# THE ECONOMETRIC ANALYSIS BETWEEN DIVORCE PHENOMENON AND ECONOMIC-SOCIAL VARIABLES IN ROMANIA

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***Abstract:*** *We are currently observing an increased interest in studying the factors of influence that may cause changes in the family structures and may contribute to the emergence of divorce in our contemporary society. According to the data provided by the National Institute of Statistics, Romania does not represent an exception in this respect and research aimed to distinguish the most important factors that contribute to the expansion of this phenomenon, identifies economic causes as an essential factor in settling such a decision. In this paper it is intended to establish a possible link between the number of divorces in Romania and socio-economic predictors such as, the age at the first marriage for men and women, the monthly average nominal salary, the unemployment rate, the number of graduates in the pre-university education, the percentage of the urban population in the total population and the number of dwellings newly built and received by beneficiaries. Research within the counties, between 1996 and 2014, through a panel data analysis. Also, the present paper is proposing to study the actual differences between rural and urban areas, in order to have a reliable delimitation of the environmental determinants that may lead to this family degradation process.*

***Keywords:*** *Divorce; Family; Econometric Analysis; Fixed Effects Model; Panel Data Analysis;*

***JEL Classification:*** *C12; C13; C23.*

## 1. Introduction

Divorce is defined in connection to the family and marriage institution, being considered a social innovation used as an instrument to signal marital failure. This process involves the dissolution of a marriage, legally ended by a court order, a civilian officer or by a

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public notary. Divorce is a demographic phenomenon occurring in the family life cycle with implications in changing the marital status of the individuals involved.

Investigating the divorce phenomenon and the progress realized by contemporary society it can be remarked that the leap from the feudal system to a liberal and industrialized society is described by important changes and emerging inclinations. Romania does not represent an exception in this respect. According to the National Institute of Statistics, the divorce rate registering an oscillating trajectory until 1967 when, as result of the communist regime's policy at that time (amendments to legal provisions on divorce, October 1966), the rate has fallen sharply, and since the 1970's it has risen again but at lower levels than before 1967.

There are several determinants that condition divorce: economic, cultural, religious, psychological, social or behavioral determinants. This paper intends to investigate the economic causes that can contribute to the degradation of the family dynamics, facilitating the acceleration of the divorce phenomenon, as well as establishing possible relations between socio-economic factors and divorce, using only empirical and econometric observations.

## 2. Literature Review

We are currently taking part in the increased interest in studying the factors of influence in determining the changes in the family structures; especially the economic factors. For a better understanding of the intensity of this phenomenon, it is necessary to review the specialized literature and the relevant studies in this field of study.

A well-known economist (Becker, 1973) investigated for the first-time marriage and divorce from an economic point of view. According to him, a family is a production unit, considering that there is a division of labor between men and women. Becker talks about the existence of two principles in the economic analysis of the family: first, marriage is a voluntary choice, everyone believing that marriage will increase their utility compared to the alternative of staying alone. The second principle argues that exists an equilibrium in the "marriage market", so each market actor wants to choose the best partner, respecting the restrictions imposed by the market conditions.

Becker argues that an increase in the female part earnings will lead to an improvement in their social and economic status, in this case, the financial dependence will decrease, and the probability of divorce will increase.

Other authors (Grenstein, 1990); (Spitze & South, 1985) have established a direct link between women's work schedule and marriage instability. An important sociologist with significant findings in the area of sociology of gender and family (Openheimer,1997)

demonstrated that there exists a statistically significant relationship between women's economic independence and the increased risk of divorce.

A study interested in searching for the influence of income levels on family perceptions and divorce among young Americans (Burgess, 2003) indicated that recording an increase in man's income leads to an increased marriage probability, while the likelihood of divorce is declining. On the other hand, for women registering an increase in the income level, the probability of marriage registers a decrease, while no statistical significance is recorded for divorce variable.

