Social Side of the EU Enlargement

Dr. Erzsébet KOVÁCS[1] - Dr. Zoltán KOLLÁR

Abstract

The first phase of the EU enlargement started 30 years ago when Ireland joined to the European Union, and ended in 1995 involving the EFTA countries. Long term convergence of the EU member countries has been analyzed by several papers, and experience of the recent process is relevant for the newcomers.

Based on the earlier experience Maastricht's criteria describe EU maturity clearly. It is expected to have low inflation, and low unemployment rate. Government deficit and debt are limited. But what is about the social side?

Taking into account social and demographic characteristics, EU enlargement will result diversified society. Comparing such indicators as life expectation, dependency ratio, health expenditure, scope of public pension schemes, inner differences will dominate. Multivariate statistical analysis is applied to measure distances and compare countries in higher dimensional space.

First we examine economic and social indicators of the EU in selected years (1996, 2000) to present how dissimilarities were changing. Finally we classify newcomers together with the present EU member states to measure those characteristics, which are extremely different. Countries are scored and grouped in multivariate space to identify factors influencing economic and social convergence. Cluster analysis and multidimensional scaling are used to show relative position of countries in certain years.

Introduction

The objective of our study was to explore social and demographic differences in the new European Union. Transition to market-based economy from socialist system was inevitable process to start negotiations about the EU enlargement. Economic and social transition was very rapid in the Central-Eastern European countries (CEECs) and has changed the life of people dramatically. The emerging market has developed income inequality, social differentiation appeared and has not yet reached the state of stability. The more or less complete employment disappeared, and employment status divides people into the groups of employers, employed and unemployed. The paternalistic state „disappeared", the social safety net is weak, public pensions are low. Different taxes are still high and the individual self-care is in the stage of its formation. The ability to use newly opened opportunities for individuals depends on their income position.

Now the new challenge, the EU enlargement will influence the socio-economic environment. The magnitude of changes in acceding societies is comparable with the consequences of the transition. Economic and social integration seems to be very slow process not only because of the higher number of new members in 2004, but because of the lower amount of financial support.

The focus of this study is on the differences in taxation and pension schemes. Taxation is highlighted in connection with lower income level, pensions are important in light of ageing population[2] problems.

Approach to the problem, data and methods

International statistical comparison is conducted to measure those differences between EU-members and acceding countries, which are significant and will not disappear after the EU enlargement. On one hand economic and financial convergence is characterized by several indicators, for example GDP PPS, inflation rates, public balance and government debts. On the other hand two indicators – taxation and pension - are selected to measure differences among societies.

---

[1] Dr. Erzsébet Kovács, Ph.D. Department of Operations Research (erzsebet.kovacs@bkae.hu) and Dr. Zoltán Kollár DSc. Departmant of Comparative Economics (zoltan.kollar@bkae.hu) Budapest University of Economic Sciences and Public Administration

[2] We could demonstrate in our previous research that age structures are quite similar in different European countries, and low fertility rates with high old-age dependency ratio are present in CEECs as well.

Economic data were collected for 1996 and 2000 to present convergence of 15 EU-members and 10 newcomers together with three countries interested in joining to the EU. Social data are for 14 EU-members and for 8 acceding countries in 2000 (in certain cases in 1999). Several statistical procedures were used to make differences more visible. Factor and cluster analysis helped to identify important indicators. Multidimensional scaling was used to present convergence map. Certain parts of the results are summarized in this paper.

1. Economical and financial convergence

Economic integration (as it is called real convergence) is measured by per capita GDP growth rate. To compare Hungary and other acceding countries to the EU member states, purchasing power parity of the GDP can give more realistic picture than the nominal GDP level. Using this quantity, rule of Lucas can be applied to estimate the number of years to catch up highly developed EU members. In case of Hungary 28 years can be calculated as length of this period. Comparing transition countries to the previous members, inner differences will be wider than in the earlier phase, when Greece or Portugal and Spain were involved.

