at drawing the attention of the public away from other critical issues of the everyday life (e.g. poverty, unemployment) or of the international arena (e.g. wars). Thus, this attitude implies that the concept of "environment" and "environmental policy" and "issues" are nothing but propaganda instruments.

Thus, neither urban nor rural area (nor family-related origin) seems to be able to eliminate such an implicit but critical attitude against "environment"-related ideology at institutional level (nor of course to enhance it). Politico-administratively (institutionally) critical thinking (or susceptibility to propaganda) is independent on urbanization or rurality.

However, students who have received certain urban influence (by father who exerts a job which can be perceived as urban) seem to have adopted concepts related to environmental policy such as "environmental education" (0,149) as well as the biodiversity as a "problem" (-0,119). On the contrary, students with rural origin seem to be less receptive or more deconstructive to such environmental policy terms and issues. In-situ perceptions of the natural reality, independent of their accuracy and scientific validity, may also influence this deconstructive attitude toward environmental policy issues and disseminated discourses. This attitude may also have a defensive character.

Table 5. Perception to environmental concepts

	Region-related origin	**Family-related origin**	
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job urban (no=0, yes=1)**	**father's job rural (no=0, yes=1)**
No institutional necessity of Ministry of Environment (no=0, perhaps=1, yes=2)	-,006	-,047	,075
	,918	,405	,188
Have you ever heard the term "environmental education" or "environmental pedagogy" (no=0, yes=1)	-,037	**,149(**)**	-,085
	,519	**,009**	,138
Do you believe that biodiversity issue is a real problem (=1) or a propagandistic concept (=2)?	-,010	**-,119(*)**	**,178(**)**
	,854	**,036**	**,002**

3.6. Perception of naturalness

In general, rurality or urbanization does not markedly influence the perception of naturalness, as only a few ones of the natural phenomena presented in the table 6 (most coefficients are insignificant). Urbanized students, in contrast to those who are rural residents, slightly tend to perceive the artificial reforestation as natural (0,114). This can be attributed to the fact that the urbanized people are sensitive to the superficial output rather than to the nature process (regeneration) which is supposed to lead to the output (forested area). In

contrast to urban residents, rural people are used to seeing natural regeneration and/or artificial reforestation (planting) and have consolidated the difference between natural and artificial process and they also are strongly of the causal relation between output and process.

Numerous other human interventions (more or less intensive) on nature, even this of organic and non organic agriculture, are differentiated in the perception of the interviewees as more or less "natural" (insign. coefficients). This flattening of perception can be understood as an effect of the restricted contact and emotional connection with the particular rural environment which was used to be considered by previous generations as "natural". The use of personal car which constitutes villages neighborhoods of the closest town or city, makes the contact to nature easy. Additionally, the intensive use of internet possibly makes the younger generations familiar with a continuity of least, less, more and most "natural" landscapes. Thereby, the landscape tends to become single and not discretely differentiated. The distinct differences between "natural" and "human-made" tend to be mitigated and less discernible.

Apart from that, the technical interventions in nature have been so extensive that they are regarded as "usual" and as harmful for the nature.

Table 6. Perceiving as "natural"

	Region-related origin	**Family-related origin**							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job urban (no=0, yes=1)**	**father's job rural (no=0, yes=1)**	**mother's job urban (no=0, yes=1)**	**mother's job rural (no=0, yes=1)**	**father's home urban (no=0, yes=1)**	**father's home rural (no=0, yes=1)**	**mother's home urban (no=0, yes=1)**	**mother's home rural (no=0, yes=1)**
Artificial reforestation (no=0, yes=1)	**,114(*)**	,045	-,014	,076	-,030	,075	-,083	,068	-,076
	,049	,442	,806	,190	,612	,197	,152	,238	,187
Many small stream dams (no=0, yes=1)	,011	,015	-,007	-,004	-,076	,038	-,033	,089	-,084
	,845	,802	,904	,949	,192	,508	,575	,122	,148
One big stream dam (no=0, yes=1)	,055	,101	-,023	,038	,038	,021	-,011	,000	,005
	,342	,082	,690	,514	,512	,719	,848	,998	,931
Organic agriculture (no=0, yes=1)	-,002	,022	,062	,022	,012	-,025	,022	-,066	,063
	,971	,702	,289	,710	,836	,661	,704	,252	,277
Non organic agriculture (no=0, yes=1)	,038	,036	-,018	-,026	,012	,084	-,100	,067	-,082
	,507	,539	,762	,653	,832	,147	,087	,246	,155
Mountain dirt road (no=0, yes=1)	-,002	,093	-,110	,039	,047	,050	-,053	,038	-,041
	,974	,108	,056	,497	,423	,388	,358	,512	,477
Mountain fire break (antifire stripe) (no=0, yes=1)	-,012	-,006	-,069	,032	-,062	,002	-,009	,062	-,069
	,833	,920	,233	,583	,289	,970	,878	,283	,235
Forest fire (no=0, yes=1)	,057	,040	-,009	,077	-,051	-,004	,007	,049	-,046
	,320	,487	,877	,187	,382	,947	,905	,401	,431