Significant empirical evidence reveals a negative relationship between male income and the likelihood of divorce (Hofmann & Ducan, 1997), in the sense that the probability of divorce is low in families where the husband has a high income. Two authors (Weiss & Wilis, 1997) showed that a decrease in income increases the probability of divorce and in agreement with this, South and Spitze (1986) determined that men's work schedule is in reverse relation to the probability of divorce.

Another study aimed to investigate the effect of inflation, unemployment rate, gross domestic production and level of education of women on the divorce rate, in the United States, has found that the impact of inflation on the divorce rate is positive and significant, from a statistical point of view (Nunley, 1960).

The results of the study have showed that the periods of recession drive to fighting periods between partners, while boom and expansion periods lead to increased partners' revenues and fewer conflict occurrences. The study concluded that an increase in the number of divorces is positively correlated with economic development and the percentage of the female labor force in the labor market.

A study conducted in Iran showed the existence of a significant relationship between income distribution and divorce, in the sense, that increasing the inequality in the income distribution leads to a higher divorce rate and an increase in the per capita income and level of education contributes to decreasing of the divorce rate (Maysai, 2011).

Thus, the analysis of the literature reveals the existence of a significant relationship between the divorce and various economic variables. What intends this paper is to investigate whether the socioeconomic variables proposed for the analysis contributes to increasing the number of divorces in the present Romanian society.

## 3. Applied Research

The econometric analysis which is to be undertaken contains data from 1996 to 2014 in all counties from Romania, data provided by the National Institute of Statistics of

Romania. The average annual dollar values used to express earnings in US dollars, avoiding the possible inconsistencies that may arise due to the reporting differences before 2005 and after 2005, with the denomination of money in Romania, were provided by the National Bank of Romania.

To measure income distribution within counties was used the monthly average gross salary, determined as the ratio between the gross amounts paid to the employees by the economic agents during the reference period, regardless of the period, and the average number of employees.

In the analysis was included the age at the first marriage for man and woman, a variable representing the weighted arithmetic mean of the means of the age range and the number of those who are married. Also, the used explanatory variables were: the percentage of the urban population in the total population, for each county, the number of graduates in pre-university education, the unemployment rate and the number of new houses represented by finished dwellings in the reference year and received by the beneficiaries (INS, 2017).

As it was discussed previously, for this study, it was conducted a panel analysis model, and the data were investigated using the R software. The panel analysis is a complex longitudinal analysis comprising two dimensions: a cross-sectional dimension, indicating that are considered several counties, and a temporal dimension, meaning that each county is examined at several moments of time (Croissant & Millo, 2008).

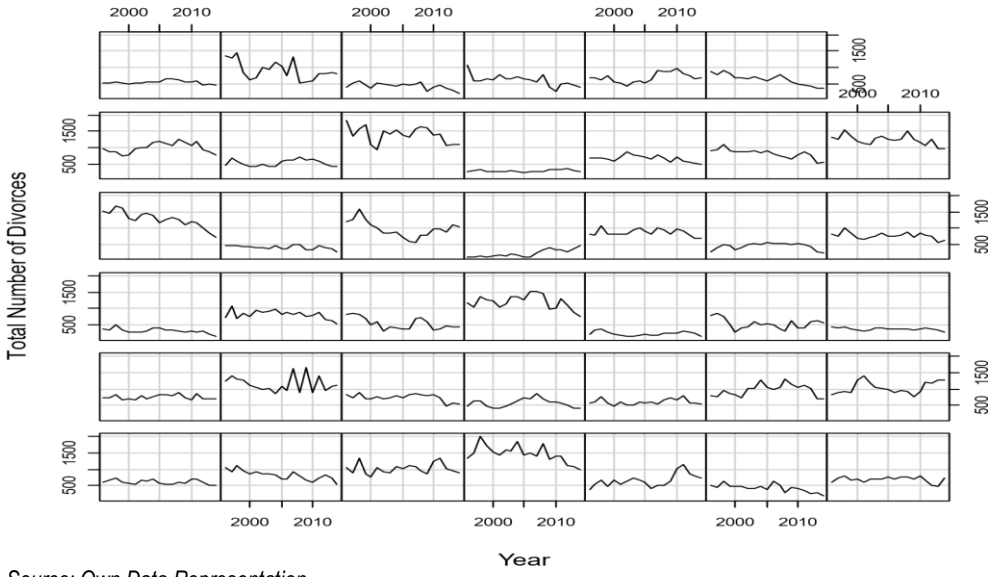
Also, the panel data analysis permits to control the variables that cannot be observed or measured, such as cultural factors, as well as variables that record changes over time, but not within entities. Panel Data Analysis studies the dynamics of the adjustment, to identify and to evaluate effects that are not detectable in pure cross-sections or in data series, to allow building and testing complex behavioural models (Baltagi, 2005).

