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An empirical investigation of income convergence in EU countries

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Abstract

In this study, the convergence process in EU27 is examined. Five time periods from 1990 to 2020 and four different European regions have been chosen to be investigated with the aid of panel data techniques. Cavenailes' and Dubois' (2011) paper "An empirical analysis of income convergence in the European Union" conducted a similar study for a previous time period. Our findings are similar in the sense that there are different rates of convergence within the European Union, although our analysis is more extended chronologically and includes more countries.

List of Acronyms

CEE Central European Countries

CV Coefficient of Variance

EU European Union

FDI Foreign Direct Investment

HAC Hierarchical Agglomeration Clustering

MRW Mankiw Romer Weil

NUTS Nomenclature des Unites terittoriales statistique

OECD Organization for economic co-operation and Development

PPP Purchase Power Parity

SEE Southeast European Economies

WB World Bank

UN United Nations

US United States

Keywords

Convergence, European Union, panel data analysis, Solow model, MRW model

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1.Introduction

Aim of this thesis is to investigate the existence of convergence in European Union countries. As an inspiration for our attempt Cavenaile's and Dubois' scientific paper (2011) "An empirical analysis of income convergence in the European Union" was significantly important. They studied the convergence among fifteen West European countries and East European countries during the period 1990-2007 using a panel data approach. The results which were found to this dissertation are similar to their conclusions.

More particularly, trying to study the possible convergence of EU countries, two equations based on the MRW model were applied examining five distinct time periods from 1990 to 2020 and four different European regions namely EU27, North European countries, South European countries and East European countries. The first equation includes variables such as capital accumulation, population growth and human capital, whereas the second equation includes also government consumption, inflation, exports and FDI. The previous equations were estimated using panel data with fixed effects technique and panel corrected standard errors technique used by Pesaran (2007).

The data were retrieved mainly from World Bank national accounts database and Penn World Table including eight different variables. The findings show that there is convergence in the whole EU27 although declining. North European countries and East European countries show convergence, whereas for South European countries there exist the opposite result.

More specifically, the structure of this paper is the following: Section 2 analyzes the literature review and provides information about the economic growth models of Solow and MRW. Section 3 presents the concept of convergence. Section 4 explains the panel data methods which were applied. Moreover, Section 5 analyzes the variables that were retrieved and were part of the econometric equations; Section 6 reveals the results of the equations for the five time periods, four regions and two techniques. Finally, in Section 7 the conclusions are appeared.

2.Theoretical Background

2.1. Literature review

There are plenty of scientific papers which have been studying the concept of convergence theoretically and empirically. In the following literature review twenty-nine papers have been chosen and they are analyzed. On each paper we focus on the time period, which was studied, the study area, the convergence indicator, the applied econometric technique, the result (convergence/divergence) and the proposed policies.

Carlino and Mills (1993) find evidence for per capita income convergence for US regions from 1929 to 1990 and a break point in 1946. This evidence testifies the validity of neoclassical growth model's (Solow model) prediction on convergence. They support the effectiveness of transfer payments across regions as they tend to enhance per capita income convergence. *Marques and Soukiazis (1998)* examine convergence using both sigma and beta convergence at NUTS2 level for twelve countries of the EU between 1975 and 1995. The overall number of regions count to 175 which are divided into three groups depending on their per capita income. The findings show a mild income convergence with some periods of divergence using the sigma convergence method although beta convergence technique indicates full period convergence. Finally, the poorest regions tend to grow faster than the rich although the middle-income regions (75% of the average per capita income) grow at slower pace. They endorse that the financial support to intermediate and poor countries should be continued. *Christodoulakis and kalyvitis (1998)* emphasize on the importance of structural funds in Greek economy and they claim that firstly, funds can boost domestic expenditure and secondly, they produce productivity externalities. Their goal is to show the macroeconomic impact of structural funds in Greek economy especially in industry, infrastructure and human capital. They analyze the allocation of funds in each sector. They develop a control and a treatment group, the former with capital flow and the latter without funding. They concluded that nominal and real convergence was predicted for the new millennium. *Soukiazis and Castro (2005)* examine how effective was the Maastricht rules in convergence among European economies in 1990s and 2000s. Applying panel data estimation they studied the contribution of inflation (negative) and public budget (positive) to the growth of per capita income. Also, interest rates and exchange rates influence negatively the investment as expected.

Productivity growth depends on the output growth positively and from the labor participation negatively. Concerning the Maastricht effect on convergence the results are mixed meaning that despite the negative signs of post-Maastricht dummy variables, these are not significant. Moreover, there are indications that there is deceleration after the adoption of Maastricht criteria. Due to these conclusions above, they propose more flexible fiscal policy from EU. *Paas et al. (2007)* show evidence of absolute income convergence among 25 European Union countries from 1995 to 2002 namely the period before EU enlargement to the east. Using econometric techniques, they depict that EU-15 and Eastern countries converge conditionally but within each country the income disparities remain stable, or they deteriorate, especially in new member countries. They propose cohesion regional policies to avoid this tendency. *Ramajo et al. (2008)* using econometric techniques study the speed of convergence among 163 regions of the EU over the period 1981-1996. They divide Europe into two groups the cohesion-country regions and the non-cohesion country regions (Southern Europe). They treat the former as a control group and the latter as a treatment group. The growth differences between these two constitutes a measure of convergence. They find that cohesion group converge more rapidly than the non-cohesion thus they propose more coordinated regional policies from the EU, especially when their conclusions are that a non-cohesion region benefits from its neighboring region. *Geppert and Stephan (2008)* study the regional development across Europe from 1980 to 2000. For doing this, they apply kernel density estimation, Markov chain analysis and cross-sectional regressions. They argue that in the 1990s and afterwards, per capita income convergence was achieved among EU15 states, especially the metropolitan areas. However, the regional disparities within each nation were increasing steadily. For this reason, they conclude that there is European convergence but with massive agglomeration of economic activities in each member state individually. *Galbraith and Garcilazo (2010)* investigate the relationship between wage inequality and unemployment rates. Measuring inequality within the region every region and across 187 regions from 1984-2003. They found lower unemployment rates in small countries compared to larger ones. They believe that Maastricht rules worsen this problem whereas the adoption of euro currency decrease unemployment rates. They propose cohesion regional policies such as wage solidarity contrary to wage flexibility. *Cavenaile and Dubois (2011)* review the convergence between fifteen West European