3.7. Environmental attractiveness

In table 7 the elements which are attractive in a painting exhibition are presented. The urbanization enhances the attractiveness of sky (0,117). This is expectable as affluent view of open sky and horizon is the element which the urban residents miss most of all. A differentiated attitude toward land characterize students who have received urban family influence (-0,116), as they are used to seeing urban surroundings.

Those who are influenced by rural family (-0,117) tend to appreciate biotic elements, as they are closer to them (rural animals) in contrast to students influenced by urban family values (0,122). The range mostly attracts students of rural families (0,131 and 0,155) while

the forest is more attractive for the students who have been influenced by urban way of life (-0,138 and -0,166). This can be understood as a tendency of people influenced by rural values to focus on elements familiar to them and relevant to their subsistence while people with urban origin prefer forest as escape from anxiety or monotony. In other words, rurality is attractive while urbanization presses to escape to forest, which is the antipode of civilization. However, this escape seems to be desirable only to certain extent, as the students of urban families (0,116) are mostly attracted by nature mixed with houses in contrast to rural-influenced students (-0,113). Consequently, civilization seems to inspire need for escape but also to certain extent security.

Last but not least, the attractiveness of water and pure nature seem not to be differentiated between rural- and urban-originated people (insign. coefficients). It appears thus to be universal aesthetic values, independent of the origin.

Table 7. Environmental attractiveness

	Region-related origin	**Family-related origin**						
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job urban (no=0, yes=1)**	**father's job rural (no=0, yes=1)**	**mother's job urban (no=0, yes=1)**	**father's home urban (no=0, yes=1)**	**father's home rural (no=0, yes=1)**	**mother's home urban (no=0, yes=1)**	**mother's home rural (no=0, yes=1)**
Do you like to watch biotic (=1) or abiotic (=2) elements	,052	,067	**-,117(*)**	**,122(*)**	,044	-,037	,076	-,072
	,365	,244	**,043**	**,036**	,445	,520	,189	,209
…forest (=1) or range (=2)	,000	-,038	-,003	,002	**-,138(*)**	**,131(*)**	**-,166(**)**	**,155(**)**
	,999	,502	,951	,967	**,015**	**,021**	**,003**	**,006**
Land (no=0, yes=1)	-,046	**-,116(*)**	,103	-,040	-,048	,040	-,077	,081
	,414	**,042**	,071	,487	,402	,481	,173	,153
Water (no=0, yes=1)	-,034	,079	-,039	-,035	,010	-,005	,053	-,057
	,553	,165	,491	,536	,865	,928	,353	,312
Sky (no=0, yes=1)	**,117(*)**	,013	-,049	,080	,039	-,035	,024	-,021
	,040	,814	,389	,161	,494	,543	,679	,707
…nature with small houses (no=0, yes=1)	,000	,032	,007	,047	**,116(*)**	**-,113(*)**	,092	-,098
	1,000	,580	,896	,413	**,043**	**,048**	,104	,086
…pure nature (no=0, yes=1)	,008	-,037	-,018	-,052	-,098	,094	-,075	,080
	,884	,515	,758	,363	,087	,100	,185	,158

3.8. Familiarization with "forest" notion

There are various ways to learn what "forest" is and what risks and values are connected with it and what it means for the human life or the society. One could expect that the familiarization of the children with the notion of "forest" through oral tradition is a "luxury" of rural population due to the more traditional spirit and way of life that is supposed to exist. However, in the table 8 it is noticeable that the oral tradition does not tend to be practiced more intensively by the rural or urban population.