On the other hand, the limits of panel data analysis include measurement errors, selectivity issues, short time series or cross-sectional dependence, which can lead to inaccurate inferences (Baltagi, 2005).

In this paper, it was chosen to perform, with the collected data, a log regression model for a better representation of the obtained results. It was chosen as a dependent variable, the total number of divorces, the number of divorces per rural area and the number of divorces per urban area, expressed for 41 counties. It was excluded from the analysis the Bucharest county because, as a result of the graphic representation of the data, it was found that it is an outlier, affecting the explanatory power of the models. Also, for the Bucharest county, the existence of the population living in rural areas was not reported, an aspect that could induce data errors.

In the next figure (Fig.1) was plotted the dependent variable, the number of divorces, for each county in the period 1996 – 2014.

*Figure 1. Plot Dependent Variable - Total Number of Divorces*




*Source: Own Data Representation.*

It was sought to explain variations of dependent variables through the following predictors: age at the first marriage for men and women, salary, unemployment rate, the number of graduates in the pre-university education, the percentage of urban population and the number of newly finished dwellings.

In this paper, were developed Pooled-Data, Fixed Effects and Random Effects models to explain the number of divorces. To model the data, it was installed the PLM package to define the data as panel data and were indexed the year and county variables.

The first regression model (Model-Pooled OLS) performs a regression with all panel data, resulting in a behavioral equation with the same parameters within entities and over the analyzed period. The first model has an $R^2$ of 65.43%, which for a macroeconomic analysis represents an acceptable score, indicating the lack of enough specification of the model.

Considering that this model includes macroeconomic indicators, was considered the assumption that this OLS model is not appropriate. After installing the LM Test

(Lagrange Multiplier Test), in the R software, it was performed the Durbin-Watson Test, which detects the first – order autocorrelation.

The Durbin and Watson test (1950, 1951), the most common procedure used to identify the first-order autocorrelation of linear regression models, can record values between 0 - indicates a robust positive correlation within the error series and 4 - indicates a robust negative correlation within the series of errors (Duşa, 2015). In the case of the OLS model, the result of the Durbin-Watson test equals 1.9737. According to the specialized literature, a value around 2 indicates that errors are autocorrelated. The p-value allows us to reject the null hypothesis of error - autocorrelation (first order).

**Table 1. Results of the Statistical Tests**

| Test | Total Divorces | Rural Divorces | Urban Divorces |
|---|---|---|---|
| Durbin - Watson | 1.9737 (0.3337) | 1.7354 (8.574e-05) | 1.9777 (0.3542) |
| Lagrange Multiplier (Honda) | 9.5511 ( < 2.2e-16) | 11.309 ( < 2.2e-16) | 8.1888 ( < 2.2e-16) |
| F Test | 6.6439 (1.253e-15) | 7.4469 ( < 2.2e-16) | 7.4804 ( < 2.2e-16) |
| Hausman | 321.76 ( < 2.2e-16) | 39.57 (1.521e-06) | 103.26 ( < 2.2e-16) |
| Breusch-Pagan LM | 2020.7 ( < 2.2e-16) | 1796.6 ( < 2.2e-16) | 1689.1 ( < 2.2e-16) |
| Pesaran CD | 42.274 ( < 2.2e-16) | 38.874 ( < 2.2e-16) | 34.953 ( < 2.2e-16) |
| Breusch-Godfrey | 256.63 | 213.54 | 180.29 |
| Wooldridge | ( < 2.2e-16) | ( < 2.2e-16) | ( < 2.2e-16) |
| Augmented Dickey-Fuller | - 6.2499 (0.01) | - 4.5993 (0.01) | - 5.0103 (0.01) |
| Studentized Breusch-Pagan Heteroskedasticity | 24.158 (0.001069) | 22.617 (0.001987) | 68.26 (3.318e-12) |

