
Munich Personal RePEc Archive

Sex discrimination within the Romanian labor market – Myth or reallity?

Turturean, Ciprian Ionel and Chirila, Ciprian and Chirila, Viorica

Alexandru Ioan Cuza University of Iasi, Romania

31 December 2007

Online at https://mpra.ub.uni-muenchen.de/22283/
MPRA Paper No. 22283, posted 26 Apr 2010 07:26 UTC

Universitatea
„Alexandru Ioan Cuza" din IAŞI

Facultatea de Economie şi
Administrarea Afacerilor

SEX DISCRIMINATION WITHIN THE ROMANIAN LABOUR MARKET – MYTH OR REALITY?

Authors:
Ciprian – Ionel TURTUREAN[1]
ciprian.turturean@uaic.ro

Ciprian CHIRILĂ[2]
chcip@uaic.ro

Viorica CHIRILĂ[3]
vchirila@uaic.ro

Abstract: The constant fight against discrimination of any nature constitutes one of the most important objectives of the European Union. Special directives have been adopted with regard to this aspect, comprising measures for fighting discrimination generally and especially discrimination related to the labour market (Directives 76/207/CEE or 86/613/CEE).

The article treats sex discrimination within the Romanian labour market from an economic perspective. We shall present the characteristics and particularities of the Romanian labour market, from the point of view of sex structure, in the period 1990-2006: the occupation rate of the population, the unemployment rate, income level, period of activity, retirement level and retirement receiving period.

The analysis of sex discrimination within the Romanian labour market will take into account the differences between the two types of population considered, differences which are due to certain physiological and psychological characteristics. These characteristics may determine biases towards certain types of economic activities for which the income level, work schedule and work condition might differ.

Key words: *sex segregation, activity and employment rate, gender activity and employment gap*, *gender differences in salary, positive discrimination, division of labour*, *statistical data analysis*.
JEL Classifications: I20, A22, H52.

[1] *Ph.D. Lecturer, FEAA, University "Al. I. Cuza" of Iaşi*
[2] *Lecturer, FEAA, University "Al. I. Cuza" of Iaşi*
[3] *Ph.D. Lecturer, FEAA, University "Al. I. Cuza" of Iaşi*

1. Discrimination on the labour market in Romania – socio-cultural context

Gender discrimination on the labour market can take various forms, ranging from the restriction to work in a certain area or to fill in certain positions (*professional discrimination*), to wage difference (*wage discrimination*) for the work executed under the same conditions and with the same results.

According to the abovementioned specifications, gender discrimination on the labour market implies the different treatment, on the same labour market, of people according to their gender.

Actually, there can be two types of discrimination, *positive discrimination* and *negative discrimination*.

One example of positive discrimination in Romania resides in the fact that, according to the rules of courtesy practiced in this country, man takes upon himself to relieve the woman from the tasks that imply physical effort. As a result of these practices, women are used to accept only certain types of jobs that do not involve high degree of physical effort. Within the Romanian society, these delimitations between genders are still accepted with regard to economic activities, even though at a lower level, a fact that can involve a false perception of the gender discrimination phenomenon on the labour market. Thus, we can talk about *self-discrimination* on the labour market or about a *voluntary discrimination*.

In the case of voluntary discrimination, the role of the *technologization of the economic activities* is a major one by eliminating the factor that determines the delineation between the jobs specific to men and those specific to women, that is, physical effort.

Another aspect, specific to ex-socialist countries, resides in the fact that, during communism, through the policy practiced by the governing party, propaganda for *the emancipation of women* was in place. This was the first step towards ensuring the equality of man and woman in society, even though there remain unwritten laws practiced, especially within the family, laws that reflected, of course, upon the position of the woman in society. Woman's financial dependency on man under the auspices of family protection and development still remains a subject of discussion even in developed societies. Usually this dependence implies the tacit agreement of both parties. The communist period corresponded to a period of intense urbanization of the population. Traditional values, typical to the rural environment, were still characteristic to the *neo-urban* population.

The authors of this article accept the idea of gender differentiation *within natural limits* on the labour market; moreover, they plead for its application in a positive way, defined by the Chinese philosophy of the two principles, Ying and Yang, without which evolution would not exist.

What the authors propose is that the idea of distinction within natural limits on the labour market be accepted as long as it represents the personal choice of each individual. We suggest that the expression used under these circumstances should not be that of distinction or discrimination, but that of *labour division between genders* [5, p.67].

Following a comparative analysis between Western countries and ex-socialist countries, it has been established that Western countries have bigger issues concerning the discrimination of women on the labour market, reference being made here to top management jobs within large national and multinational companies [17].

The debates about gender discrimination on the labour market can generate the following controversy: *What is more dangerous: that there is a gender differentiation among professions*

which comes close to a self-imposed differentiation of each individual participant on the labour market, or to force the population, based on more or less European rules, to find themselves in equal ratios based on gender in all the categories of economic activities, with no regard to the physiological and psychological characteristics of each of the genders?

2. The limitations of the analysis of gender discrimination on the labour market in Romania

The limitations of the approach of gender discrimination on the labour market in this article are established by the *limitations of the macroeconomic information* available for Romania within the analysed period, 1990-2006.