countries and Central and East European countries during the period 1990-2007. Applying a panel approach depict that Western and Eastern countries belong in different clusters of convergence. The expected entrance of new member-states is ambiguous if it will reduce this heterogeneity. *Archibugi and Fillipetti (2011)* examine the influence of 2008 economic crisis on EU innovation performance the period 2004-2008. There is a problem when the less developed European economies trying to catch up the most developed ones leading to divergence. Some policies which can be adopted are a system of public R&D, human resources which are business oriented and governmental support for the entrepreneurs. *Cuaresma et al. (2008)* correlate the time period when a country is a member of the EU with its long-term economic growth, and they find positive effect. They regress initial GDP, investment share, years of education, inflation rate, government consumption, openness and years in the EU as explanatory variables with economic growth. The mindset of this paper is like this survey, as it was inspired from Solow model. They attribute the growth of the EU member states to structural funds, restrictive fiscal policy and institutional reforms. *Strielkowski and Hoschle (2013)* use sigma convergence techniques and GDP per capita as variable to examine whether there is convergence in EU or not. They assume that every group country that joined the EU gradually was homogeneous and then they compare the one group against the other. They do not be convinced whether there is economic convergence in Europe or not. *Simionescu (2014)* compares the European convergence between 2000 and 2012 using sigma convergence method. It claims that there is a decrease in divergence in 2012 compared to 2000 since the degree of variation decreased as well. These findings come from the estimation of coefficient of variation (CV%) which is above 40%. *Matkowski et al. (2016)* study real GDP convergence between 11 Eastern European countries and 15 Western countries during the period 1993-2015. This tendency was testified by the results of beta and sigma convergence tests. In their study, they found some break points which interrupted the convergence process temporarily especially after 2008. Moreover, they examine three possible scenarios about the convergence prospects. The first two scenarios lead to convergence and economic prosperity whereas the third to economic divergence. They propose social policies so the third case can be avoided. *Vollmecke et al. (2016)* investigate the income convergence among 269 regions in EU from 2003 to 2010. Applying a first order Markov chain method find that there is a slow process of convergence in EU.

But certain poor regions in Central and Eastern Europe have been caught in poverty trap. Finally, focusing on FDI they conclude that it is not able to enhance income convergence. They propose that policies should focus on human capital and domestic technological development. *Nitoi and Pochea (2016)* find evidence that the financial sector of Central and East European countries (CEE) is segregated and is diverging. Their study extends from 2007-2014 and they employed a nonlinear single factor model which is different across countries and over time. The speed of convergence is very low, and it shapes different groups of countries with similar financial characteristics like Bulgaria and Romania. The same pattern exists on banking system. They conclude that on one hand this situation favors investors who they can diversify their portfolio across countries and gain profit but on the other hand the policymakers must adopt certain measures towards the financial systems' convergence. *Merler (2016)* provides evidence that structural funds support growth in regional areas especially in those which are more vulnerable to an economic crisis. Restricting the sample to a treatment and a control group claims that not only poorer regions are benefited from funding but the richer metropolitan areas as well. *Szep (2016)* use sigma, beta and gamma convergence techniques to study the energy convergence among EU28 during the period 2001-2012. The results indicate that disparities gradually decreased nevertheless after the 2008 there was a divergence tendency. Based on sigma and beta convergence he defined convergence clubs and in 2009 found a structural break point. Sigma convergence indicates convergence and beta convergence shows that less development countries catch up developed countries. *Jakubowski (2018)* introduces a new economic index which is called Regional Development index to conduct a multidimensional analysis regarding convergence among EU28 regions from 2004 to 2014. The results confirm the effectiveness of EU funds to the cohesion of the European Union. *Bolea et al. (2018)* examines the contribution of each sector of every European country on the economic outcome. Employing s-convergence method at a multiple regression input-output framework they find a trend on economic convergence and a break point in 2008 after the economic crisis. It concludes that economic development in the East comes mainly from the manufacturing sector whereas is prevailing in Central Europe due to knowledge intensive services. That led to economic inequalities and segregation across Europe.

Eichengreen (2019) argues that there was nominal convergence in EU after the adoption of the euro currency since interest rates and inflation rates fluctuations narrowed. The period between 2000 and 2008 there was overlapping between exchange risk and default risk which led to Eurozone crisis. Nevertheless, real convergence was not succeeded because CV indicator after 2008 was doubled. Moreover, he focuses on the Italian economy as he attributes Italy's stagnation to family firms', state banks' and state firms' refusal to innovate new information system technology in the 1990s. *Cabral and Sosa (2019)* analyze the impact of economic crisis of 2008 on growth and convergence across Europe from 1973 to 2012 using cross sectional and panel data techniques. They argue that European Union contributed to quick recovery of less developed members from the crisis of 2008. Although they did not find similar indications concerning Eurozone. Finally, EU countries converge mainly due to the new country members coming from Eastern Europe. *Blanco et al. (2020)* tested the convergence of the R&D expenditure in the EU28 during the years 2004-2015. They study the overall expenditure shaping two clubs namely EU15 and EU13. In EU15 club, enterprises have the leading role whereas in EU13 the public sector. Moreover, further analysis which investigates every individual sector (government, business and universities) show larger grouping of countries. They conclude that economic crisis decelerated the R&D convergence and that the economic policies failed to preserve the innovation convergence among EU countries. *Boltho (2020)* argues that Eastern European countries are converging with Western countries contrary to the Southern countries which are diverging from 2007 to 2015. He claims that this phenomenon occurs because East Europe has high levels of institutional quality like the West and a historical heritage that can support general economic reforms. *Radosaljevic et al. (2020):* This paper focus on the process of income convergence among Southeast European countries during the years 2000-2018. They use aggregate GDP not GDP per capita as the main variable. The results indicate that after an adequate convergence period until 2008, the convergence rate had been decreased afterwards leaving the SEE countries still on the bottom of the EU regions. As measures of policies, they claim that FDI driven growth European model reached its limits and domestic investment policies should be encouraged. *Fedayev et al. (2021)* analyze the period from 2004 to 2020 and describe the variations in EU focusing on the pandemic year 2020. They are referred also to economic crisis of 2008. As an index, they use the Hierarchical Agglomerative

Clustering (HAC) in inflation, budget balance, current account, unemployment rate and GDP per capita. They argue that the divergence among European countries during COVID19 is even higher than the divergence after 2008 forming five distinctive clusters of countries. Mediterranean countries are the most vulnerable spot. They are against new austerity measures since the unemployment rate is too high and propose allocation of the cohesion funds. *Skare and Soriano (2021)* cluster the EU16 countries according to the volume of service turnover during the COVID19 pandemic using a model for series decomposition which was used at previous papers from other researchers. The same procedure is followed for studying food industry, hospitality, transportation and communication. After their analysis, they identified specific convergence clubs of countries. The impact of COVID19 is different for each club. *Martihno (2021)* paper presents that in the first two quarters of 2020 during the COVID19 pandemic divergence occurred in 35 OECD countries reversing the procedure of convergence which was happening from 2017 to 2019. He uses spatial autocorrelation techniques like Moran's I statistic shows the consequences from the pandemic were more severe where a bigger covid19 incidence rate was prevailing. The results for sigma and beta convergence are like the previous analysis. *Abrham and Vosta (2022)* show that before the COVID19 pandemic EU was converging but the years 2020 and 2021 there was a divergence. This was measured by the coefficient of variation of the GDP per capita during 2010-2021. On the contrary, there was convergence of the unemployment rate during the pandemic as COVID19 affected symmetrically all countries. The pandemic period is short thus they do not propose any specific policy.