Figure 1 shows GDP per capita in Purchasing Power Standards, comparing countries to the EU-15 averages in 1996 and 2000. Small increase in medians[3] in 2000 can be seen in the first two groups, but the inner differences show different pattern. Very high value of Luxemburg increased the range of GDP per capita within the EU, while acceding countries become more similar in this period. Relative positions of Greece and Portugal are still below 70%. Their percentages are smaller than the values for Cyprus and Slovenia as it is presented on Figure 2.
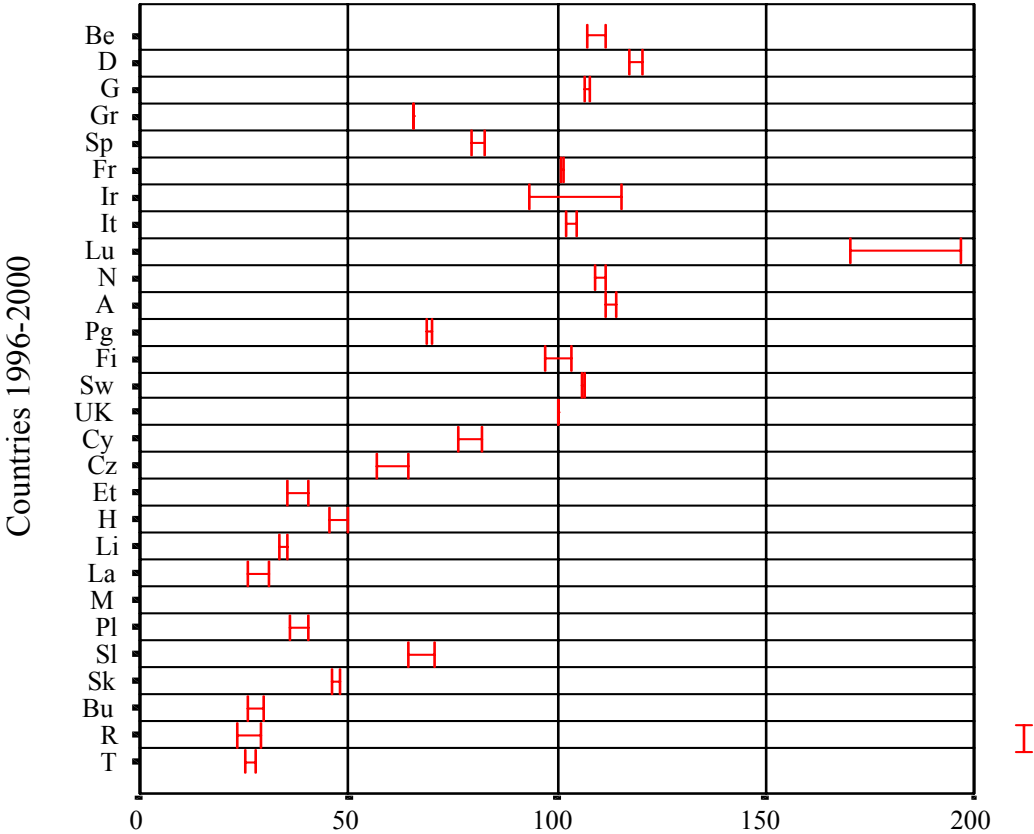

Figure 1: GDP per capita in Purchasing Power Standards for three groups of countries as percentage of the EU average
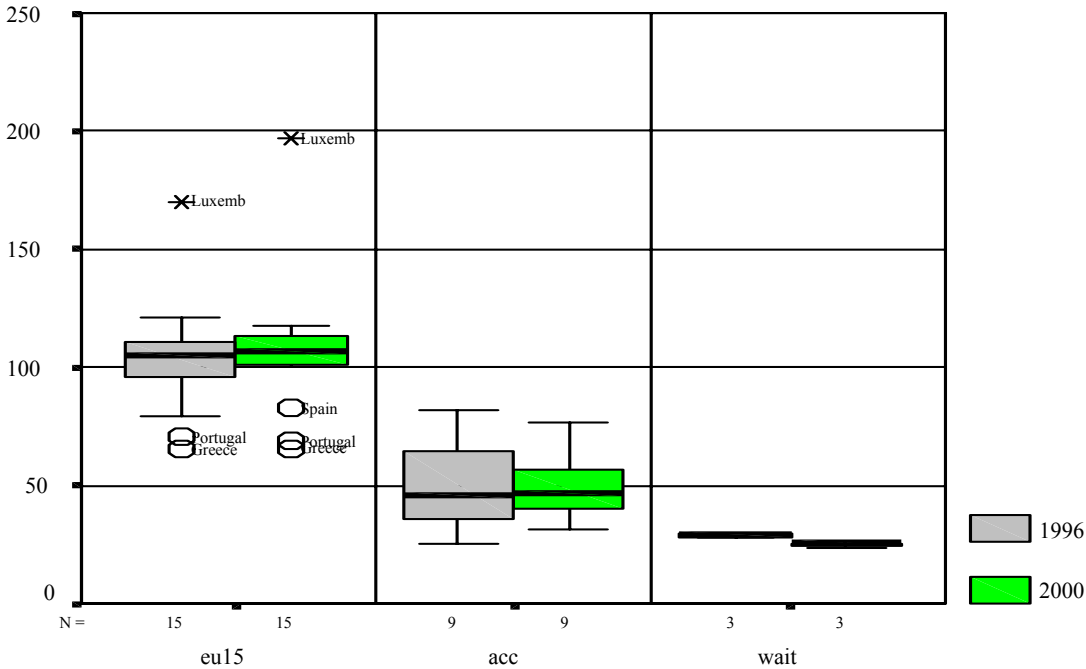
GDP per Capita in 1996 and 2000, EU-15=100

---

[3] Median is used instead of the mean to reduce the strong effect of the high value of Luxemburg to the arithmetic average.

Figure 2: Changes of GDP per capita in PPS for individual countries 1996-2000

Inflation, price stability, government finances and long-term interest rates are four convergence criteria set out to participate in the euro area. Acceding countries are interested in joining to the euro area as well, so it seems to be relevant to compare them in this sense.

Figure 3 shows those relevant changes, which characterize this short period in Europe. Tendency of changes was different. The median inflation rate of the EU-members increased from 2.1 to 2.7. Acceding countries could reduce their median (and range) of harmonized indices of consumer prices (HICPs) from 9.9 to 4.9% in the investigated period. (Data were missing for Bulgaria and Turkey in the third group.)