*Source: Author's own calculations*

Further was developed the Fixed Effects model and the Random Effects model to test the existence or absence of correlation between regressions and its specifications. According to the economic theory, the output of the Fixed Effect estimator contributes to the decision on the specific individual factors concentrated in the Intercept value, which reflects the residual variance in the dependent variable, a difference that can't be explained by the regressors included in the model. The Random Effect model assumes

that individual specific effects are independent of regressors and any difference between Intercept values is due to random influences that can be included in the error term or in the model residue (Baltagi, 2005).

For the Fixed Effect model, a very low p-value indicates a good model. The Intercept value is missing in this case because it is calculated for each year, the constant being different from the 0 value. Also, in the case of the Random Model, a p-value lower than 0.05 indicates a good model.

Then was performed the Lagrange Multiplier (Honda) test. It is applied to individual and/or time models of panel analysis. The p-value is very low, in this case, the null hypothesis is rejected, and the Fixed Effect model is selected.

The F Test for Individual Effects (Fixed Effects) versus the OLS Model records a p-value of 1.253e-15, choosing, in this case, the Fixed Effect model, thus rejecting the null hypothesis.

To be able to choose one of the two models with fixed effects was performed the Hausman test for Fixed Effects versus Random Effects, where the null hypothesis is accepted for the Random Effects model and the alternative hypothesis for the Fixed Effects model. This procedure tests whether single errors are correlated with regressors in the model, the null hypothesis asserting that they are not correlated. In this situation, the p-value allows us to conclude that there is a real difference between the two models. Therefore, the null hypothesis is rejected, and the Fixed Effects model is chosen.

Thus, the model chosen for the econometric modelling is the Fixed Effect model, examining the relationship between the predictor variable and the results obtained from an entity (in the present case, the county). Each entity has individual features, that may or may not influence the predictor variable. Another assumption to be considered is that the error term within entities must not be correlated with the characteristics of another individual. Each entity is different, the error term and the constant (captures individual characteristics) are different, therefore does not have to be correlated with other entities. If the error terms are correlated, the Fixed Effect model is inappropriate, inferences may not be corrected, so it is necessary to model the relationship using the Random Effect Model. This decision is taken considering the result of the Hausman test, previously presented.

The general Fixed Effects model chosen in the paper can be described as follows:

$$\log(Y) = \beta_0 + \beta_1 * \log(V_{f\,it}) + \beta_2 * \log(V_{b\,it}) + \beta_3 * \log(S_{it}) + \beta_4 * P_{ub\,it} + \beta_5 * \log(A_{it}) + \beta_6 * \log(R_{s\,it}) + \beta_7 * \log(L_{n\,it}) + \beta_8 * D + \alpha_l + \varepsilon_{it}.$$

In this equation:

1. Y - is represented, as the case, by the logarithmic dependent variable, the total number of divorces, divorces in the rural area and divorces in the urban area, measured on cross-sectional units “i” at time” t”.

2. $V_{f\ it}$ and $V_{b\ it}$ - represents the independent logarithmic variable, age at the first marriage for men and women.

3. $S_{it}$ - represents the salary;

4. $P_{ub\ it}$ - represents the percentage of the urban population;

5. $A_{it}$ - represents the number of graduates in pre-university education;

6. $R_{s\ it}$ - represents the unemployment rate;

7. $L_{n\ it}$ - represents the number of new dwellings, all measured by the units "i" at a time "t";

8. D – denomination, dummy variable.

9. $\alpha_I$ - the unknown intercept, for each entity;

10. $\varepsilon_{it}$. - are the residues that may appear in the model.

Noteworthy is that unobservable variables do not change over time, so changes within the dependent variable are due to other factors than those fixed characteristics.