In the following tables, a summarize of the above analysis for each research paper is presented.

Table I: summary of literature review.

Title	Time period	Region	Convergence indicator	Technique	Result
Bolea et al. (2018)	2000-2014	EU28	Income growth	Multi-regional input-output model	Convergence
Simionescu (2014)	2000-2012	EU28	GDP per capita	Sigma convergence	Decrease of divergence
Cavenaile and Dubois (2011)	1990-2007	West and CEE	Income per efficient worker	Beta convergence	Different clusters of convergence
Galbraith and Carsilazo (2010)	1984-2003	187 European regions	Theil's T statistic and real wage	Fixed effects panel data	Convergence with cohesion policies
Carlino and Mills (1995)	1929-1990	USA regions	Per capita income	Beta convergence	Convergence
Skare and Soriano (2021)	2015-2020	EU16	Turnover by sectors	Model for series decomposition	Convergence clubs
Cablal and Sosa (2019)	1973-2012	EU and Eurozone	Per capita growth	Panel data And cross-sectional	Convergence of Eastern Europe
Matkowski et al (2016)	1993-2015	11 Eastern and 15 Western countries	Overall GDP	Beta and sigma convergence	Convergence and a break point in 2008
Paas et al. (2007)	1995-2002	EU25/NUTS3	GDP per capita	Beta convergence	Absolute convergence
Soukiazis and Castro (2005)	1990-2004	EU15	Growth per capita	Panel data	Mixed results
Blanco et al. (2020)	2004-2015	EU28	R&D expenditure	Beta and sigma convergence	Groups of convergence
Baltho (2020)	2007-2015	Five eastern EU countries	Output growth per capita	Beta convergence	West-East convergence West-South divergence
Jakubowski (2018)	2004-2014	EU28	Regional Development Index	-	convergence

Table II: summary of literature review.

Title	Time period	Region	Convergence indicator	Technique	Result
Marques and Soukiazis (1998)	1975-1995	175 regions NUTS2	Income per capita	Sigma and beta convergence	Mild income convergence
Vollmecke et al. (2016)	2003-2010	EU	income	First order Markov chain	Convergence with domestic investment
Nitoi and Pochea (2016)	2007-2014	CEE	Stock market prices	Log t convergence model	Different groups of divergence
Radosjalevic et al. (2020)	2000-2018	Southeast European countries	Overall GDP	Fixed effects panel regression	Convergence until 2008
Geppert and Stephan (2008)	1980-2000	EU15	GDP per capita	Markov chain	Convergence and agglomeration
Merler (2016)	2000-2014	EU/EU14	GDP per capita	Beta/treatment and control	Convergence
Ramajo et al. (2016)	1981-1996	EU	Income growth	Treatment and control group	South Europe not convergence
Strielkowski and Hoschle (2013)	1995-2011	EU28	GDP per capita	Sigma convergence	Mixed results
Archibugi and Fillipetti (2011)	2004-2008	EU	EIS composite indicator	Beta convergence	Divergence
Szep (2016)	2001-2012	EU28	Energy intensity	Sigma, beta and gamma convergence	Convergence clubs
Cuaresma et al. (2011)	1960-1998	EU	growth	Panel data	Convergence clubs
Martinho (2021)	2017-2021	OECD	GDP per capita	Spatial autocorrelation techniques	Convergence (2017-19) Divergence (2020-21)
Abrham and Vosta (2022)	2010-2021	EU	GDP per capita	CV indicator	Convergence (2017-19) Divergence (2020-21)
Fedayev et al. (2021)	2004-2020	EU	Inflation, current account	HAC	2020-21 divergence

As we can observe from the tables above most research time periods are often after the year 2000 and almost all after 1990. The most common area of study is EU either with 28 member states or a little bit less. Some research papers study the member states as a whole or they use the NUTS classification of territorial units. The mostly preferred NUTS level is NUTS2 and NUTS3 (Paas et al 2007). Certain writers emphasize on East central European countries because they joined gradually the EU after 2000 (Nitoi and Pochea 2016). Finally, it is included one paper with USA regions for comparison with the EU regions (Carlino and Mills 1995).

As a technique the most common used convergence indicator is GDP per capita or something similar such as growth per capita. As a technique, the papers use beta convergence accompanied with panel data or cross-sectional convergence techniques and sigma convergence. Only a few use Markov chain techniques (Vollmecke et al. 2016).

The outcome of these scientific papers is mixed. Many of them indicate convergence (Merler 2016) and some of them groups of convergence especially when indicator is the GDP per capita or growth (Geppert and Stephan 2008). There is divergence or again groups of convergence when the main variable is related with energy consumption or innovation or financial/banking system (Szep 2016) (Archibugi and Fillipetti 2011). When a major economic crisis emerges, usually, divergence trend prevails like in 2008, in 2020 or even in the mid-1980s. Concerning the COVID19 downturn, four research papers are summarized above and all conclude that during 2020-21 period there was a divergence among EU countries (Abrham and Vosta 2022).

Finally, about the solutions which are proposed to mild the divergence tendencies most writers agree that structural funds from the European Union are essential for long term growth and for stimulating the economic activity after an economic shock (Jakubowski 2008) (Fedayev et al. 2021). Some of them prefer domestic policies. There is a common ground that FDI have reached their limits and the structural funds are of major importance especially for the European South and East (Cuaresma et al. 2011) (Radosjalevic et al. 2020).

2.2. Solow model

Solow model was illustrated from Robert Solow in 1956 in the scientific journal "Quarterly Journal of Economics" with the title "A contribution to the theory of economic growth". He assumes that there is substitution between the capital and labor and that the function of production Y= f(K, L) has steady rates of scale. On the contrary, capital (K) and labor (L) have decreasing returns of scale. If the function of production takes the Cobb-Douglas form

$$Y = f(K, L) = AK^a L^{1-a} \qquad (2.2.1)$$

Where Y equals to GDP, K the capital stock, L is for labor and A is a measure of productivity which is given.

Equation (2.2.1) can be transformed into another form that gives the output per worker. Firstly, we must multiply total output and productive factors with 1/L as below.

$$\frac{Y}{L} = f\left(\frac{K}{L}, \frac{L}{L}\right) = f\left(\frac{K}{L}, 1\right) = A(\frac{K}{L})^a = Ak^a \rightarrow y = Ak^a \qquad (2.2.2)$$

Where everything is measured per worker and symbol "a" is the share of capital in total output. The equation (2.2.2) means that if more capital is disposable for every worker the output per worker will grow.