The same stands also for the whole variety of familiarization ways they have been examined. Films (documentary or entertainment) are equally accessible by the rural and urban population of the youngest generation we examine in this paper, as everybody today has tv and access to internet. Excursions through which one can be in early age familiar with the notion of "forest" are also equally feasible for both parts of population due to the private car that everyone nowadays possesses. Only comics appear to be more used by people who have received urban family influence (0,120). This is understandable, considering that near urban centers exist a wider variety of comics.

Table 8. Familiarization with "forest" notion

	Region-related origin	**Family-related origin**							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	**father's job urban (no=0, yes=1)**	**father's job rural (no=0, yes=1)**	**mother's job urban (no=0, yes=1)**	**mother's job rural (no=0, yes=1)**	**father's home urban (no=0, yes=1)**	**father's home rural (no=0, yes=1)**	**mother's home urban (no=0, yes=1)**	**mother's home rural (no=0, yes=1)**
Through oral tradition (no=0, yes=1)	,060	-,061	-,056	-,058	-,013	-,047	,046	-,070	,063
	,291	,285	,322	,309	,820	,407	,424	,217	,270
… documentary films (no=0, yes=1)	,001	-,052	-,007	,005	-,044	-,059	,063	-,049	,051
	,981	,365	,899	,935	,446	,305	,268	,390	,368
… entertainment films (no=0, yes=1)	-,022	-,020	,055	,003	,060	-,013	,018	-,032	,034
	,703	,724	,337	,959	,298	,817	,748	,576	,545
… excursions (no=0, yes=1)	-,083	,020	,060	-,020	,004	-,048	,054	-,007	,003
	,146	,721	,295	,722	,941	,404	,345	,907	,964
… comics (no=0, yes=1)	,094	**,120(*)**	-,061	,089	-,056	,089	-,082	,084	-,081
	,099	**,035**	,283	,121	,330	,120	,148	,138	,153

3.9. Perception of environment-related study

Concerning the perception of their study (table 9), the origin seems to have a slight effect. At first, students with rural family-related origin (0,112) tend to regard their study (forestry, crop production, rural enterprise management or landscape architecture) as a practical training rather than as a science. This can be attributed to the fact that the rural influence of their family on their value system and thinking leads them to mainly focus on and retain the practical part of knowledge provided by the faculty.

The urban family influence has also slightly the opposite effect (-0,115), convincing them to pay attention and appreciate the more theoretical part of knowledge which approaches what is often called "scientific". Particularly, such an influence makes them focus on physico-biological subjects (0,134), depreciating the socio-economic ones (-0,121). This can be attributed to the fact that physico-biological subjects offer chances for further (possibly international) career at academic arena or industry and are connected with rapidly developing technology. These epistemological and professional features are of course attractive for urban-originated people. It is also noticeable that technical subjects seem to be equally attractive for both urban and rural population, as they are a sound and relatively safe background for a career at construction enterprises.

Table 9. Perception of environment-related study

	Region-related origin	Family-related origin							
	permanent residence in non capital (=1), capital cities (=2), Athens/Thessaloniki (=3)	father's job urban (no=0, yes=1)	father's job rural (no=0, yes=1)	mother's job urban (no=0, yes=1)	mother's job rural (no=0, yes=1)	father's home urban (no=0, yes=1)	father's home rural (no=0, yes=1)	mother's home urban (no=0, yes=1)	mother's home rural (no=0, yes=1)
Do you regard your study as a science (=1) or as practical training (=2)	-,022	-,054	**,112(*)**	**-,115(*)**	,110	-,052	,036	-,055	,047
	,693	,345	**,048**	**,043**	,054	,356	,522	,331	,406
Are you more interested in technical subjects (no=0, yes=1)	,012	,002	,007	-,008	,073	-,054	,041	-,001	-,005
	,829	,975	,904	,886	,201	,345	,466	,984	,931
… in physico-biological subjects (no=0, yes=1)	,044	,037	-,005	**,134(*)**	-,075	,079	-,072	,063	-,059
	,432	,520	,934	**,019**	,190	,162	,203	,268	,295
… socio-economic subjects (no=0, yes=1)	-,039	-,008	-,023	**-,121(*)**	-,032	-,016	,023	-,075	,079
	,489	,895	,692	**,034**	,575	,785	,687	,184	,164

4. Synopsis

Regarding environmental profile, urban and rural interviewees are not characterized by any particular (more anthropocentric or eco-centric) environmental profile. Concerning social embedment, the organized involvement in environment-related issues appears to be negatively related to the rural family-related origin. The rural way of life and in part the geographical inaccessibility seem to restrict the possibility or interest for such an organized participation.