We need to clarify from the start that the authors accept that there is gender "discrimination" on the labour market, a discrimination mainly deriving from a "labour division" based on *the physiological and psychological characteristics* that define the difference between genders, as well as from *the degree of technologization of the labour process and the system of traditional values* specific to the Romanian people.

We should not exclude the fact that, from the analysis of the economic factors, if these do not have the necessary degree of specification, as a result of the calculations and comparisons, there might appear a phenomenon of false discrimination (*spurious discrimination*). This type of discrimination may be based on women's tendency to turn towards activities with another degree of physical and psychic effort. For example, we will find a very small number of women in the mining industry, among the workers that descend into the mine, but we will find a greater number of women ready to work in the mining industry but in the surface work. Consequently, a wage differentiation by gender is possible precisely because women, impelled only by the physiological and psychological factors, avoid executing certain types of work. Even in this example, the participation of women in certain types of work is greatly influenced by the *tehnologization of the work process* factor, a factor that can compensate for the differences existing, on a physiological and psychological level, between women and men.

These examples can continue with examples specific to men. For example, in the tradition of the Romanian people, there is a delimitation of professions according to gender. This delimitation originates in the past and takes into account the physiological and psychological structure of persons according to their gender. Women would carry out a type of activity regarding the well being of household: sewing, weaving, cleaning, cooking, taking care of the farm animals, raising and educating children, field work, especially tending the crops and harvesting, buying and selling homemade products, especially clothes and food products etc. Men had a type of activity regarding the representation of the household into society and activities that implied steady physical effort, usually out of the household: grazing animals, sawing wood, hunting, milling, field work, especially sowing, followed by tending and harvesting the crops, building the house, en gross trade – converting the results of labour, which implies the manipulation of large quantities etc [5, p. 68].

The correct analysis of gender discrimination on the labour market implies the correct breakdown, into branches of activity and specific professions, of the way in which men and women participate in the economic activity of a country.

3. Research methodology

In order to verify the hypotheses regarding the existence of gender discrimination, a set of indicators specific to the labour market and a set of parametric and non-parametric tests were used.

The main indicators in absolute value used in this article are:

1. Working - age population (PVM[4]) – comprises the population aged 15 – 64.

2. Civil active population (PA) – from an economic point of view – comprises all the persons above the age of 15 who provide the labour force available for the production of goods and services; it includes the *civil employed population* and *the registered unemployed*. It might include persons who exceed the working age and might not include working age people, who out of one reason or another, are not active on the labour market – population that does not want to participate on the labour market and population that participate in the black labour market [12., p.13].

3. Civil employed population (PO) comprises, according to the labour force balance methodology, all the persons who, during the reference year, carried out a socio-economic profitable activity, excepting military staff and similar (staff of the Ministry of Defence, Ministry of Internal Affairs, Romanian Intelligence Service, conscripts), political and community organisations employees and convicts.

In calculating these indicators, five data sources were taken into consideration [15, p. 33]:

1. the census;
2. the AMIGO inquiry;
3. the statistical survey regarding the cost of the labour force;
4. The Labour Force Balance;
5. The National Agency for Employment (Agenția Națională a Ocupării Forței de Muncă, A.N.O.F.M.).

1. In the case of **the census**, a person's economical situation refers to their relation to the economic and social activity, as well as the way in which this person ensures the income necessary for their livelihood.

Based upon the economic situation, the population classifies into *economically active population* and *economically inactive population*. In its turn, *the active* and *the inactive population* may be *current* or *common*. *The current economic situation* is established in relation to *the week preceding the census*, and *the common economic situation* is established in relation to the *year preceding the census*.

2. **The AMIGO inquiry** includes *the economically active population*, all the persons who provide the labour force available for the production of goods and services *during the reference period*, including *the employed population* and *the unemployed*.

3. **The statistical survey regarding the cost of the labour force** does not study the level of the active population; its aim is to assess the *number of employees*, working time, wage volume, etc.

4. **Labour Force Balance** provides us with the data regarding the *civil employed population*.

5. **The National Agency for Employment** (**Agenția Națională a Ocupării Forței de Muncă** A.N.O.F.M.) provides administrative data regarding the number of registered unemployed.

There are methodological differences of calculation between the different sources of data regarding the labour force and sometimes this makes data compatibility difficult. These methodological differences are mainly due to the different lengths of the reference period and to the

[4] These abbreviations come from Romanian terminology.

coverage domain of the active population indicators. The existence of these discrepancies allows for a situation in which persons can appear according to one definition within the category of the active population, and according to another definition within the category of the inactive persons, etc. [4, pp. 85 – 103].