The ratio of the annual government deficit to gross domestic product must not exceed 3% in the euro area. This criteria is fulfilled by seven acceding countries in 2000. Figure 4 shows Malta and Slovak Republic below the declared level in 2000. Italy and Greece could decline their levels substantially during the investigated period, and only Portugal (-2.8) is close to the line in 2000.

The ratio of gross government debt to GDP must not exceed 60%. According to the statistics, acceding countries made successful effort to fulfill these criteria[4], while 3 EU-members (Belgium, Greece and Italy) are well above the 60% line. (See Figure 5)
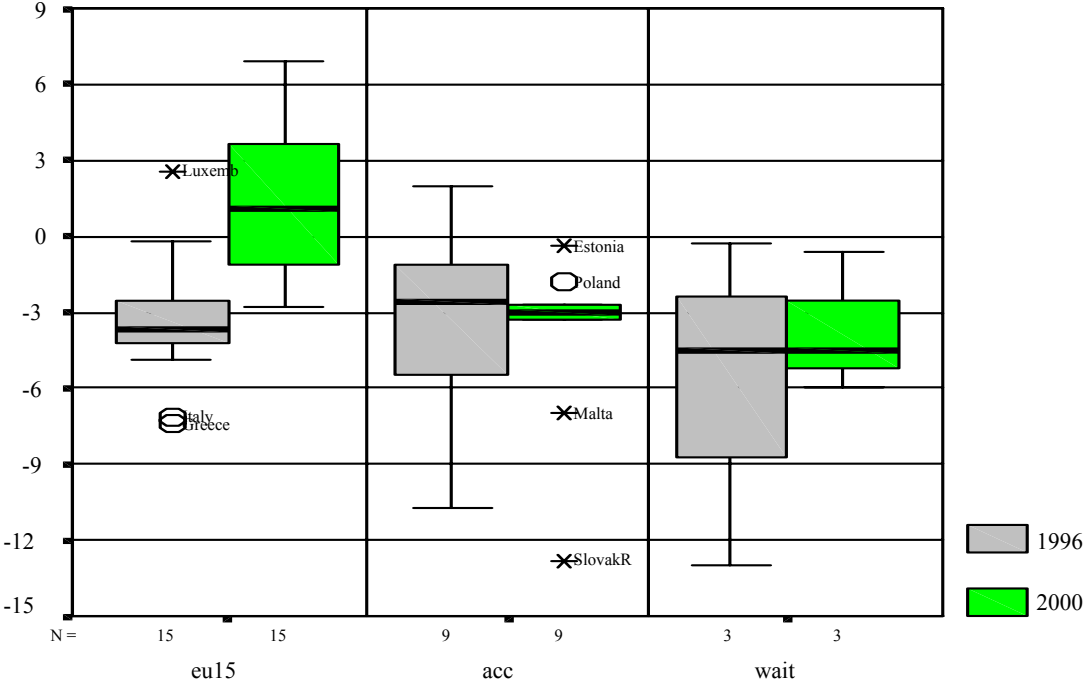
---

[4] Hungary was the only transition country exceeding the reference value with 64% debt in 1996.