The susceptibility to hunting appears to be independent of the origin. Both the idea and the practice of hunting is equally adoptable by rural and urban interviewees. The behavior of rural-originated interviewees to animals can be characterized as exploitative while this of urban population as more protectionist.

Interviewees of both urban and rural origin appear to be similarly receptive to the institutional necessity of the Ministry of Environment or (latently) critical toward the question whether "environmental issues" are really new issues or just a nominal concept with propagandistic role.

Urban interviewees are more familiar with certain environmental policy concepts such as "environmental education" or "biodiversity problem". On the other hand, rural-influenced students are less receptive (or more deconstructive) to these, possibly due to in-situ perceptions of the natural reality or to deconstructive-defensive disposition.

Rurality or urbanization does not strongly influence the perception of naturalness. Only slightly urbanized students tend to perceive superficial effects of nature restoration, such as artificial reforestation, as "natural", in contrast to rural people who seem to be used to seeing natural processes of restoration, to be aware of the difference between natural and artificial process and to have connected both with each other. The dissemination of personal car which made the transport easy and the internet which makes the landscape "single" or "continuous" as well as the extensiveness of the human interventions in nature seem to have made less discernible the difference between "natural" and "non natural".

Concerning the attractiveness of environmental elements, water and pure nature seem to be universal aesthetic values, independent of the spatial origin. The attractiveness of certain other elements is differentiated between urban- and rural-originated students, depending on either

the feeling of familiarity (in the case of rurality) or on the need of escaping from monotony or anxiety (caused by the urbanization).

The way of familiarization with the notion of "forest" does not appear to noticeably differ between rural- and urban-originated interviewees. The only means which is more susceptible the urban students to is comics, as this exists more affluently and in a greater variety in urban centers.

As expected, rural-influenced students tend to consider their study as a practical training while urban students as a science, mainly focusing on physico-biological subjects, as these are the mostly ambitious career-related. Technical subjects are equally attractive for both urban and rural population, as these are a relatively safe way for a career in construction sector.

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Announcements, Conferences, News

The 2nd International Conference of Cultural and Digital Tourism

Conference Overview*

The 2nd International Conference of Cultural and Digital Tourism , "Forms and Norms of Tourism and Culture in the Age of Innovation" was organized by IACuDiT with the support of Market Research and Advertising, Greek National Tourism Organization, City of Athens Convention and Visitors Bureau Directorate of Tourism, Region of Attica and Hellenic Republic, Ministry of Culture and Sports.

The International Association of Cultural and Digital Tourism (IACuDiT) is a global network of people, projects and events that bear on a wide range of issues of concern and interest in cultural and digital tourism, in an era of major global changes. IACuDiT is a nonprofit international association which values creative, ethical and progressive action aimed at the improvement of global hospitality and tourism research on cultural and digital issues. The International Association of Cultural and Digital Tourism brings together a wide range of academics and industry practitioners from cultural, heritage, communication and innovational tourism backgrounds and interests. It mainly promotes and sponsors discussion, knowledgesharing and close cooperation among scholars, researchers, policy makers and tourism professionals.

The 2nd International Conference of Cultural and Digital Tourism, was organized at Royal Olympic Hotel, Athens, Greece, from 21 May to 24 May 2015. The President of the conference was Vicky Katsoni , IACuDiT President. Keynote speakers include Zefi Dimadama, Director General of the ICBSS (International Centre for Black Sea Studies)., Georgios Drakopoulos, Special Adviser to the Secretary General of the United Nations World Tourism Organization and Counselor in the European Economic and Social Committee, Amitabh Upadhya Professor – Dean Skyline University College, University City Sharjah, Hilary du Cros, Honorary Senior Research Fellow University of New Brunswick, Canada.

The Conference was separated into following special sessions: - Contemporary forms of cultural tourism, Case studies in cultural tourism practices, Emerging forms of the tourism product, Innovative perspectives on the tourism product, The contribution of tourism to the sustainable growth of the Greek regions. The case of the region of Thessaly, - Cultural heritage management, The power of social networks, Cross cultural visions in a digital era.

Many scientists and researchers from different countries participated in the 2nd International Conference of Cultural and Digital Tourism, discussed the different problems related to tourism.

It is obvious that this conference raised a lot of problems, which found their answer during the presentations.