Moreover, if labor force increases at a rate "n" and the same applies to productivity A, the total capital stock must increase if savings are higher than depreciation of capital and the new capital which is needed to give to every worker together. This gives us the following equation.

$$\Delta K = sf(k) - (n + \delta)k \qquad (2.2.3)$$

If we set Δk = 0 and solve the equation (2.2.3) we can find what it is called steady equilibrium state.

$$sf(k^*) = (n + \delta)k^* \qquad (2.2.4)$$

Where k* is the level of capital per worker in equilibrium. If,

$$k < k^* \rightarrow sf(k) > (n+\delta)k \;\; and \;\; \Delta k > 0$$
$$k > k^* \rightarrow sf(k) < (n+\delta)k \;\; and \;\; \Delta k < 0 \qquad (2.2.5)$$

From the above it is obvious that there is this tendency that pull towards to the steady state k*.

If the rate of savings "s" is increased and sf(k) increase as well, the capital per worker in the steady state k* will be gone up as well. There will be more capital and more output per each worker. Alternatively, if we have two distinctive countries, the country which saves the more it will converge on a higher output per worker than the other country. Finally, we can introduce human capital in the initial equation if we want to show that every worker has different abilities and skills. The equation (2.2.1) can be written as

$$Y = Ak^{a}(hL)^{1-a} \qquad (2.2.6)$$

Where h symbolizes human capital.

2.3. Mankiw, Romer, Weil (MRW) model

In 1992, the economists Gregory Mankiw, David Romer and David Weil published a paper titled "A contribution to the empirics of Economic growth" in the scientific journal "Quarterly journal of Economics". At this paper, they expanded the original Solow neoclassical model added human capital as a significant factor of economic growth. They assume steady rates of scale in physical and human capital. Assuming that the Cobb-Douglas production function is given in the following formula

$$Y = K^{a} H^{\beta} (AL)^{1-\alpha-\beta} \qquad (2.3.1)$$

Where Y is the aggregate output, K represents the physical capital and H is human capital. L (labor) and A (technology) grow steadily at rates n and g respectively. Indicators a and β mean partial elasticities of output with respect to physical and human capital and assuming decreasing rates of scale 0<a+β<1. Therefore:

$$L(t) = L(0)e^{nt} \quad and \quad A(t) = A(0)e^{gt} \qquad (2.3.2)$$
$$A(t)L(t) = A(0)L(0)e^{(n+g)t}$$

The equation (2.3.2) means that the number of effective workers grow at a rate (n+g). Thus, in order to specify the output per efficient worker we divide equation (2.3.1) with A(t)L(t).

$$\frac{Y(t)}{A(t)L(t)} = K^{a} H^{\beta} \frac{(AL)^{1-a-\beta}}{AL} \rightarrow y = K^{a} H^{\beta} (AL)^{-a-\beta} \rightarrow y = (\frac{K}{AL})^{a} (\frac{H}{AL})^{\beta} \rightarrow$$
$$\rightarrow y = k^{a} h^{\beta} \qquad (2.3.3)$$

Moreover, we want to show the change of physical capital through time which is:

$$\dot{K} = s_k Y - \delta_k K \qquad (2.3.4)$$

$$where\ \dot{K} = \frac{dK}{dt}, s_k\ is\ the\ savings\ that\ instantly\ are\ invested\ and\ \delta_k$$

the depraciation of capital

If we take the first derivative of k= K/AL with respect to t the result is

$$\frac{\dot{k}}{k} = \frac{\dot{k}}{k} - \frac{\dot{A}}{A} - \frac{\dot{L}}{L} \qquad (2.3.5)$$

Using equations (10) and (11) and defining dA/A = g which is exogenous we end up to this

$$\frac{\dot{k}}{k} = \left(\frac{sY - \delta K}{K} - n - g\right) \rightarrow \dot{k} = \frac{K}{AL}\left(\frac{sY - \delta K}{K} - n - g\right) = \frac{sY - \delta K}{AL} - k(n+g) =$$
$$= s_k y - \delta_k k - k(n+g) \rightarrow$$
$$\dot{k} = s_{\boldsymbol{k}} k^a h^{\beta} - (\delta + n + g)k \qquad (2.3.6)$$

Following the same procedure, we end up to similar results for human capital:

$$\dot{h} = s_{\boldsymbol{h}} k^a h^{\beta} - (\delta + n + g)h \qquad (2.3.7)$$

Finally, the income per worker takes the following form:

$$\ln\left(\frac{Y}{L}\right) = lnA + g_t - \frac{a+\beta}{1-\alpha-\beta}\ln(\delta + n + g) + \frac{a}{1-\alpha-\beta}\ln s_k + \frac{\beta}{1-\alpha-\beta}\ln s_h \qquad (2.3.8)$$

Where s_k is the ratio investment to product, s_h the human capital investment and A is the exogenous technology.

3.Convergence

Generally, there are two main theories for economic growth. The neoclassical growth theory which was firstly stated from Solow in 1956 and the endogenous growth theory which was firstly introduced by Romer in 1986. There is also New Economic Geography (NEG) argued by Krugman (1991) which mainly focuses on the transport costs and imperfect competition which leads to agglomerations. The neoclassical framework assumes lower marginal returns on capital accumulation for the richer countries thus the poorer countries can catch up the wealthier in the future since it is predicted to have higher economic growth. The diffusion of technology plays also a crucial role (Paas et al. 2007).

There are three types of economic convergence:

- Absolute convergence
- Conditional convergence
- Club convergence

Absolute convergence assumes that all the countries in each sample, at some point, they are going to converge to the same GDP per capita (Somesh 2005). In the case of conditional convergence each country reaches its own steady state equilibrium since it has unique characteristics that differentiate it from the others. Finally, the club convergence depicts multiple steady states equilibria. Each group consists of countries with similar indexes (GDP per capita, human capital etc.) and converge together into the group that each country belongs (Berthelemy and Varoudakis 1996).

Regarding the methods of convergence there are mainly two types: sigma-convergence and beta-convergence.

Beta convergence was proposed from Baumol (1986) who uses cross-sectional data in GDP across sixteen countries estimating the following equation:

$$g_i = constant + bY_{i0} + e_i \qquad (3.1)$$

Where g_i is the average growth of GDP of every country i, Y_{i0} is the initial GDP of each country i and e_i is the error term. If $b<0$ indicates convergence among countries.

Sigma convergence show the degree of volatility of the variable compared to the average price. The most useful indicator of sigma-convergence is the coefficient of variation which is estimated like this:

$$CV(\%) = \frac{\sigma}{\mu} * 100 \qquad (3.2)$$

Where μ is the average price of the variable and σ is the standard deviation. Since the CV shows the variance around the average this means that as CV decreases, the variance decreases as well and there is convergence across countries (Simionescu 2014).

4.Methodology

Panel data have general acceptance, and they are used for several applications especially policy measures. Panel data include repeated measures of the same variable over time. It is preferable to use panel data than cross sectional since panel technique can take omitted variable bias into account (Caveneille and Dubois 2011). Although Berrington et al. (2011) argue that the problems of endogeneity and omitted variable bias are not avoided by using panel data methods. Now let's try to define panel data.