Based upon the indicators in absolute value, the following categories of indicators in relative value have been calculated [2, pp. 45 – 54]:

1. *Inactivity rates by gender* in terms of *the working age population*:

$$RI_m^{t,15-64}=\frac{\mathrm{PVM_m}-\mathrm{PA_m}}{\mathrm{PVM_t}}100 \qquad (1) \qquad RI_f^{t,15-64}=\frac{\mathrm{PVM_f}-\mathrm{PA_f}}{\mathrm{PVM_t}}100 \qquad (2)$$

2. *Activity rates specific to the population grouped by gender* in terms of *the working age population grouped by gender*:

$$RA_m^{m,15-64}=\frac{\mathrm{PA_m}}{\mathrm{PVM_m}}100 \qquad (3) \qquad RA_f^{f,15-16}=\frac{\mathrm{PA_f}}{\mathrm{PVM_f}}100 \qquad (4)$$

3. *Specific employment rates* in terms of *the working age population by gender*:

$$RO_m^{m,15-64}=\frac{\mathrm{PO_m}}{\mathrm{PVM_m}}100 \qquad (5) \qquad RO_f^{f,15-64}=\frac{\mathrm{PO_f}}{\mathrm{PVM_f}}100 \qquad (6)$$

4. *Gross income rates by gender* in terms of the *gross income of the total population*:

$$\overline{Vb}_m^t=\frac{\overline{\mathrm{Vb_m}}}{\overline{\mathrm{Vb_t}}}100 \qquad (7) \qquad \overline{Vb}_f^t=\frac{\overline{\mathrm{Vb_f}}}{\overline{\mathrm{Vb_t}}}100 \qquad (8)$$

5. *The percentage of the average real retirement age by gender within the average survival age by gender*:

$$RVp_m^{\overline{Sv}_m}=\frac{\overline{\mathrm{Vp_m}}}{\overline{Sv}_\mathrm{m}}100 \qquad (9) \qquad RVp_f^{\overline{Sv}_f}=\frac{\overline{\mathrm{Vp_f}}}{\overline{Sp}_\mathrm{f}}100 \qquad (10)$$

6. *The percentage of the average real retirement age by gender within the average legal retirement age*:

$$RVp_m^{\overline{Vleg}_m}=\frac{\overline{\mathrm{Vp_m}}}{\overline{Vleg}_\mathrm{m}}100 \qquad (11) \qquad RVp_f^{\overline{Vleg}_f}=\frac{\overline{\mathrm{Vp_f}}}{\overline{Vleg}_\mathrm{f}}100 \qquad (12)$$

It can be observed that the indicators can be grouped into two broad categories, according to the reporting basis:

1. *Indicators measuring the intensity of a phenomenon produced at the level of each group by gender by reporting the group indicators to general indicators specific to the whole population*.

This category of indicators, though they pose a high degree of comparability by the use of the same reporting basis, does not allow for a correct evaluation of the phenomenon at the group level, because it allows the manifestation of some factors exterior to each of the groups. Consequently, we shall use this category of indicators only in one of the following instances:

- when it is not possible to calculate the indicators at group level;
- when the calculation of the indicators at group level is irrelevant;
- when we want to identify an external factor that can determine the occurrence of some significant differences between the groups.

2. *Indicators measuring the intensity of a phenomenon produced within each gender group by reporting the group indicators to another category of group indicators.*

Activity rates, employment rates, and inactivity rates offer a particular form of estimation, because of the fact that, at the level of the feminine population, it can be observed, in most cases, a higher degree of inactivity as compared to the masculine population.

By using *the working age population* instead of *the total population*, we try to avoid the identification of a spurious *discrimination on the labour market*, due to this behaviour.

In order to test the research hypotheses, we shall use in this article:

- *the t test* to check whether the average of two groups differs significantly. This test can be used when the target variables at the level of the two groups are normally distributed. Due to this peculiarity, *the t test* is usually preceded by the testing of the normal distribution of the target variables through a specific test [10, pp. 279 – 281][5].
- *the Mann-Whitney U test*[6] to check whether the average of two groups differ significantly. This test shall be used when the normality of the distribution of the compared variables at the level of the two subgroups cannot be tested.

The t test and *the Mann-Whitney (U) test* shall be used especially for the comparison of the average rates by gender in the case in which *the reporting basis of the indicators is the same* (example: *the total working age population*) or in the case in which *there is a small number of registrations*.

The hypotheses checked by these tests are:

H_0: $\bar{r}_m = \bar{r}_f$

(13)

H_1: $\bar{r}_m \neq \bar{r}_f$

where

- $\bar{r}_m$, $\bar{r}_f$ *average rate*, *in a general way*, specific to the *male* population, and to the *female* population, respectively.

4. Establishing the research hypotheses

According to the category of indicators, the tested hypotheses fall into two categories:

1. Hypotheses that test the difference between the average levels of *the indicators measuring the intensity of a phenomenon produced al the level of each gender group by reporting the group indicators to general indicators specific to the total population*.

Hypothesis no. 1: On the labour market in Romania *there are significant differences* between *the average inactivity rates of the civil population* by gender.

Women present a higher *inactivity rate*, which makes them liable to discrimination on the labour market.

Hypothesis no. 2: On the labour market in Romania *there is a slight difference* between *the average gross monthly income* of men compared to that of women.

Men *have an average gross monthly income* bigger than women.

2. Hypotheses that test the difference between average levels of the *indicators that measure the intensity of a phenomenon produced within each gender group by reporting the group indicators to another category of group indicators.*

[5] *In this case, the Kolmogorov-Smirnov test shall be used.*

[6] Siegel, S., *Nonparametric statistics for the behavioral sciences*, McGraw-Hill, New York, 1956.

Hypothesis no. 3: On the labour market in Romania *there are significant differences* regarding the civil population grouped by gender regarding *the activity rate*.