Figure 3: Inflation rate – Annual average rate of change in Harmonized Indices of Consumer Prices (%)
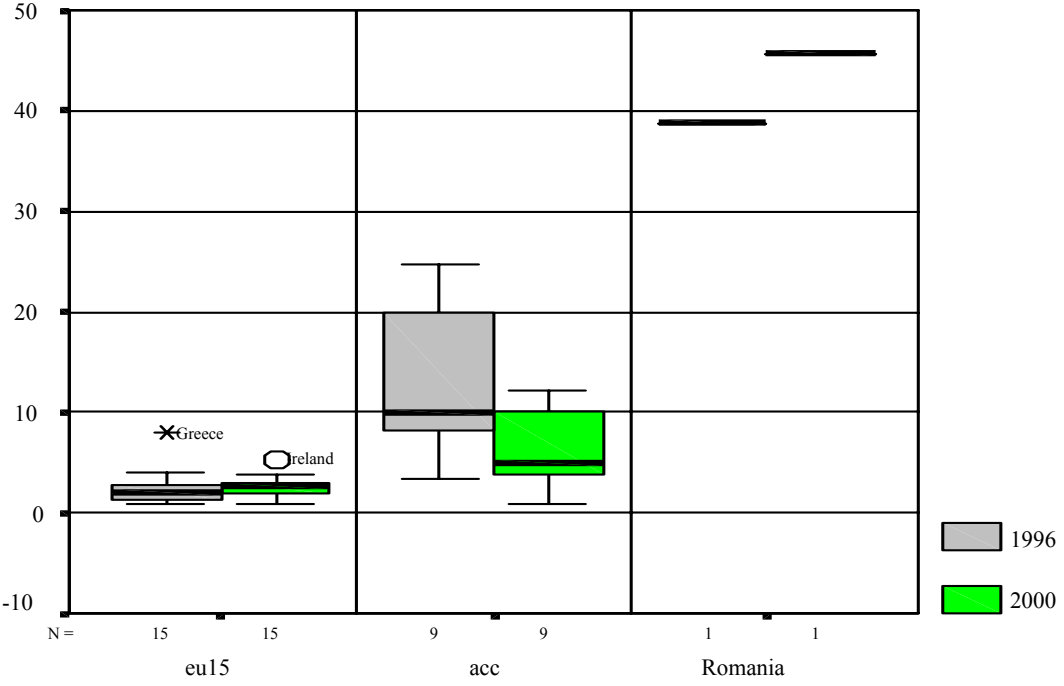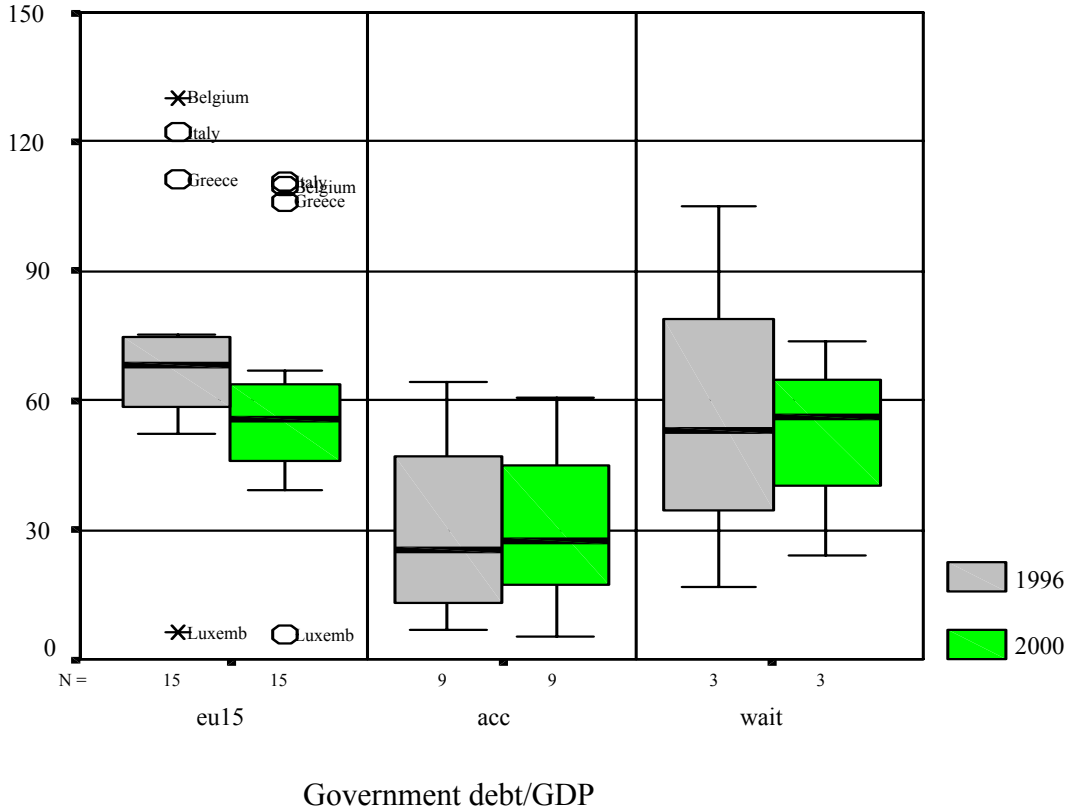

Annual average rate of change in inflation

Figure 4: Net borrowing/lending of consolidated general government sector/GDP (%)

Public balance/GDP

Figure 5: General government consolidated gross debt/GDP (%)

Government debt/GDP

Analyzing tendencies to fulfill convergence criteria and to increase GDP per capita together we chose multidimensional scaling to present countries in an artificial space. One of the results is the convergence map[5], which can be seen on Figure 6.

The horizontal axis on the map measures the changes of debt and public balance. Countries reaching better positions comparing 1996 to 2000 can be on the right hand side of the scale. Ireland (Ir) is alone on the positive end of the axis.

There is strong negative correlation between the vertical axis and increase of GDP, and moderate negative correlation with changes in the inflation rate. Because of the negative sign of the connection Luxemburg - the only country with substantial relative increase in GDP - is located in the lower part of the map. The best position - the lower quarter in the right hand side of the map - is empty. None of the investigated countries could develop these four relevant characteristics[6] of their economy at the same time.

Hungary (H), Estonia (Et) and Lithuania (Li) can be visible separately from the others. Their results show higher increase in GDP with different debt and public balance changes. The worst case is on the top at the left hand side. Here are those countries (Romania (R), Slovak Republic (Sk) and Czech Republic (Cz)), which have the weakest results in this period. Their relative position in GDP could not developed, debt and public balance deficit values have increased between 1996 and 2000.

Most of the EU countries (among them Poland (Pl)) are located around the origin. Zero change is good result for those countries, which were below the reference values and could maintain their

---

[5] The original four dimensional space was projected into two dimension by multidimensional scaling. The goodness of fit in two dimension is measured by the Stress function. Our value of the standardized residuals sum of square is 0.089, and Stress value between 0.05 and 0.1 means good fit. The proportion of explained variance is 96%.