If we have the same T time periods for each of N cross-sectional units, then the data are organized as balanced panel. If T<N and T is small it is wise to include a time-dummy variable for each time period, taking into consideration changes which cannot be predicted from the model. Moreover, if there are missing years at some cross-sectional units the data set is called unbalanced panel. The process of data on a balanced or an unbalanced panel is similar.

Alternatively, Y_{ij} individual must be measured at times t_{ij}. Individuals are indexed by i= 1,…,m. Time observations are indexed by j= 1,…,n_i for every individual i. The independent variables will be noted as x_{ijt}. Let's consider the following model.

$$y_{it} = b_1 x_{it} + a_i + u_{it} \qquad t = 1,2, \dots, T \qquad (4.1)$$

For each i=individual we take the average,

$$\bar{y} = b_1 \bar{x} + a_i + \bar{u} \;\; where \;\; \bar{y} = (\sum_{t=1}^{T} yi)/T \qquad (4.2)$$

If we subtract equation (4.2) from equation (4.1) we get the following equation:

$$y_{it} - \bar{y} = b_i(x_{it} - \bar{x}) + u_{it} - \bar{u} \rightarrow \; \ddot{y} = b_i \ddot{x} + \ddot{u} \qquad (4.3)$$

As it is observed the factor which cannot be estimated a_i has disappeared. The variable a_i includes all unobserved time constant factors that affect y_{it}. This is called the fixed effects transformation (Wooldridge 2011).

According to Pesaran (2007) failure to control cross sectional dependencies in panel data could lead to biased estimates regarding the fixed effects and random effects technique. One way to address cross sectional dependance is to apply a Panel Corrected Standard Errors. This method was firstly developed by Beck and Katz in 1995 and it can avoid problems arising from OLS technique such as biased standard errors (Sandow et al. 2021). Finally, prior to the application of panel corrected standard errors we checked for cross-sectional dependance on the initial OLS equation using the cross-sectional dependency test by Pesaran.

$$\Delta Y_{it} = Y_{i,t-1} + \gamma_{\iota}\xi_{it} + \sum_{j=1}^{\rho-1} \theta_{ij}\, Y_{i,t-j} + \varepsilon_{it} \qquad (4.4)$$

Where $\sum_{j=1}^{\rho-1} \theta_{ij}\, Y_{i,t-j}$ is ADF test, ξ_{it} is a constant term and ε_{it} is an error term.

5.Data

The data which are described below are retrieved from the World Bank national accounts database and the Penn World table. Mainly, we processed eight variables which they are treated as dependent or independent variables in two equations. The analysis of the variables and the equations are the following:

$$grgdp = constant + timedummy + \ln(y(t-1)i) + \ln(s_{it}) + \ln(n+g+\delta)_{it} + \ln(hc_{it}) \quad (5.1)$$

$$grgdp = constant + timedummy + \ln(y(t-1)i) + \ln(s_{it}) + \ln(n+g+\delta)_{it} + \ln(hc_{it}) + \frac{FDI}{GDP} + \frac{Exports}{GDP} + gov_{share} + inflation \quad (5.2)$$

- $\ln(y_{it})$ the natural log of GDP per capita: Estimated in constant 2017 international $. Retrieved from World Bank. PPP GDP is the gross domestic product converted to international dollars using purchasing power parity rates GDP per capita, PPP (constant 2017 international $) | Data (worldbank.org).
- Growth of GDP per capita which is given from the following formula:

$$grgdp = \ln(y_{it}) - \ln(y_{(t-1)i}) \quad (5.3)$$

where ln(y_it) is GDP per capita of each country i every year t, and ln(y_(t-1)i) is the lag of y_{it} .

- $\ln(s_{it})$ or the natural logarithm of Gross capital formation (% of GDP): It is divided by 100. It includes outlays on additions to the fixed assets of the economy plus the net changes on the level of inventories Gross capital formation (% of GDP) | Data (worldbank.org).

- ln(n+g+δ): For the population growth n the data are derived from the World Bank. The sum of depreciation rate δ and the technological growth g is equal to 0.05 following the hypothesis for Mankiw, Romer and Weil Population growth (annual %) | Data (worldbank.org).
- Human capital (hc): data have been retrieved from Penn World Table, version 10.0. These data do not contain values for the year 2020. Forecast linear command was used in Excel to find these values in each country PWT 9.0 | PWT earlier releases | Groningen Growth and Development Centre | University of Groningen (rug.nl).
- Time dummy variable: During several time periods the number of years T are less than the number of countries N. It is proposed to use time-dummies as it is described on chapter 2 (Methodology).
- FDI (% of GDP): They are the net inflows of investment. It is the sum of equity capital, reinvestment of earnings, long term and short-term capital as it is depicted at the balance of payments. The disinvestment is subtracted and the FDI is divided by GDP (Foreign direct investment, net inflows (% of GDP) | Data (worldbank.org).
- Exports (% of GDP): They include the value of all goods and services traded to the rest of the world. Transfer payments are excluded. (Source: Exports of goods and services (% of GDP) | Data (worldbank.org)).
- Government consumption (% of GDP): It includes government expenditure for purchases of goods and services. It also includes part of the expenses for national defense General government final consumption expenditure (% of GDP) | Data (worldbank.org).
- Inflation (annual %): It shows the rate of price change in the aggregate economy. Data stem from World Bank Inflation, GDP deflator (annual %) | Data (worldbank.org).

We estimated the previous equations using panel data technique with fixed effects and (panel) corrected standard errors. Firstly, the fixed effects model was estimated and then we applied two tests. One for heteroskedasticity existence and the second for cross sectional dependance. Most of the estimations we made are characterized by these. Trying to address these problems PSCE method applied. Finally, the program that was used for the estimations is Stata 14.

Regarding the panel data method there are four groups of countries a) EU27 b) North European Countries c) South European Countries d) East European Countries.

Northern Countries: Austria, Belgium, Denmark, Finland, France, Germany, Ireland, Luxembourg, Netherlands, Sweden.

Southern Countries: Cyprus, Greece, Italy, Malta, Portugal, Spain.

Eastern Countries: Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia, Slovenia.

Each of these groups must be estimated for the following five time periods: 1990-2004,1990-2010, 1990-2015, 1990-2018, 1990-2020. Regarding the political framework during these years:

1990-2004: This was the period of the great ascent of European Economy. EU was established in 1992 and euro currency was adopted after ten years from several countries. Growth rates were high, unemployment was declining, and nominal interest rates were converged among Eurozone countries.

1990-2010: In 2010, it is the beginning of the so-called Eurozone crisis when the interest rates of the Europe periphery surged. After the funding of banking sector and nation-states from the EU in parallel with the implementation of austerity measures in the public sector, the future of the Eurozone and the euro currency was called into question.

1990-2015: During the first six months of 2015 the negotiations between Greece and European Commission/ECB took place for the restructuring of the Greek public debt.