Hypothesis no. 4: On the labour market in Romania *there are significant differences* regarding the civil population grouped by gender regarding *the employment rate*.

Hypothesis no. 5: On the labour market in Romania there is *an excessive use of the masculine labour force as compared to the feminine labour force.*

Hypothesis no. 6: On the labour market in Romania there is an *overstressing of the state pension system by women.*

These hypotheses have been checked through the *t test* or, as the case goes, through the *Mann-Whitney U test*.

5. The results of the analysis

Hypothesis no. 1: On the labour market in Romania *there are significant differences* between *the average inactivity rates of the civil population* by gender.

Hypothesis no. 1 shall be tested with *the t test* applied to the variable *inactivity rate specific to women and men, respectively.*

Inactivity rates specific to the population grouped by gender are shown in *table A.II.1,* and their graphic representation is shown in *figure 1*.

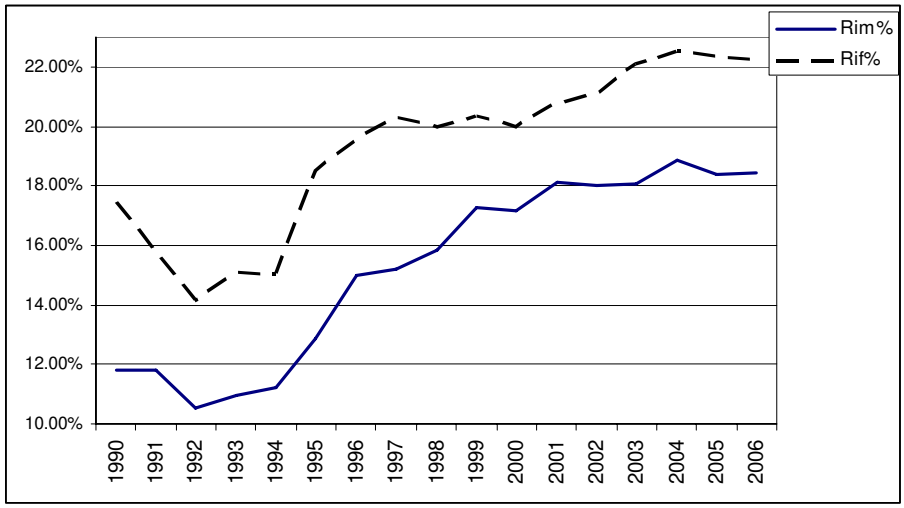

Fig. 1: The evolution of inactivity rates by gender in Romania for the period of 1990-2007

The results of this test are shown in *tables A.II.2-A.II.4*.

Following the analysis of these results, we observe that *hypothesis no. 1* is accepted and that, consequently, *there are significant differences* between *the average inactivity rates by gender*, and the average difference is of about 4% in favour of women.

Hypothesis no. 2: On the labour market in Romania *there are differences* between *the average gross monthly income* of men compared to that of women.

The values of *the average gross monthly incomes by gender* are shown in *table A.IV.2.*

Hypothesis no. 2 is tested by *the Mann-Whitney U test* [7, pp. 493-499]. The results of this test are shown in table A.IV.3. Following the interpretation of these results, *hypothesis no. 2* is

accepted and, consequently, there are significant differences between the average gross monthly incomes by gender. The average difference for the analysed data is of about *17.89%* in women's disadvantage.

Hypothesis no. 3: On the labour market in Romania *there are significant differences* between *the averages of the activity rates* by gender.

The values of *the activity rates by gender* are shown in *table A.III.1.* and they are calculated according to the data in *table A.I.1.* The graphic representation of these values is shown in *figure 2.*

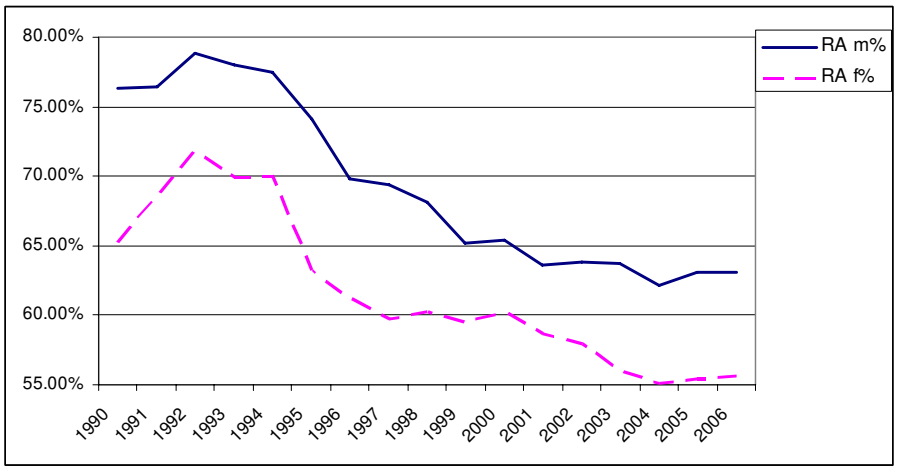

Fig. 2: The evolution of the activity rates by gender in Romania for the period of 1990-2007

From the analysis of the data in table III.4, we observe that there are significant differences between *the averages of the activity rates by gender*. The average difference calculated for the registered data is of 7.7% in women's disadvantage, which demonstrates that at the level of the feminine population group there is an activity rate slightly smaller than that of the masculine population, and this result appears under the conditions in which the calculation of the activity rate by gender is achieved by dividing by *the working age population*, and not by the *total population*. In reality, the differences between the activity rates are much greater.