[6] Higher GDP, lower inflation, smaller debt and positive public balance could characterize countries drawn here.

position. There are not extremely big distances among countries on the map. We can make conclusion: most of the measures introduced by the governments resulted similar changes, economic convergence of acceding countries seems to be successful, but this process is not fully completed.

Figure 6: Convergence map of countries - multidimensional scaling
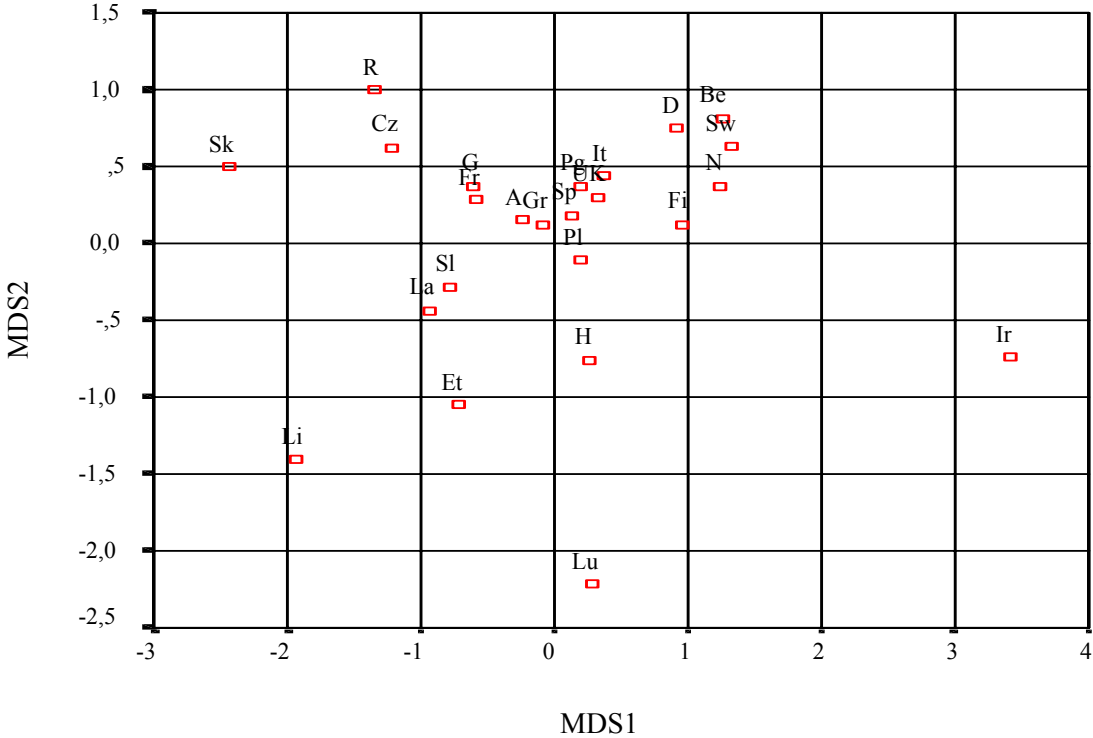

2. Challenges on the social side

There are no reference values or criteria on the social side to compare the speed or effectiveness of the convergence of acceding countries. EU-member states follow different patterns in this sense, therefore acceding countries have to make political decisions to change their inherited, not really efficient structures. This is a very painful decision, because people were socialized in different societies and are very sensitive to adapt themselves to new market-based conditions. Traditional differences in social systems will disappear (if will at all) very slowly. Differences in taxation and pension systems are investigated in this respect.

Taxation

Comparing Cyprus and Malta to the Central-Eastern European (previously called socialist) countries one can realize huge gap in the level of taxes and social security contribution. (Figure 7) Cyprus and Malta offer very good tax-conditions for low-wage earners, while the burden of the poor Hungarians is extremely high. The 50% income tax and social security in Hungary exceeds the traditionally high Swedish value, which was reduced from 48.6 to 46.8% in the investigated period. The lowest value in the EU belongs to Ireland in both years. It was 26.5% in 1996, and 18% is in 2000.