For time series data, the interpretation of beta-factor will be in this case "for an analyzed county, when a predictor varies over time with a unit, the dependent variable increases or decreases with β units” (Brandom, 2008).

I choose to log the dependent and some of the independent variables because the relationship between them seems to not be linear. Implicitly, the log function was used to obtain a higher $R^2$. When both the dependent and the independent variable are log-transformed variables, the interpretation is given as an expected percentage change in Y when X increases by some percentage.

In the case of the first Fixed Effect model, 69.20% of the total number of divorces are explained by the predictors included in the analysis. From the previous table, the age at the first marriage for women is represented with the minus sign, so when the predictor variable records a decrease of one percent, the total number of divorces decreases by 6.3500%. This variable has three stars of statistical significance, meaning that we have a 99.9% confidence that it influences the total number of divorces.

Regarding the value of the t-test, we observed that the registered t-value it’s far away from zero, therefore, we reject the null hypothesis - we could declare the existence of a relationship between age at the first marriage for woman and number of divorces.

**Table 2. Fixed Effect Models for Number of Divorces Variable**

| Model | Fixed Effects | Fixed Effects | Fixed Effects |
|---|---|---|---|
| Variable | Total Divorces | Divorce on the Rural Area | Divorce on the Urban Area |
| Intercept | - | - | - |
| Age at the first marriage woman | -6.3500551 *** (t-value = -1.334e-09) | -7.9561982 *** (t-value = - 7.4823) | -7.8148003 *** (t-value = - 6.4814) |
| Age at the first marriage man | 6.4490672 *** (t-value = 4.730e-07) | 8.9949231 *** (t-value = 6.8931) | 7.7029584 *** (t-value = 5.2059) |
| Monthly gross nominal salary | -0.5184564 *** (t-value = 4.000e-07 | -0.5082378 *** (t-value = - 4.8760) | -0.8275784 *** (t-value = -7.0022) |
| Percentage of urban population | 0.0142824 *** (t-value < 2.2e-16) | -0.0151671 *** (t-value = -13.0988) | 0.0299116 *** (t-value = 22.7821) |
| Graduates of pre – university education | 0.8064346 *** (t-value < 2.2e-16) | 0.8351124 *** (t-value = 22.0328) | 0.8911475 *** (t-value = 20.7348) |
| Unemployment Rate | 0.0116819 ** (t-value = 0.007827) | 0.0055777 (t-value = 1.2383) | 0.0149906 ** (t-value = 2.9350) |
| Number of new dwellings | 0.1093190 *** (t-value = 2.331e-07) | 0.1464535 *** (t-value = 6.8000) | 0.0715188 ** (t-value = 2.9286) |
| R Squared ($R^2$) | 0.69208 | 0.63436 | 0.74518 |
| Adj. R-Squared | 0.68184 | 0.62221 | 0.73671 |
| F-Statistic | 241.451 p-value < 2.22e-16 | 186.384 p-value < 2.22e-16 | 314.161 p-value < 2.22e-16 |

*Source: Author's Own Calculations.*

Also, the age at the first marriage for men, the percentage of urban population, and the number of graduates in the pre-university education have three stars of statistical significance, meaning that we have a 99.9% confidence level that those variables directly affect the total number of divorces. Again, we have values of the t-test far away from zero, we reject the null hypothesis – there exists a relationship between the predictors and the dependent variable.

The monthly average gross nominal salary is represented with the minus sign, indicating that a decrease of one percent leads to a reduction of 0.5185% in the total number of divorces, the variable also presents three stars of statistical significance. The t-test value is far away from zero, we reject the null hypothesis.

The unemployment rate is non-statistically significant in this model, and the number of new dwellings has two stars of statistical significance, which means that we have a 99.00% confidence level that the total number of divorces increases by 0.0117% when the unemployment rate records an increase of one percent.

In the case of the unemployment rate, the t-test registers a value closer to zero than in previous cases (t-value = 0.0078), but it's still a good value to reject the null hypothesis and to declare the existence of a relationship between predictor and the dependent variable.