Hypothesis no. 4: On the labour market in Romania *there are significant differences* regarding the civil population grouped by gender regarding *the employment rate*.

The values of *the activity rates by gender* are shown in *table A.III.1.* and they are calculated according to the data in *table A.I.1.* The graphic representation of these values is shown in *figure 3.*

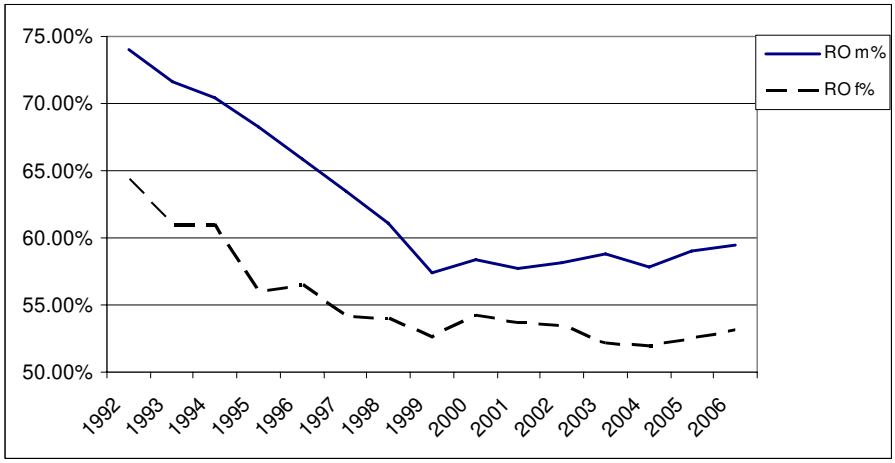

Fig. 3: The evolution of the activity rates by gender in Romania for the period of 1990-2007

From the analysis of the data in table III.4, we observe that there are significant differences between *the average employment rates by gender*. The average difference between the activity rates by gender is of 7.4% favouring men.

Hypothesis no. 5: On the labour market in Romania there is *an excessive use of the masculine labour force as compared to the feminine labour force.*

The values of *the percentage of the average real retirement age by gender within the average survival age by gender* are shown in table A.V.2.

The hypothesis is verified with the Mann-Whitney U test. The results of this test are shown in *table A.V.3*. Following the analysis of the data in *table A.V.3, hypothesis no. 5 is validated*.

Hypothesis no. 6: On the labour market in Romania there is an *overstressing of the state pension system by women.*

The values of *the percentage of the average real retirement age by gender within the average legal retirement age by gender* are shown in table A.V.2.

The hypothesis is verified with the Mann-Whitney U test. The results of this test are shown in *table A.V.3*. Following the analysis of the data in *table A.V.3, hypothesis no. 6 is validated*.

5. Conclusions and suggestions

All the premises presented at the beginning of this article have been validated as a result of the testing process. In *table 1* we shall present synthetically *the advantages* and *disadvantages* resulting from the validation of the hypotheses, presented on an intensity scale, corresponding to each gender. They are correlated with a description of the hypotheses and with the indicators used for the testing of the hypotheses.

The intensity of the advantaging/disadvantaging of the population by gender takes into account the average of the differences by gender between the indicators used in hypothesis testing.

Table 1: Grouping the statistical hypotheses by gender and by positive/negative aspects

Hypothesis no.	Description of the hypotheses	Indicator used in the testing process	Average difference between genders (masculine-feminine)	Advantages[1]	
				Masculine population	Feminine population
1	Different inactivity levels for different gender populations	*Inactivity rates by gender*	-3.99%	+	-
2	Different average monthly gross incomes for different gender populations	*Gross income rates by gender*	17.89%	+ + + +	- - - -
3	Activity rates for different gender populations	*Activity rates by gender*	7.65%	+ +	- -
4	Different employment rates for different gender populations	*Employment rates by gender*	7.37%	+ +	- -
5	Different degree of use in time of the labour force for different gender populations	*The percentage of the average real retirement age by gender within the average survival age by gender*	11.03%	- - -	+ + +
6	Differentiated favouring by gender from the point of view of the mandatory labour period	*The percentage of the average real retirement age by gender within the average legal retirement age*	-5.93%	- -	+ +
Total				+ + + +	- - - -

(+) - advantage;
(-) - disadvantage.
[1] *For each difference by 5%, we grant a +/- sign.*

Consequently, from *table 1* there follows that the masculine population seems to be favoured as regards the labour market in Romania. The conclusion is, of course, subjective, as long as we assigned the same weight to each aspect tested through the 6 hypotheses, but it presents an indisputable reality, that is, that there are differentiations on the labour market in Romania.

We cannot assert in all confidence how much of these differentiations are due to *real discrimination* and how much to *voluntary discrimination* or *gender division on the labour market in Romania*, but it is certain that these differences exist.

What is beneficial on the labour market in Romania is the fact that the advantage goes, alternatively, to men and women.