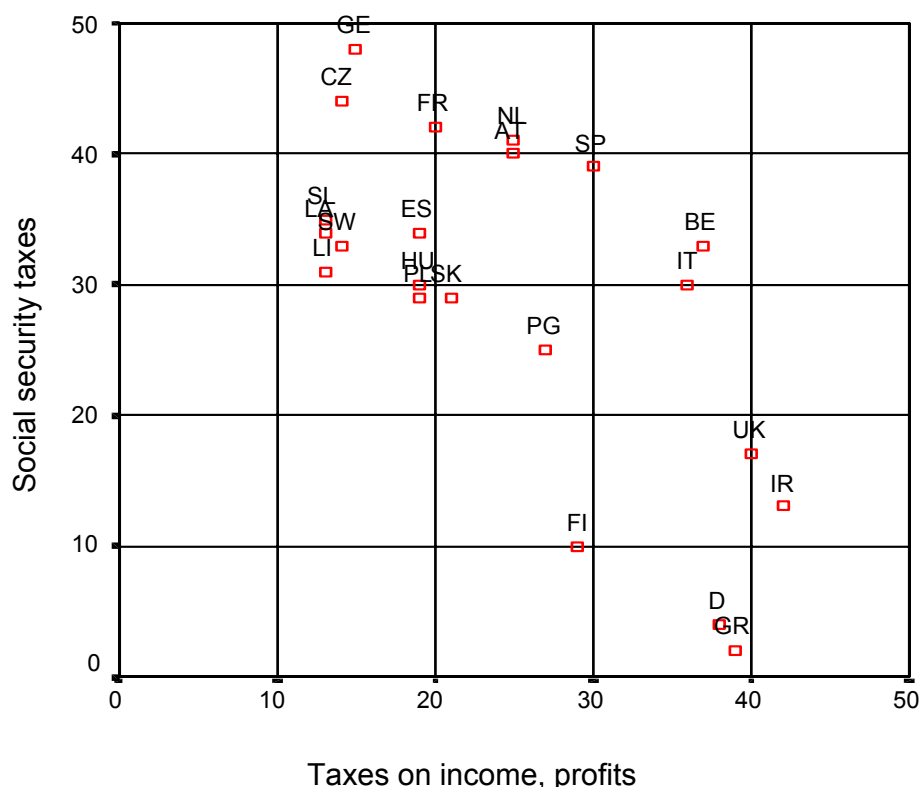Figure 7: Income tax and social security contribution for low-wage earners
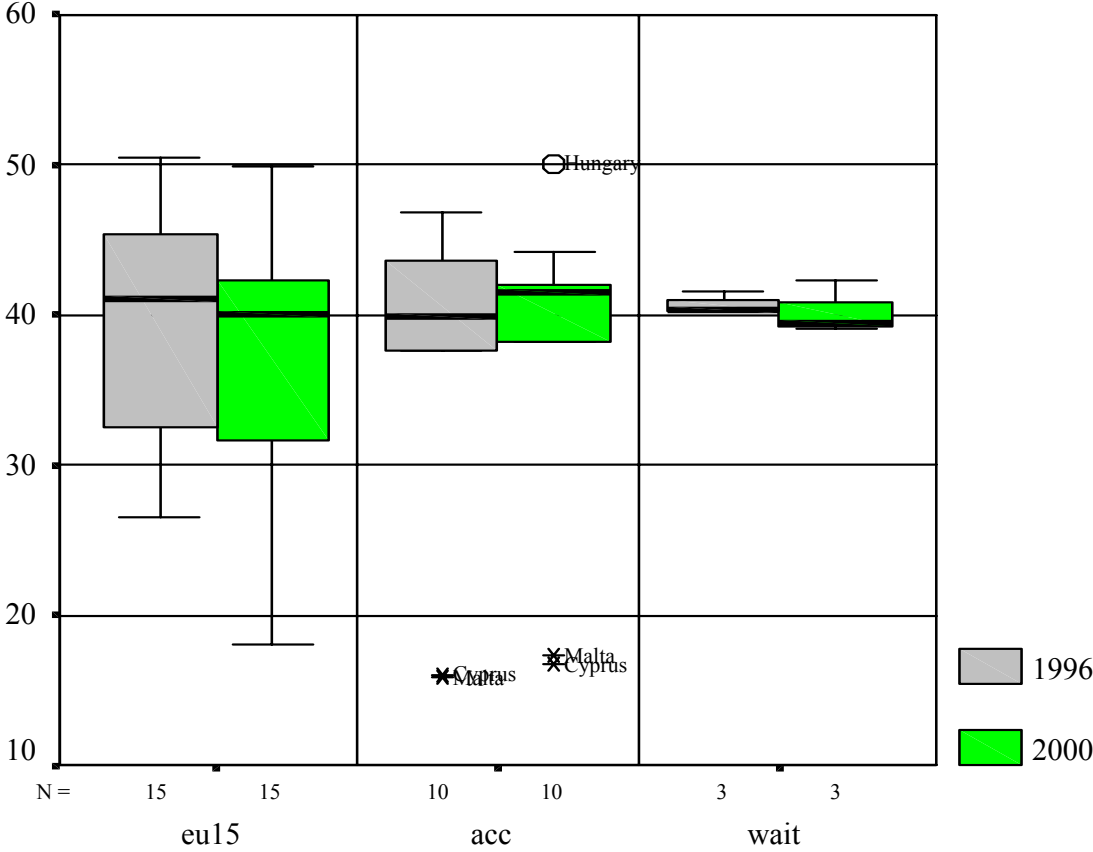
Low-wage earners

Comparing taxes on income, profit and capital gains to the social security taxes (both are expressed as percentage of total current revenue in 1999) all of the CEECs are concentrated on the top of left hand side on Figure 8. After several years of transition these countries follow very similar pattern: high social security tax level insures redistribution of income, while low level[7] of taxes on profit and capital gains supports private accumulation. Sweden is the only EU-member country with similar ratios. EU-members follow different patterns. Most of the EU countries reduce one of these taxes maintaining high level of the other one. Pearson correlation coefficient between the investigated taxes is – 0.67. Sign of the connection indicates complementary character of these taxes. Portugal is the only country in the middle, close to the average (with 27% income, 25% social security taxes).

---

[7] It is important to underline the problem of calculating income and profit taxes together. Average percentages are low, but our previous research focused on tax systems explored high income taxes in transition countries.