1990-2018: This is the period right before the emerge of COVID19 and after the ending of the Eurozone crisis.

1990-2020: This includes the full sample which retrieved, and it also includes the first year of the coronavirus crisis.

6. Results

6.1.1990-2004

The following two tables present the results of panel data estimation from 1990 to 2004 using the original MRW model and an augmented version.

Table I: Panel data estimation during the period 1990-2004, Basic MRW model

	Dependent variable: grgdp							
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	322	322	128	128	84	84	110	110
constant	8.02***	6.21***	2.86*	1.36***	1.02	0.39***	-60.45	0.09***
	(3.83)	(1.02)	(1.54)	(0.20)	(0.59)	(0.28)	(86.89)	(21.30)
ln(y_(t-1))	-2.21***	-0.77***	0.54*	-0.25***	-0.13	-0.07	-2.06**	-2.45
	(0.89)	(0.15)	(0.25)	(0.04)	(0.09)	(0.03)	(0.96)	(1.65)
ln(s)	0.65	-0.23***	0.08	0.02***	0.01	0.01	1.45***	0.01***
	(0.42)	(0.05)	(0.05)	(0.01)	(0.01)	(0.02)	(0.65)	(1.30)
ln(n+g+δ)	0.04	-0.45	-0.01	0.06***	-0.03	0.00	-0.53	-0.48
	(0.83)	(0.23)	(0.09)	(0.02)	(0.04)	(0.04)	(1.41)	(2.03)
ln(hc)	0.19	-0.02	0.01	0.01	-0.07*	0.01	13.74	2.35
	(0.69)	(0.02)	(0.23)	(0.01)	(0.03)	(0.01)	(18.91)	(2.93)
R^2	0.08	0.07	0.60	0.91	0.38	0.40	0.16	0.14

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

During this period the coefficients have the same sign as predicted from the theory. The gross capital formation has positive sign, but it is not significant in Southern countries, as well as in the other groups when the fixed effects method is used. In most cases, the population growth coefficients are negative as Solow and MRW model assumes but they are not significant in most of the samples. The same pattern exists on human capital indicator.

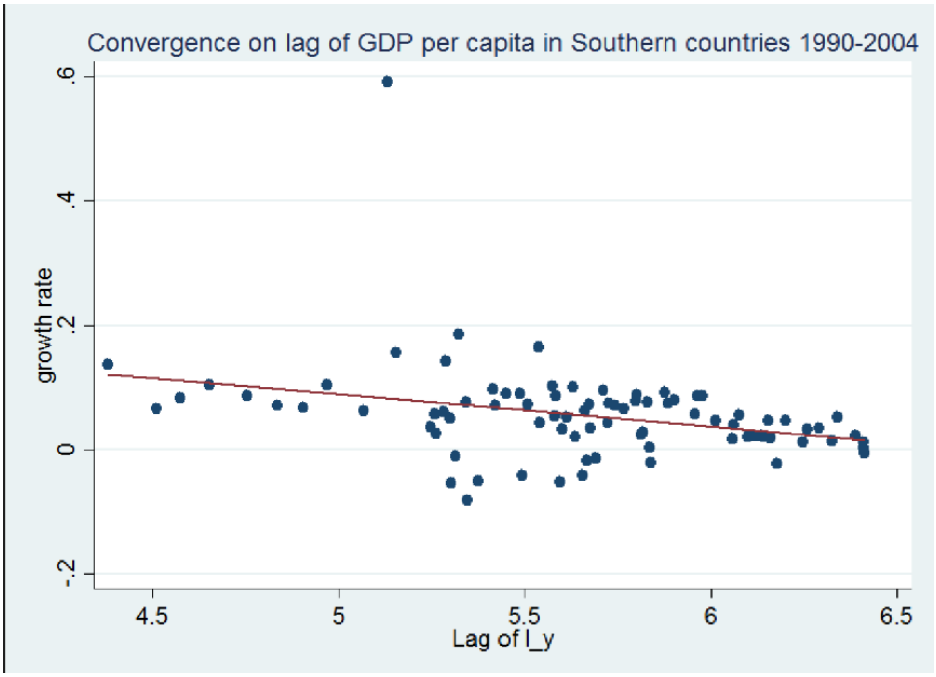
Concerning the lag of GDP per capita which shows convergence or divergence among different countries has a negative sign which indicates convergence at different regions in both methods. Nevertheless, in Southern countries the coefficients are not significant in both methods.

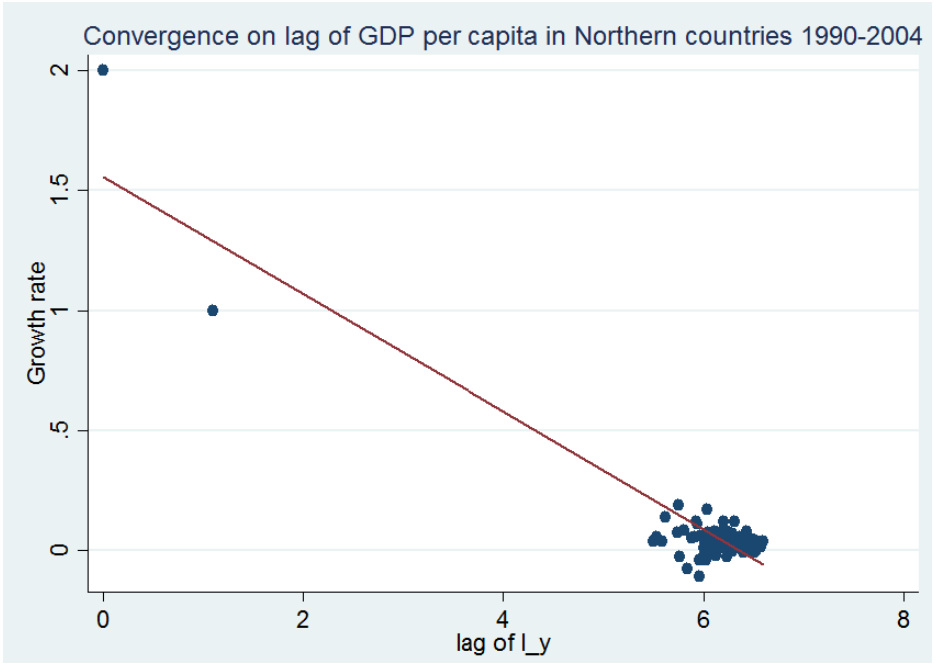
Table II: Panel data estimation during the period 1990-2004, Augmented MRW Model

Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	322	322	128	128	84	84	110	110
constant	7.33	6.54***	2.44	1.26***	1.08	0.42	-138.45	3.87
	(5.00)	(1.04)	(1.35)	(0.19)	(0.87)	(0.27)	(123.91)	(29.45)
ln(y_(t-1))	-2.25**	-0.83***	-0.60**	-0.26***	-0.14	-0.06*	-1.76**	-2.84
	(0.96)	(0.15)	(0.21)	(0.04)	(0.14)	(0.03)	(0.72)	(2.50)
ln(s)	0.59**	-0.22***	0.07	0.02***	0.01	0.01	1.60	0.13
	(0.29)	(0.05)	(0.04)	(0.01)	(0.01)	(0.02)	(0.94)	(1.79)
ln(n+g+δ)	0.49	-0.33	-0.02	0.01	-0.01	-0.02	-1.48	-0.97
	(1.45)	(0.34)	(0.05)	(0.02)	(0.05)	(0.07)	(1.25)	(4.30)
ln(hc)	-0.40	-0.17***	0.27	0.06***	-0.05	0.002	28.18	1.22
	(1.21)	(0.05)	(0.18)	(0.01)	(0.04)	(0.009)	(24.68)	(4.58)
F.D.I.	0.003	0.001*	0.00	0.00**	0.00	0.00	0.007	0.006
	(0.003)	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.006)	(0.008)
Exports	0.001	0.001**	0.0002	0.0001***	0.00	0.00	0.02	0.004
	(0.002)	(0.00)	(0.0002)	(0.00)	(0.00)	(0.00)	(0.03)	(0.007)
Gov_share	0.008	0.001**	-0.0001**	0.00	0.00	0.00	0.01	-0.001
	(0.007)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.007)
Inflation	0.00	-0.001	0.00	0.00	-0.0001	0.00	-0.01	0.00
	(0.001)	(0.00)	(0.00)	(0.00)	(0.0001)	(0.00)	(0.01)	(0.008)
R^2	0.09	0.08	0.74	0.92	0.40	0.43	0.19	0.17

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

The R^2 indicator is at low levels in EU countries as a whole and in Eastern Europe countries whereas in Northern and in Southern countries can explain the variation of GDP growth. Regarding the augmented model the added variables are close to zero and do not have major impact on GDP growth per worker. Also, most coefficients are not significant. Eastern countries seem to converge with higher rate than the other groups. South European countries seem to remain stable as they present a weak tendency for converging. The East European countries converge in higher rate than the other two groups and follows higher pace even than the European Union overall.





Graph 6.1. Convergence in North and South European countries, 1990-2004

6.2.1990-2010

The tables below show the results of a paned data estimation in 27 EU countries and three distinctive regions.

Table III: Panel data estimation during the period 1990-2010, MRW model

	Dependent variable: grgdp							
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	484	484	188	188	120	120	176	176
constant	8.70**	5.08***	2.71**	1.35***	0.67	0.31*	-7.96	0.09
	(4.49)	(0.69)	(0.87)	(0.26)	(0.37)	(0.18)	(31.30)	(21.31)
ln(y_(t-1))	-1.84**	-0.62***	-0.47***	-0.20***	-0.08	-0.06***	-2.60**	-2.45
	(0.93)	(0.09)	(0.05)	(0.04)	(0.05)	(0.02)	(1.10)	(1.66)
ln(s)	0.18	-0.19***	0.05*	0.05*	0.02	0.01	0.32	0.01
	(0.15)	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)	(0.27)	(1.30)
ln(n+g+δ)	-0.25	-0.25**	0.01	-0.11	-0.04	0.01	-0.68	-0.49
	(0.37)	(0.13)	(0.10)	(0.08)	(0.03)	(0.03)	(0.49)	(1.03)
ln(hc)	0.36	-0.01	0.02	-0.03	-0.06*	0.01	4.43	2.35
	(0.52)	(0.02)	(0.18)	(0.03)	(0.03)	(0.01)	(7.12)	(2.93)
R^2	0.07	0.07	0.72	0.73	0.47	0.49	0.14	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

From 1990 to 2010 the gross capital formation affects mostly positive the income growth although in Southern and Eastern countries the coefficients are not significant even in confidence level of 10%. It is contributing to growth only in Northern countries as it has positive sign, and it is a significant coefficient. In European Union, the coefficient is negative and has major significant importance when the corrected errors method is used.

Concerning the impact of population growth is only important in all European countries and has a negative impact as the Solow model predicts. The coefficients have negative signs in the rest of the cases, but they are not statistically important. The same phenomenon is presented when the human capital index is studied since all the results are not significant except for Southern countries which have a negative sign.

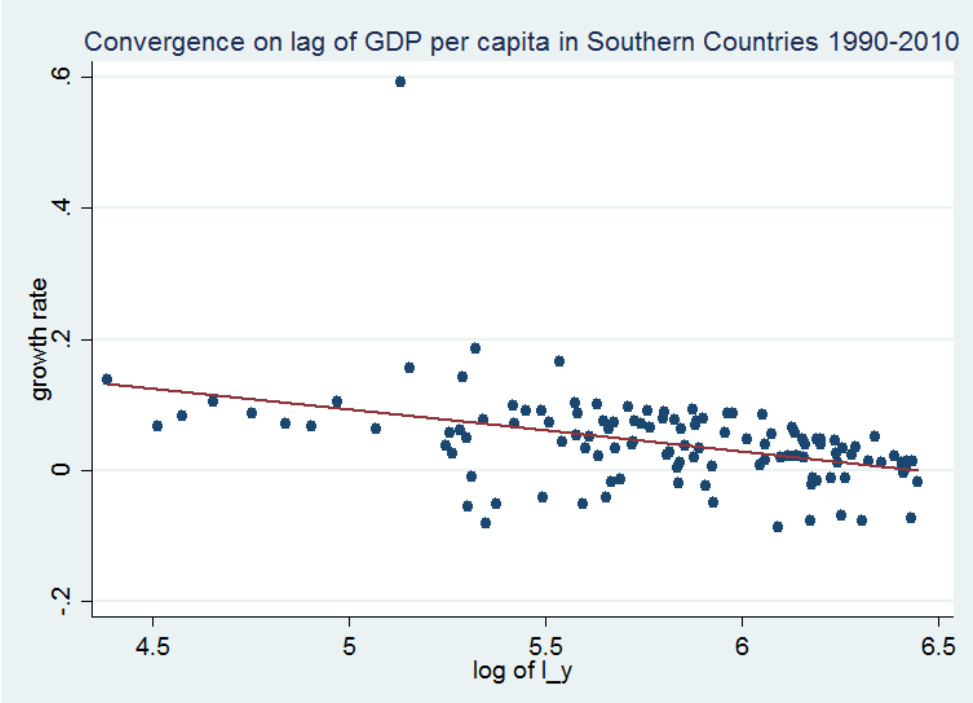
Table IV: Panel data estimation during the period 1990-2010, Augmented MRW model