Finally, within the limits imposed by the analysed indicators, the authors of this article accept that discrimination on the labour market in Romania exists, but within natural limits. Just as *natural unemployment* is healthy for the economy of a country, in a similar way *natural distinction*, based on some principles that take into account the physiological and psychological characteristics of each gender, can be beneficial for the health of a society.

References

[1] Căpanu, Ion; Anghelache, Constantin (1997), Statistică macroeconomică. Bucureşti: Editura Economică
[2] Căpanu, Ion; Anghelache, Constantin (2001), Indicatori macroeconomici. Conținut, metodologie de calcul şi analiză economic. Bucureşti: Editura Economică
[3] Chakravarti, I., Laha, R., Roy, J. (1967), Handbook of Methods of Applied Statistics. New York: Wiley
[4] Demichel, Christine, Gonzalez; Fichet, Emmanuelle Nauze (2003), Les contours de la population active: aux frontières de l´emploi, du chômage et de l´inactivité. Economie et statistique no. 361, INSSE, Paris
[5] http://www-gewi.kfunigraz.ac.at/csbsc/download/women_men/06_rom.pdf
[6] Lehmann, E. L. (1985), Nonparametrics: Statistical Methods Based on Ranks. San Francisco: McGraw Hill.
[7] Neter, John; Wasserman, William; Whitmore, G.A. (1988), Applied Statistics. Boston: Allyn and Bacon
[8] Reynaud, Bénédicte (1994), Les théories du salaire. Paris: La Découverte
[9] Siegel, S. (1956), Nonparametric statistics for the behavioral sciences. New York: McGraw-Hill.
[10] Smirnov, N. V. (1948), Table for estimating the goodness of fit of empirical distributions. Annals of Mathematical Statistics, 19: 279–281.
[11] ***, Bureau International du Travail (2003), Annuaire des Statistiques du Travail 2003
[12] ***, Bureau International du Travail (2003), International training compendium on labour statistics. Statistics of employment, unemployment, underemployment: economically active population. Torino
[13] ***, INS (1998), Anuarul statistic al României pe Year 1997. Bucureşti
[14] ***, INS (2003), Anuarul statistic al României pe Year 2002. Bucureşti
[15] ***, INS (2007), Anuarul statistic al României pe Year 2006. Bucureşti
[16] ***, OCDE (2004), Perspectives de l´emploi de l´OCDE. Paris
[17] TV show *Săptămâna financiară (Financial Week)*, Antena 1, of June 14, 2008

ANEXA I

Tabel A.I.1: *Working - age population, civil active population, civil employed population (totals and gender grouping) in Romania during 1990-2006 period*

- thousands pers. -

Year	P^{t}_{15-65}	P^{m}_{15-65}	P^{f}_{15-65}	PA^{t}	PA^{m}	PA^{f}	PO^{t}	PO^{m}	PO^{f}
1990	15319.481	7646.946	7672.535	10839.500	5838.200	5001.300			
1991	15349.290	7663.301	7685.989	11123.200	5855.700	5267.500			
1992	15117.874	7528.004	7589.870	11387.000	5936.100	5450.900	10458.000	5570.200	4887.800
1993	15183.464	7558.053	7625.411	11226.700	5894.500	5332.200	10062.000	5415.300	4646.700
1994	15240.392	7583.666	7656.726	11235.500	5872.700	5362.800	10011.600	5342.100	4669.500
1995	15293.661	7606.713	7686.948	10491.400	5636.000	4855.400	9493.000	5189.100	4303.900
1996	15328.399	7622.099	7706.300	10036.500	5323.700	4712.800	9379.000	5021.600	4357.400
1997	15349.951	7630.057	7719.894	9904.100	5297.200	4606.900	9022.700	4844.400	4178.300
1998	15324.333	7614.456	7709.877	9837.700	5189.300	4648.400	8812.600	4649.400	4163.200
1999	15314.212	7607.794	7706.418	9549.900	4962.800	4587.100	8419.600	4362.600	4057.000
2000	15334.507	7618.792	7715.715	9636.400	4983.900	4652.500	8629.300	4448.400	4180.900
2001	15365.942	7636.046	7729.896	9389.400	4854.400	4535.000	8562.500	4408.600	4153.900
2002	14933.247	7428.800	7504.447	9089.600	4737.900	4351.700	8329.000	4316.800	4012.200
2003	14975.359	7451.970	7523.389	8964.400	4751.000	4213.400	8305.500	4378.400	3927.100
2004	15012.039	7473.462	7538.577	8796.200	4641.300	4154.900	8238.300	4318.000	3920.300
2005	15046.735	7494.899	7551.836	8913.400	4728.900	4184.500	8390.400	4425.100	3965.300
2006	15052.258	7500.433	7551.825	8929.800	4728.300	4201.500	8469.300	4459.200	4010.100

Source: *I.L.O., Laborsta (http://laborsta.ilo.org/), INS, TempoOnline (https://statistici.insse.ro/shop/)*

ANEXA II

Tabel A.II.1: *Inactivity rates by gender* in terms of *the working age population*