* Conference overview by Doc. Dr. Antoneta Polo, RSI – Journal Editor

The 6th International Conference on International Business

Conference Overview[†]

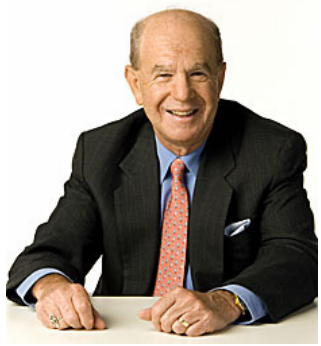
The 6th International Conference on International Business (ICIB 2015) aimed to bring together academics and practitioners in order to share ideas and methods for the exploration of foreign direct investment (FDI), the role of multinational corporations (MNCs) and the complexity of the globalized business environment. The conference was organized by: Department of International and European Studies, University of Macedonia; International Relations and European Integration Laboratory, University of Macedonia; Department of International and European Studies, University of Piraeus; European Centre for the Development of Vocational Training; Faculty of Political Science, University of Messina (Messina, Italy); UMR LADYSS, University Paris Diderot (Paris, France); School of Business and Economics and Winston-Salem State University (Winston-Salem, North Carolina, USA).

The 6th International Conference on International Business mainly promoted discussion, knowledge sharing and close cooperation among scholars, researchers, policy makers and professionals. The Conference was organized in Thesaloniki, Greece, from 22 May to 24 May 2015. The President of the conference was Dr. Aristidis Bitzenis and keynote speakers include: Mr. Steven Bainbridge, Senior Expert at CEDEFOP; Mr. Platonas Monokroussos, Deputy General Manager and Chief Market Economist at Eurobank Ergasias S.A. The organizer committee includs: Mr. Charisios Kafteranis; Dr. Apostolos Kiohos, Assistant Professor, University of Macedonia; Prof. Dr. Sc. Marko Kolakovic; Dr. John Marangos and Mr. Vasileios A. Vlachos. ICIB focused on –to empirical research in the following fields: Entrepreneurship & international business environment; European Union enlargement; Financial management; Global budgetary crisis management by the European Union institutions; Globalization, MNCs, competitiveness and development; International political economy and business; e-business; Sustainable business; Social entrepreneurship; Labour economics and industrial relations; MNCs and political strategies; Mergers & Acquisitions; Impact and determinants of FDI; FDI and European economic integration; FDI, trade and regional integration; FDI and transition; Tourism enterprise and industry; Shadow economy and corruption.

Many scientists and researchers from different countries participated in the 6th International Conference on International Business, discussed the different problems, which found their answer during the presentations.

[†] Conference overview by Prof.Asoc. Dr. Enkela Caca, RSI – Journal Editor

Academic Profiles



Professor Edward I. Altman

Edward I. Altman is the **Max L. Heine Professor of Finance** at the Stern School of Business, New York University. He is the Director of Research in Credit and Debt Markets at the NYU Salomon Center for the Study of Financial Institutions. Prior to serving in his present position, Professor Altman chaired the Stern School's MBA Program for 12 years. Dr. Altman was named to the **Max L. Heine endowed professorship** at Stern in 1988.

Dr. Altman has an international reputation as an expert on corporate bankruptcy, high yield bonds, distressed debt and credit risk analysis. He was named **Laureate 1984** by the *Hautes Etudes Commerciales Foundation in Paris* for his accumulated works on corporate distress prediction models and procedures for firm financial rehabilitation and awarded the **Graham & Dodd Scroll** for 1985 by the *Financial Analysts Federation* for his work on Default Rates on High Yield Corporate Debt and was named "*ProfesorHonorario*" by the University of Buenos Aires in 1996. He is currently an advisor to the Centrale dei Bilanci in Italy and to several foreign central banks. **Professor Altman is also the Chairman of the Academic Advisory Council of the Turnaround Management Association**. He received his MBA and Ph.D. in Finance from the University of California, Los Angeles. **He was inducted into the *Fixed Income Analysts Society* Hall of Fame in 2001, President of the *Financial Management Association*(2003) and *a FMA Fellow in 2004* and was amongst the inaugural inductees into the Turnaround Management Association Hall of Fame in 2008.** In 2005, Prof. Altman was named one of the "100 Most Influential People in Finance" by the Treasury *& Risk Management* magazine. He also received an Honorary Doctorate from Lund University, Sweden in May 2011.