Figure 8: Taxes on income, profits and capital gains compared to social security taxes as a percentage of total current revenue

Social security taxes (y-axis, 0 to 50)

Taxes on income, profits (x-axis, 0 to 50)

Data points: GE, CZ, FR, NL, A, SP, SL, LA, SW, ES, LI, HU, PL, SK, BE, IT, PG, UK, IR, FI, D, GR

Proportion of tax payments does not influence significantly household final consumptions and domestic savings as a percentage of GDP. These last two variables are competitive ones, they correlate with each other strongly and negatively (- 0.81).

Using these four variables cluster analysis can be conducted to identify groups in the enlarged European Union.

All of the four variables play significant role in the classification, and 3 groups were identified using hierarchical clustering. Table 1 shows cluster center average values. Cluster 1 and cluster 2 are more similar in taxation, but quite different in consumption and savings. Greece, Portugal and United Kingdom are members of Cluster 1, but Greece and Portugal are far from the midpoint. This cluster shows leading role of household final consumption. Belgium, Denmark, Finland, Ireland and Italy are in the second group, where high ratio of domestic savings dominates. Eight CEECs and six EU-members characterized by high social security taxes are in Cluster 3.

Table 1: Dominance of self-care, saving and social-care in different groups of countries

Final Cluster Centers

|	Cluster		
	1(3 count.)	2 (5 count.)	3 (14 count.)
Household final consumption % of GDP 2000	66	52	57
Gross domentic savings % of GDP	15	28	23
Taxes on income, profits, capital gains % of total current revenue 1999	35	36	19
Social security taxes % of total current revenue 1999	15	18	36

8

Pensions

Lower level of welfare was the common characteristic of CEE countries. Wages were low, personal savings were not dominant, and public pension schemes covered high proportion of the inhabitants. Economic transition and high inflation in the 90's destroyed the old system. Reforms were initiated and new - three pillar - pension schemes have been introduced. Crucial interest is associated with these changes.

There is no common pension scheme in Europe, some countries prefer pension funds, support individual savings by tax reduction (e.g. UK), and others maintain public schemes introducing new elements into it (e.g. NDC[8] in Sweden or "points" in Germany).

Figure 9 compares EU members and acceding countries in three-dimensional space. Axis are showing share of 20-59 working age population covered by pension schemes, public expenditure on pensions as a percentage of GDP (pension/GDP), and average pension as a percentage of income (pension/income). The most serious problem is the low proportion of pension to income, because of the originally low level of wages in CEE countries.

Figure 9: Comparison of pension schemes
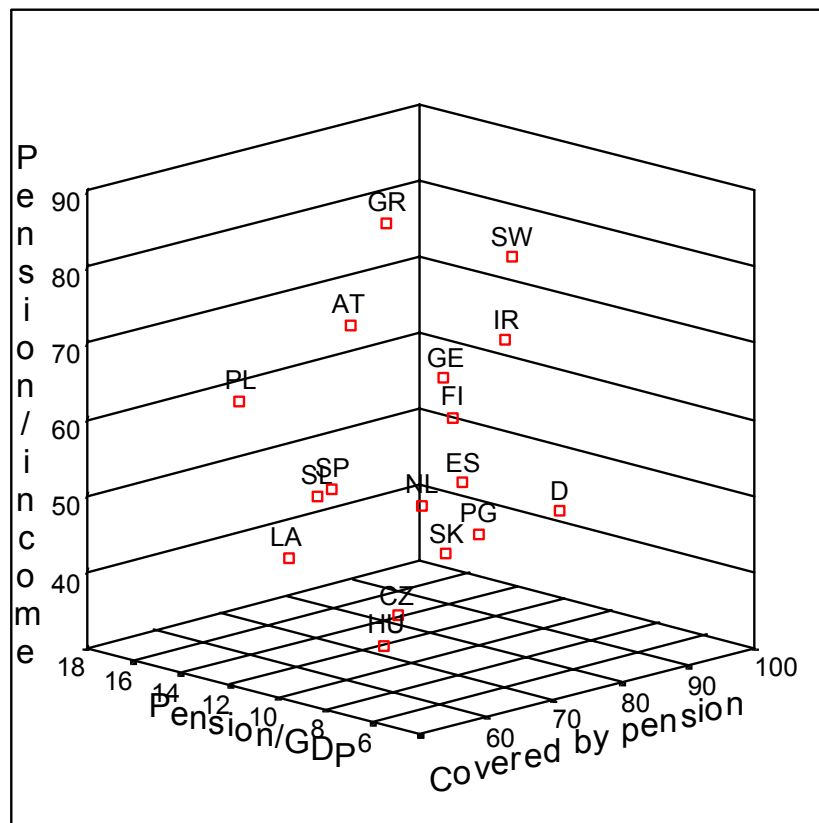
These three measures of the pension systems are not equally differentiate the investigated countries. Boxes on Figure 10 underline that the coverage and the level of pensions to income are extremely different, while the public expenditure on pensions to GDP are more or less similar. The median value of pensions comparing to the income in the EU is 60%, this ratio is 47% in our region. Both groups of countries spend 10,7% of GDP for pensions. It is important again to remember the lower level of GDP in CEE countries, the median of the GDP purchasing power parity is around 50%. If we compare the purchasing power of the EU pension to the CEECs's one, a huge gap is visible. Table 2 presents averages and standard deviations for the two groups of countries.