- % -

Year	RI_m^t	RI_f^t	$RI_m^t - RI_f^t$
1990	11.81%	17.44%	-5.63%
1991	11.78%	15.76%	-3.98%
1992	10.53%	14.15%	-3.62%
1993	10.96%	15.10%	-4.14%
1994	11.23%	15.05%	-3.82%
1995	12.89%	18.51%	-5.62%
1996	14.99%	19.53%	-4.54%
1997	15.20%	20.28%	-5.08%
1998	15.83%	19.98%	-4.15%
1999	17.27%	20.37%	-3.10%
2000	17.18%	19.98%	-2.80%
2001	18.10%	20.79%	-2.69%
2002	18.02%	21.11%	-3.09%
2003	18.04%	22.10%	-4.06%
2004	18.87%	22.54%	-3.67%
2005	18.38%	22.38%	-4.00%
2006	18.42%	22.26%	-3.84%

Tabel A.II.2: *One-Sample Kolmogorov-Smirnov Test for inactivity rates by gender* in terms of *the working age population*

		RI_m^t **(%)**	RI_f^t **(%)**
N		17	17
Normal Parameters[a,b]	**Mean**	.1526	.1925
	Std. Deviation	.03072	.02784
Most Extreme Differences	**Absolute**	.204	.191
	Positive	.164	.131
	Negative	-.204	-.191
Kolmogorov-Smirnov Z		.841	.788
Asymp. Sig. (2-tailed)		.478	.564

[a] *Test distribution is Normal.*
[b] *Calculated from data.*

Tabel A.II.3: *Group Statistics for Inactivity rates by gender in terms of the working age population*

	DUMMY SEX	N	Mean	Std. Deviation	Std. Error Mean
RI_m^t **(%)**	F	17	.1925	.02784	.00675
	M	17	.1526	.03072	.00745

Tabel A.II.4 *Independent Samples Test by gender for Inactivity rates in terms of the working age population*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confid. Int. of the Diff.	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Err. Diff.	Lower	Upper
RI_m^t (%)	Equal var. assumed	0.608	0.441	3.968	32.000	0.000	0.040	0.010	0.019	0.060
	Equal var. not assumed			3.968	31.693	0.000	0.040	0.010	0.019	0.060

ANEXA III

Tabel A.III.1: *Activity rates specific to the population grouped by gender in terms of the working age population grouped by gender and Specific employment rates in terms of the working age population by gender in Romania during 1990-2006 period*

-%-

time	$RA_m^{m,15-64}$	$RA_f^{f,15-16}$	$RA_m^{m,15-64}$ - $RA_f^{f,15-16}$	$RO_m^{m,15-64}$	$RO_f^{f,15-64}$	$RO_m^{m,15-64}$ - $RO_f^{f,15-64}$
1990	76.35%	65.18%	11.17%	-	-	-
1991	76.41%	68.53%	7.88%	-	-	-
1992	78.85%	71.82%	7.03%	73.99%	64.40%	9.59%
1993	77.99%	69.93%	8.06%	71.65%	60.94%	10.71%
1994	77.44%	70.04%	7.40%	70.44%	60.99%	9.45%
1995	74.09%	63.16%	10.93%	68.22%	55.99%	12.23%
1996	69.85%	61.16%	8.69%	65.88%	56.54%	9.34%
1997	69.43%	59.68%	9.75%	63.49%	54.12%	9.37%
1998	68.15%	60.29%	7.86%	61.06%	54.00%	7.06%
1999	65.23%	59.52%	5.71%	57.34%	52.64%	4.70%
2000	65.42%	60.30%	5.12%	58.39%	54.19%	4.20%
2001	63.57%	58.67%	4.90%	57.73%	53.74%	3.99%
2002	63.78%	57.99%	5.79%	58.11%	53.46%	4.65%
2003	63.76%	56.00%	7.76%	58.76%	52.20%	6.56%
2004	62.10%	55.12%	6.98%	57.78%	52.00%	5.78%
2005	63.10%	55.41%	7.69%	59.04%	52.51%	6.53%
2006	63.04%	55.64%	7.40%	59.45%	53.10%	6.35%

Tabel A.III.2: *One-Sample Kolmogorov-Smirnov Test for Activity rates specific to the population in terms of the working age poulation grouped by gender and for Specific employment rates in terms of the working age population by gender*

DUMMY_SEX			$RO_{m/f}^{m,15-64}$	$RA_{m/f}^{f,15-16}$
F	**N**		17	15
	Normal Parameters[a,b]	**Mean**	.6167294	.553880
		Std. Deviation	.05526487	.0377233
	Most Extreme Differences	**Absolute**	.186	.291
		Positive	.186	.291
		Negative	-.128	-.185
	Kolmogorov-Smirnov Z		.768	1.128
	Asymp. Sig. (2-tailed)		.597	.157
M	**N**		17	15
	Normal Parameters[a,b]	**Mean**	.6932706	.627553
		Std. Deviation	.06189144	.0578229
	Most Extreme Differences	**Absolute**	.207	.250
		Positive	.207	.250
		Negative	-.166	-.174
	Kolmogorov-Smirnov Z		.852	.966
	Asymp. Sig. (2-tailed)		.462	.308

[a] *Test distribution is Normal.*
[b] *Calculated from data.*

Tabel A.III.3: *Group Statistics for Activity rates specific to the population grouped by gender in terms of the working age population grouped by gender and Specific employment rates in terms of the working age population by gender*