Professor Altman was one of the founders and an Executive Editor of the international publication, the ***Journal of Banking and Finance*** and Advisory Editor of a publisher series, the **John Wiley Frontiers in Finance Series**. He has published or edited two-dozen books and over 150 articles in scholarly finance, accounting and economic journals. He was the editor of the **Handbook of Corporate Finance** and the **Handbook of Financial Markets and Institutions** and the author of a number of recent books, including his most recent works on **Bankruptcy, Credit Risk and High Yield Junk Bonds (2002), Recovery Risk (2005), Corporate Financial Distress & Bankruptcy (3rd ed., 2006)** and **Managing Credit Risk (2nd ed. 2008)**. His work has appeared in many languages including French, German, Italian, Japanese, Korean, Portuguese and Spanish.

Academic profile made by:
Doc. Dr. Antoneta Polo, RSI – Journal Editor.

Assistant Professor Svetlana N. Rastvortseva

D.Phil. in Economics, Assistant Professor Svetlana Nikolayevna Rastvortseva, is lecturer in Global Economy Department, Belgorod State National Research University, in Russia.

She has written enough scientific articles as "Benchmarking of the regional innovation infrastructure" The article unveils the concept of innovation infrastructure, determines the role it plays in the regions' economic development. To identify the most appropriate measures of the innovation policies in the regions, she proposes benchmarking, investigate the notion of the benchmarking procedure and outline an algorithm for conducting it.

"A methodological approach to identifying potential clusters in regional economy" is an other article which deals with the cluster approach as one of the most effective ways of development of the regions and the national economy as a whole. The goal of the study is to develop a methodological approach to identifying potential clusters in the regional economy.

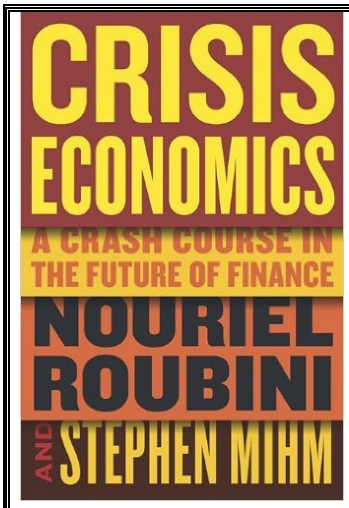
"To the question about factors of the regional development efficiency increasing", in Newsletter of Tomsk State University. The article deals with economic and social efficiency conception of the regional development, the main factors of its formation are explored.

"Theoretical bases of regional development efficiency management" The article deals with theoretical problems of region efficiency managements.

Svetlana N. Rastvortseva, has participated also, in many international scientific conferences, as: SGEM2014 International Multidisciplinary Scientific Conferences on Social Sciences and Arts: "Political Sciences, Law, Finance, Economics and Tourism", September 2014 with the articles "Analyses of regional specialization and geographical concentration of industry in Russia" and "Assessment of the regional economic potential for the industrial clusters development.", IMACS 2015, the 3rd International Conference Innovation Management and Corporate Sustainability, 21 – 22 May, 2015 Prague, 2015, with the article "Innovation as a Factor Of Regional Economc Growth: Evidence From Russia" etc.

Academic profile made by:
Doc. Dr. Antoneta Polo, RSI – Journal Editor

Book Reviews



Book Title: Crisis Economics
Author: Nouriel Roubini and Stephen Mihm
ISBN: 978—85-8057-114-1

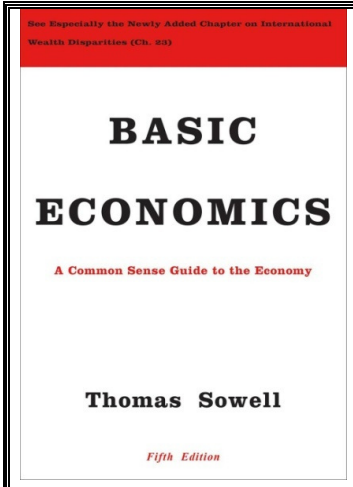
Nouriel Roubini and Mihm offer a survey of what went wrong in many financial crises, what ideas economists developed to deal with crises and how to get the economies out of the morass. Roubini's main point is that financial crises are not exotic beasts that nobody can predict; they are a regular feature of business life made worse by bad regulation as well as monetary and fiscal policies.