According to Baltagi, cross-sectional dependence is a problem that occurs with macroeconomic panels data and is not a problem with microeconomic panels data. Testing for cross-sectional dependence or contemporary dependence is carried out using Breusch Pagan Lagrange Multiplier and Pesaran Cross-Sectional Dependence tests that detect whether residues are correlated within entities. The null hypothesis states that they are not correlated. For both tests, the p-value is very low, meaning that there is cross-sectional dependence, in consequence, the null hypothesis is rejected.

The Dickey-Fuller test checks the stagnation of the trends. For the analyzed data, p-value equals a 0.01 value, which means that stationarity is identified, and the null hypothesis is rejected.

For the Breusch-Godfrey/Wooldridge test, the null hypothesis asserts that there is no serial correlation. For this model, the registered p-value is very low, therefore, the null hypothesis is rejected. We identify the presence of the serial correlation in idiosyncratic errors.

The latest test, Breusch-Pagan, checks the presence of heteroskedastic errors, which refers to the property of errors that do not have constant dispersion. The null hypothesis of this test claims that errors are homogeneously dispersed.

In this case, the test records a p-value near to zero, reject the null hypothesis, identify the presence of heteroskedasticity and a robust covariance matrix is used to correct this. To correct the presence of serial correlation and heteroskedasticity was applied the Arellano-Bond correction, recommended for the Fixed Effect model.

Dynamic panel data models include lagged levels of the dependent variable as regressors, a fact that violates strict exogeneity because the lagged dependent variable is correlated with the idiosyncratic error. When the exogeneity assumption is violated, fixed effects are inconsistent because these estimators require strict exogeneity. In the Arrellano-Bond method, the fixed effects are eliminated, then deeper lags of the dependent variable are used to differenced lags of the dependent variable (endogenous).

**Table 3. Arrelano - Bond Correction**

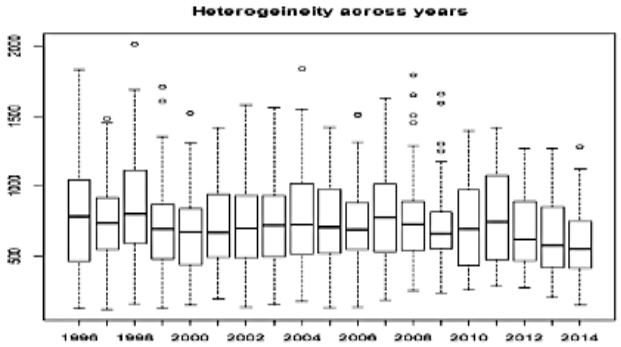
| Model | Arellano–Bond Correction | Arellano- Bond Correction | Arellano-Bond Correction |
|---|---|---|---|
| **Variable** | Total Divorces | Rural Area Divorces | Urban Area Divorces |
| Age at the first marriage for man | 6.44906716 *** | 8.99492313 *** | 7.7029584 *** |
| Age at the first marriage for woman | -6.35005509 *** | -7.95619825 *** | -7.8148003 *** |
| Monthly gross nominal salary | -0.51845638 *** | -0.50823777 *** | -0.8275784 *** |
| Percentage of urban population | 0.01428241 *** | -0.01516712 *** | 0.0299116 *** |
| Graduates of pre - university education | 0.80643460 *** | 0.83511242 *** | 0.8911475 *** |
| Unemployment Rate | 0.01168193 *** | 0.00557768 • | 0.0149906 *** |
| Number of new dwellings | 0.10931901 *** | 0.14645346 *** | 0.0715188 *** |

*Source: Author's Own Calculations.*

As a result of the Arellano correction, it can be noticed that the predictor variables did not show any significant changes, except for the unemployment rate that became statistically significant at a 90.00% degree of confidence.

Then, was plotted the heterogeneity of the total number of divorces, within the analyzed years to identify fluctuations of the variable over the investigated period, testing performed with a 95.00% confidence interval. As can be seen in the figure below (Fig.2), a significant increase in the number of divorces was recorded in 1998, followed by a steep fall in 2000, followed by alternative increases and decreases, which did not reach the maximum level from 1998.