	DUMMY SEX	N	Mean	Std. Deviation	Std. Error Mean
$RA^{m,15-64}$	F	15	.553880	.0377233	.0097401
	M	15	.627553	.0578229	.0149298
$RO^{m,15-64}$	F	17	.6167294	.05526487	.01340370
	M	17	.6932706	.06189144	.01501088

Tabel A.III.3: *Independent Samples Test for Activity rates specific to the population in terms of the working age population and Specific employment rates in terms of the working age population grouped by gender*

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confid. Int. of the Diff.	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Diff.	Std. Err. Diff.	Lower	Lower
$RA^{f,15-16}_{m/f}$	Equal var.assum.	5.045	0.033	-4.133	28.000	0.000	-0.074	0.018	-0.110	-0.037
	Equal var. not assume.			-4.133	24.090	0.000	-0.074	0.018	-0.110	-0.037
$RO^{m,15-64}_{m/f}$	Equal var.assum.	0.753	0.392	-3.803	32.000	0.001	-0.077	0.020	-0.118	-0.036
	Equal var. not assume.			-3.803	31.598	0.001	-0.077	0.020	-0.118	-0.036

ANEXA IV

Tabel A.IV.1: *Average Anual Gross income (totals and gender grouping) in Romania during 2003-2006 period*

- lei -

Year	$\overline{Vb}_t$	$\overline{Vb}_m$	$\overline{Vb}_f$
2003	2140.500	2361.300	1894.600
2004	2443.100	2659.600	2208.800
2005	3241.200	3493.100	2966.100
2006	3937.800	4220.300	3628.100

Source: *I.L.O., Laborsta (http://laborsta.ilo.org/), INS, TempoOnline (https://statistici.insse.ro/shop/)*

Tabel A.IV.2: *Gross income rates by gender in terms of the gross income of the total population in Romania during 2003-2006 period*

- lei -

Year	$\overline{Vb}_m^t$	$\overline{Vb}_f^t$	$\overline{Vb}_m^t - \overline{Vb}_f^t$
2003	110.32%	88.51%	21.81%
2004	108.86%	90.41%	18.45%
2005	107.77%	91.51%	16.26%
2006	107.17%	92.14%	15.03%

Tabel A.IV.3: *Mann Witheney U Test Statistics*[(b)] for *Gross income rates by gender in terms of the gross income of the total population*

	$\overline{Vb}_{m/f}^t$
Mann-Whitney U	.000
Wilcoxon W	10.000
Z	-2.309
Asymp. Sig. (2-tailed)	.021
Exact Sig. [2*(1-tailed Sig.)]	.029[(a)]

[a] *Not corrected for ties.*
[b] *Grouping Variable: Dummy sex*

ANEXA V

Tabel A.V.1: *Average survival age, average real retirement age, average legal retirement age (totals and gender grouping)* in Romania during 2003-2006 period

- ani -

Year	$\overline{Sv}_t$	$\overline{Sv}_m$	$\overline{Vp}_t$	$\overline{Vp}_m$	$\overline{Vp}_f$	$\overline{Vleg}_f$	$\overline{Vleg}_m$
2001	71.190	67.690	59.800	60.500	59.200	57	62
2002	71.180	67.610				57.08	62.08
2003	71.010	67.420	62.700	62.600	62.900	57.25	62.25
2004	71.320	67.740	59.500	60.400	58.800	57.42	62.42
2005	71.760	68.190	63.000	64.700	61.500	57.60	62.60
2006	72.220	68.740	64.300	65.500	63.200	57.85	62.85

Tabel A.V.2: *The percentage of the average real retirement age by gender within the average survival age by gender* and *The percentage of the average real retirement age by gender within the average legal retirement age in Romania during 2003 – 2006 period*

- % -

Year	$RVp_m^{\overline{Sv}_m}$	$RVp_f^{\overline{Sv}_f}$	$RVp_m^{\overline{Sv}_m} - RVp_f^{\overline{Sv}_f}$	$RVp_m^{\overline{Vleg}_m}$	$RVp_f^{\overline{Vleg}_f}$	$RVp_m^{\overline{Vleg}_m} - RVp_f^{\overline{Vleg}_f}$
2001	89.38%	79.10%	10.28%	97.58%	103.86%	-6.28%
2002						
2003	92.85%	84.11%	8.74%	100.56%	109.87%	-9.31%
2004	89.16%	78.34%	10.82%	96.77%	102.41%	-5.64%
2005	94.88%	81.49%	13.39%	103.35%	106.76%	-3.41%
2006	95.29%	83.38%	11.91%	104.21%	109.24%	-5.03%

Tabel A.V.3: *Test Statistics[(b)] for The percentage of the average real retirement age by gender within the average survival age by gender and The percentage of the average real retirement age by gender within the average legal retirement age*

- %-

	$RVp_{m/f}^{\overline{Sv}_{m/f}}$	$RVp_{m/f}^{\overline{Vleg}_{m/f}}$
Mann-Whitney U	.000	1.000
Wilcoxon W	15.000	16.000
Z	-2.611	-2.402
Asymp. Sig. (2-tailed)	.009	.016
Exact Sig. [2*(1-tailed Sig.)]	.008[(a)]	.016[(a)]

[a] *Not corrected for ties.*
[b] *Grouping Variable: Dummy sex*