This book focuses on the fact that crisis is a normal part of economic cycles and as such should be guarded against which is something the current system doesn't essentially do. In the book the author explains the history of economic crises over the last few centuries, he explains what got us in trouble and suggest the ways we can guard against this in the future. Its a really interesting book that deals dispassionately with a subject that usually gets caught up in party politics, he suggests many things that need to happen to sort out the financial system which come from both left and right of the political spectrum which is really how politics should work frankly not the partisan politics you see around the world currently. A right winger will not always be correct, likewise nor will a left winger, on the whole the best way forward in most cases will be somewhere in the middle taking into account points from both side and this book shows what that way forward could and probably should be.

Most important, the authors-considering theories, statistics, and mathematical models with the skepticism that recent history warrants—explain how the world's economy can get out of the mess we're in, and stay out. According to Roubini, economists and investors are increasingly realizing that they can no longer afford to consider crises the black swans of financial history.

The book ends on a somber note: "We will plant the seeds of an even more destructive crisis if we squander the opportunity to implement necessary reforms".

Book Review by Doc. Dr. Antoneta POLO,
RSI Journal editor



Book Title: Basic Economics: A Common Sense Guide To The Economy

Author: Thomas Sowell
ISBN: 978-0-465-05684-2

This book presents an excellent overview of modern economics for the non-professionals. It covers a wide variety of topics simply and easily. Economics is still a very 'fuzzy' field, especially in comparison to other sciences, and many people profess ignorance of large swaths of it. Thomas Sowell tried to explain Economics to them, without using equations or graphs. He concentrates on the principles on which virtually all economists agree, even mischievously quoting Karl Marx now and then to show how broad the agreement is. To teach the principles in his audience's mind, he applies them to an array of real world situations, ranging from rent controls to vocational licensing to investment in Third World countries. The focus here is far more micro than macro.

This book helps, although it is necessary to understand both the free-market stance and the relative lack of terminology. He bases his case on the fact that it is nearly impossible for a government or other planner to have the knowledge needed to set prices for all the items in an economy, especially when the relative value of those items are changing all the time. The book also discusses and surprisingly debunks some ideas on the bad effects of trade imbalances.

The feature of Basic Economics is that it uses real- life examples from countries around the world to make economic principles vivid and memorable. The fundamental idea behind Basic Economics has remained the same: Learning economics should be as uncomplicated as it is eye- opening.

Book Review by Prof. Asoc. Enkela Caca,
RSI Journal editor

THE REGIONAL SCIENCE INQUIRY JOURNAL (RSI J)
Instructions to authors

Review process

Each suitable article is blind-reviewed by two members of the editorial review board. A recommendation is then made by the Editor-in-Chief. The final decision is made by the Editor-in-Chief. If a revision is recommended, the revised article is sent for a final approval to one of the Editors.

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Style and Format of the Article

In order for a article to be submitted to the Regional Science Inquiry Journal (RSIJ) for publication, the following should be taken into consideration:

1. All submitted articles should report original work, previously unpublished and not under consideration for publication elsewhere and they are subject to both review and editing.
2. Articles should be in good technical English with a length normally between 6,500-8,000 words, while all other texts should not exceed 2,500 words, apart from the references, tables and illustrations.
3. The first page of the manuscripts should contain the article title, the name and the affiliation of the authors with sufficient contact details (the corres- ponding author should be properly identified here).
4. Articles should have a set of Keywords (up to 7) and an Abstract (under 250 words, without references), followed by the Introduction, Methodology and Data, Results, Discussion, Conclusions and References.
5. Manuscripts should be submitted in one single electronic file, an MS Word file, to the registered electronic address of the editors. It is also possible, for review purposes only, to submit the manuscript as a PDF file (or other similar format). The books for review are sent in two copies to the seat of the Journal.
6. Manuscripts should be typewritten with margins 2.5 cm x 2.5cm on A4 size article. Margins should be consistent on all pages.
7. All pages should be numbered consecutively.
8. Titles and subtitles should be short.
9. The text should be set in Times New Roman, size 11pt, normal, in a single column. Texts that do not comply with the specified formation will be returned to the authors for proper adjustment.
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13. Authors are encouraged to include a concise literature survey. References to published literature within the text should be cited by the name of the author followed by the consecutive number in square bracket, and should be presented in a numerical list at the end of the text.
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Author(s) (Name and Initials), “Title of Article”, in Title of Book or Title of Journal or Title and Place of Conference, Editor(s) (Name and Initials), Volume (Vol.) Nr/Issue Nr, Place of Publication, Publisher, Year, Pages (pp.).