---

[8] NDC=Notional defined contribution.

Figure 10: Differences according to the pension/income and coverage within EU and CEECs
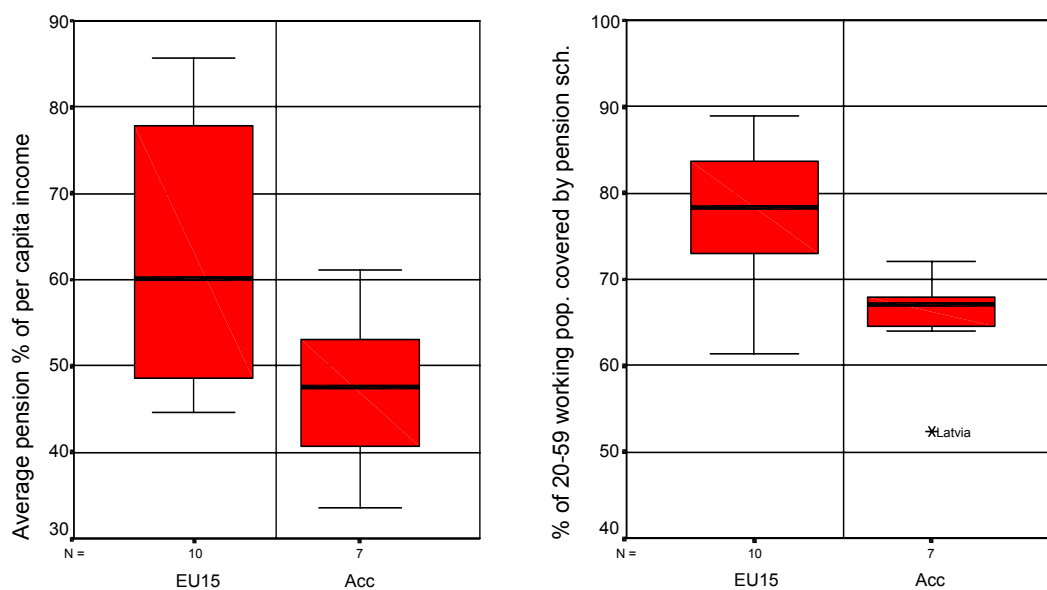

Table 2: Characteristics of Pension Schemes

Group Statistics

		Mean	Std. Deviation	Valid N
EU15	Share of 20-59 working age population covered by a pension scheme, diff.years	77,390	9,160	10
	Public expenditure on pensions % of GDP diff.years	10,700	2,597	10
	Average pension % of per capita income	62,490	14,606	10
Acc	Share of 20-59 working age population covered by a pension scheme, diff.years	65,171	6,240	7
	Public expenditure on pensions % of GDP diff.years	10,700	2,880	7
	Average pension % of per capita income	47,129	9,892	7
Total	Share of 20-59 working age population covered by a pension scheme, diff.years	72,359	10,011	17
	Public expenditure on pensions % of GDP diff.years	10,700	2,628	17
	Average pension % of per capita income	56,165	14,745	17

10

Conclusions

The results of our statistical analysis do not cause surprise for those who do know the differences in living standards, and traditional social systems in Europe. The economic convergence can be measured comparing indicators of countries to the reference values. Certain positive changes happened in the investigated period in highlighted fields. Inflation rates are reduced, public balance and debt are controlled. Differences in the GDP levels are smaller after the preparatory phase. These tendencies between 1996 and 2000 may predict success of the EU enlargement.

Social side of the process is of secondary importance. Less emphasis has been put on those differences, which are part of people's every day life. Differences in life expectation, unemployment, public and private health-care were not declared as criteria for joining.

Focusing on taxation and pension schemes we could present different patterns within the European Union. Roots of social systems are very different. EU members have not declared complete unification of their schemes, therefore Central-Eastern European countries have to find different solutions for their similar problems in ageing population, increasing longevity and old-age dependency, declined fertility. Efficient measures are needed in the social side to fasten and finalize economic convergence. Status quo is not an option.

References

- Kovács, E – Kollár, Z: The choice of dilemmas in Hungary's transition: Westernization or Latin Americanization? International Advances in Economic Research, Vol. 5. No.1. 1999, pp 16-23
- Kovács, E – Kollár, Z: Transition to advanced market: Transition towards advanced economies? Annals of Operations Research 97 (2000) pp 313-333
- Reisen, H: Pensions, Savings and Capital Flows, From Ageing to Emerging Markets EE Publisher, OECD 2000
- Titma, M – Trapido, D: Prediction of success in post-communist societies: evidence from Latvia and Estonia, Society and Economy, Journal of BUESPA, Vol. 24. No.3. 2002. pp 297-332

Data Sources

- http://www.europa.eu.int/ comm/eurostat People in Europe

- http://www.europa.eu.int/scadplus/leg Convergence criteria

- OECD – Main Economic Indicators, 2002, 2003

- Statistics in focus, Economy and Finance, Theme 2-35/2001

- World Development Indicators 2002, The World Bank