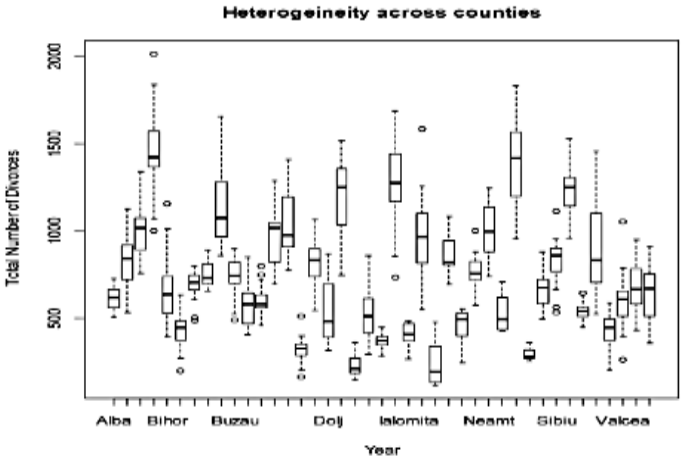
*Figure 2. The Heterogeneity of the Total Number of Divorces in the Analyzed Period*




*Source: Own Data Representation.*

About the heterogeneity of the number of divorces within the analyzed counties (Fig.3), it can be observed the differences in the registered levels, the maximum value of 2015 divorces being reached in Bacau County in 1998, and the minimum value of 118 divorces in Ilfov County in 1997.

*Figure 3. The Heterogeneity of the Total Number of Divorces within the Analyzed Counties*




*Source: Own Data Representation.*

Because it was desired a better representation of the obtained results, the models were tested for the urban and rural environment. I identified aspects that differentiate the two living areas, appreciating the appearance of a behavior due to traditions, beliefs, social stereotypes or behavioral factors, enabling the identification of regional influences due to the presence in the proximity of influential urban centers that generate an increased incidence of some analyzed variables.

For the rural area, the Fixed Effects Model registers a very small p-value indicating a good model. In this case, the difference is expressed by the urban population variable, represented by the minus sign, therefore, when there are variations of the urban population, there is registered a decrease in the number of divorces in the rural area by 0.0152 units, if the other variables do not influence. Also, the variable has a strong level of statistical significance.

Also, it can be noticed that the age at the first marriage for women and the monthly average gross nominal salary is represented by the minus sign, a variation with one percent leading to the decrease in the number of divorces by 7.9562%, respectively by 0.5082%, being represented by three stars of statistical significance.

Then was performed the Lagrange Multiplier (Honda) test.

The p-value is small, we reject the null hypothesis, and we choose the Fixed Effect model (Table 2). The F Test for Individual Effects (Fixed Effects) versus the OLS Model records a p-value lower than 2.2e-16 choosing, in this case, the Fixed Effect model (alternative hypothesis). Also, in the case of the Random Effects Model the p-value is lower than 2.22e-16, indicating a good model.

To be able to choose one of the two fixed effects models, it was performed the Hausman test. In this situation, the p-value equals 1.521e-16, allowing us to reject the null hypothesis and to choose the Fixed Effect model.

Cross-sectional dependence performed with the Breusch Pagan LM and Pesaran Cross-Sectional Dependence tests. For both tests, the p-value is lower than 2.2e-16, which means there is no cross-sectional dependence. As for the Breusch-Godfrey/Wooldridge test, the p-value is near to 0 value. Therefore, we reject the null hypothesis. In the case of the Breusch-Pagan test, the null hypothesis is rejected and is identified the presence of heteroskedasticity (Table 2).

Then was carried out the same procedure for the urban environment, the applied models and tests revealing the following results.

The $R^2$ value reaches the highest value between the total and the rural environment, in all three proposed models, a score of 74.51% for the Fixed Effect Model.

Regarding the statistical tests results, these are in line with those presented above for the other econometric modelling. Thus, the Lagrange Multiplier Honda test results in rejecting the null hypothesis and choosing the Fixed Effect model (Table 2).

The Hausman Test for Fixed Effects versus Random Effects records a p-value smaller than 0.05, which allows us to conclude that there is a real difference between the two models. Reject the null hypothesis and choose the Fixed Effects model.

Cross-sectional dependence is tested using the Breusch Pagan Lagrange Multiplier and the Pesaran Cross-Sectional Dependence. Both tests indicate a p-value lower than 2.2e-16. In this case, we reject the null hypothesis and identify the presence of heteroskedasticity. A robust covariance matrix is used to correct this (Table 3). The Dickey-Fuller test records a p-value of 0.01, meaning that stationarity is identified, the null hypothesis is rejected. As for the Wooldridge test, the value of p-value is lower than 2.2e-16 therefore, the null hypothesis is rejected.

In the Breusch-Pagan test, a p-value lower than 2.2e-16 is recorded, the null hypothesis is rejected, heteroskedasticity is identified.

## 4. Conclusions and implications

In this paper was desired to establish the existing link between the total number of divorces in Romania and the socio-economic predictors included in the analysis. As the data provided by the National Institute of Statistics are limited in their accessibility, the research was limited to the period 1996-2014. Initially, it was desired to analyze the period between 1990 and 2018, but the problems encountered throughout the research on data accessibility or the lack of availability of the data, as well as aspects related to their imputation, contributed to the reduction of the analyzed period.

Monthly gross nominal salary was used to represent the distribution of income in the territory, adjusted by the average annual rate for a dollar between 1996 and 2014, to prevent possible misstatements in terms of periods prior to 2005 and after 2005, with the denomination of money in Romania. This variable was used along with the control variables, the age at first marriage, the number of new homes built and received by beneficiaries, the number of pre-university education graduates and the percentage of urban population in the total population, calculated for each county.

The results of the Pooled-OLS, Fixed Effects and Random Effects Models showed statistically significant relationships between the total number of divorces and examined predictors. However, the result of the Hausman Test showed that the most appropriate model for this econometric analysis is the Fixed Effects Model.

As it was mentioned in the beginning was desired to capture the differences between the urban and the rural environment to see if there are some possible explanations regarding the occurrence of this problem in our country.

The Fixed Effect Model for the total number of divorces registered an explanatory power of 69.20% which means that the total number of divorces is explained in most cases by the predictors included in the model. In all analyzed models, when the income, represented in this analysis by the monthly gross nominal salary, rises, it leads to a decrease of the divorces. In the case of the variable age at the first marriage for man, we observe a positive impact on the dependent variable, while in the case of the variable age at the first marriage for woman, the influence on the dependent variable is negative and statistically significant. This fact indicates that when men marry at an earlier age, the likelihood of divorce is increasing, while when a woman is married at an earlier age, her probability of divorce is diminished.

Regarding pre-university education variable, when a person gets a higher level of education, his probability of divorce increases, the same relationship manifesting between the independent variables, unemployment rate and new dwellings and the dependent variable, number of divorces.

It can be observed that the explanatory power is 63.43% in the rural area and 74.51% in the urban area. We can explain this difference through cultural dimension, traditions or through urbanization itself because in the urban area people tend to give more importance to career and financial dependence, while people from rural areas tend to be more appropriate from customs and traditions.

Through the carried-out tests was observed that there exists a cross-sectional dependence in the data, stagnation of the trends and was discovered the presence of the heteroskedasticity and serial correlation. To correct the presence of serial correlation and heteroskedasticity was applied the Arellano-Bond correction, recommended for the Fixed Effect model. In conclusion, a limitation of this paper is that the econometric analysis cannot capture hardly measurable variables, such as aspects of culture, religion, sexual orientation, beliefs and values or socio-behavioral changes that influence the dependent variable, the number of divorces from Romania, influences that lie beyond the explanatory power of the presented econometric models.

For further investigation is desired to conduct a cluster analysis among counties to identify regional problems that explain or cause the divorce phenomenon and then provide specific solutions, based on the interpretation of the clusters, in order to reduce the consequences of the problem.

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