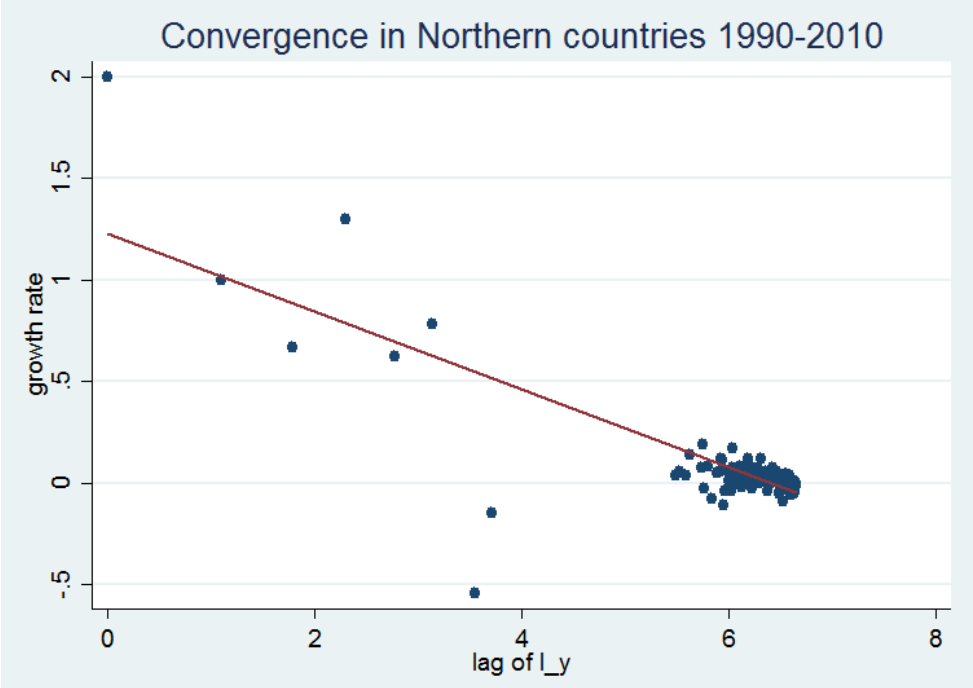
Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	484	484	188	188	120	120	176	176
constant	7.64*	5.61***	2.65**	1.19***	0.66	0.44**	-60.85	1.83
	(4.08)	(0.64)	(1.04)	(0.25)	(0.46)	(0.19)	(81.43)	(14.47)
ln(y_(t-1))	-1.78**	-0.72***	-0.50***	-0.23***	-0.08	-0.06***	-2.32**	-2.55
	(0.86)	(0.09)	(0.04)	(0.05)	(0.06)	(0.02)	(0.88)	(1.73)
ln(s)	0.17	-0.19***	0.04*	0.05**	0.02	0.01	0.46	0.01
	(0.13)	(0.03)	(0.02)	(0.02)	(0.01)	(0.01)	(0.36)	(1.24)
ln(n+g+δ)	-0.14	-0.12	-0.01	-0.12*	-0.05	-0.02	-1.19*	-0.36
	(0.48)	(0.12)	(0.08)	(0.07)	(0.04)	(0.05)	(0.61)	(2.10)
ln(hc)	0.14	-0.18***	0.13	0.02	-0,04	0.01	13.72	1.25
	(0.70)	(0.04)	(0.28)	(0.03)	(0.04)	(0.01)	(15.57)	(3.66)
F.D.I.	0.002	0.0004***	0.00	-0.0001	-0.0001	0.00	0.005	0.003
	(0.002)	(0.0002)	(0.00)	(0.0001)	(0.0001)	(0.00)	(0.005)	(0.005)
Exports	0.0001	0.0006***	-0.0001	0.0002***	0.00	0.00	0.01	0.003
	(0.002)	(0.00)	(0.0001)	(0.0001)	(0.00)	(0.00)	(0.02)	(0.004)
Gov_share	0.003	0.002***	-0.001**	0.0001	-0.0001	0.0001	0.01	0.001
	(0.004)	(0.0003)	(0.0001)	(0.0001)	0.0001	(0.0001)	(0.01)	(0.006)
Inflation	0.00	-0.001**	0.00	0.00	-0.0001	-0.0001	-0.004	0.01
	(0.00)	(0.0002)	(0.00)	(0.00)	(0.0001)	(0.0001)	(0.004)	(0.01)
R^2	0.08	0.07	0.73	0.75	0.48	0.50	0.16	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

Similar results appear when the augmented MRW model is studied with the exception that the population growth affects negatively Northern and Eastern countries now. Generally, the added variables such as FDI or exports do not contribute to income growth because either they are not significant, or they tend to zero. The R^2 is high on Northern countries, around 0.5 in Southern countries but is close to zero in EU as a whole and in Eastern Europe.

Finally, the lag of GDP per capita coefficients is mostly negative that indicates that for this time period there is convergence in EU countries and among countries in each region (North, South, East).





Graph 6.2. Convergence in North and South European countries, 1990-2010

6.3. 1990-2015

The two tables below depict the econometric estimation of MRW and augmented MRW model from 1990 to 2015.

Table V: Panel data estimation during the period 1990-2015, MRW model

	Dependent variable: grgdp							
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	619	619	238	238	150	150	231	231
constant	7.92**	4.16***	4.74***	1.47***	0.38	0.18	0.71	-2.18
	(4.23)	(0.55)	(1.67)	(0.29)	(0.16)	(0.11)	(17.36)	(10.31)
ln(y_(t-1))	-1.71**	-0.54***	-0.50***	-0.15***	-0.03	-0.05***	-2.62	-2.33
	(0.93)	(0.07)	(0.04)	(0.04)	(0.02)	(0.02)	(1.16)	(1.36)
ln(s)	0.13	-0.11***	0.05***	0.05**	0.02	0.02**	0.22	-0.03
	(0.10)	(0.02)	(0.01)	(0.02)	(0.01)	(0.01)	(0.22)	(0.95)
ln(n+g+δ)	0.07	-0.31***	-0.03	-0.22***	-0.03	0.02	-0.34	-0.50
	(0.31)	(0.01)	(0.05)	(0.08)	(0.05)	(0.03)	(0.44)	(1.55)
ln(hc)	0.34	0.01	-0.39	-0.09**	-0.04	0.01	2.74	2.49
	(0.47)	(0.03)	(0.31)	(0.03)	(0.02)	(0.01)	(4.13)	(2.35)
R^2	0.07	0.07	0.72	0.56	0.52	0.54	0.14	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

In table V, the sign of lag of GDP per worker is mostly negative which shows that the convergence is the prevailing trend both in the 27 EU countries and inside each region. In east European countries the coefficients are not significant at both methods but on the rest of the cases the coefficients are significant even in significant level of 1%.

Again, the domestic investment is positive contributing to GDP growth excluding Eastern Europe where the coefficient is not significant in both methods. In EU countries and in North countries is highly significant although in EU its contribution is negative.

The coefficients of population growth indicator are mostly negative and, in some cases, significant, especially in the European North. Human capital variable is not significant except for North countries which appears a negative sign statistically important. The fit of estimation is high only in Northern countries and EU countries.

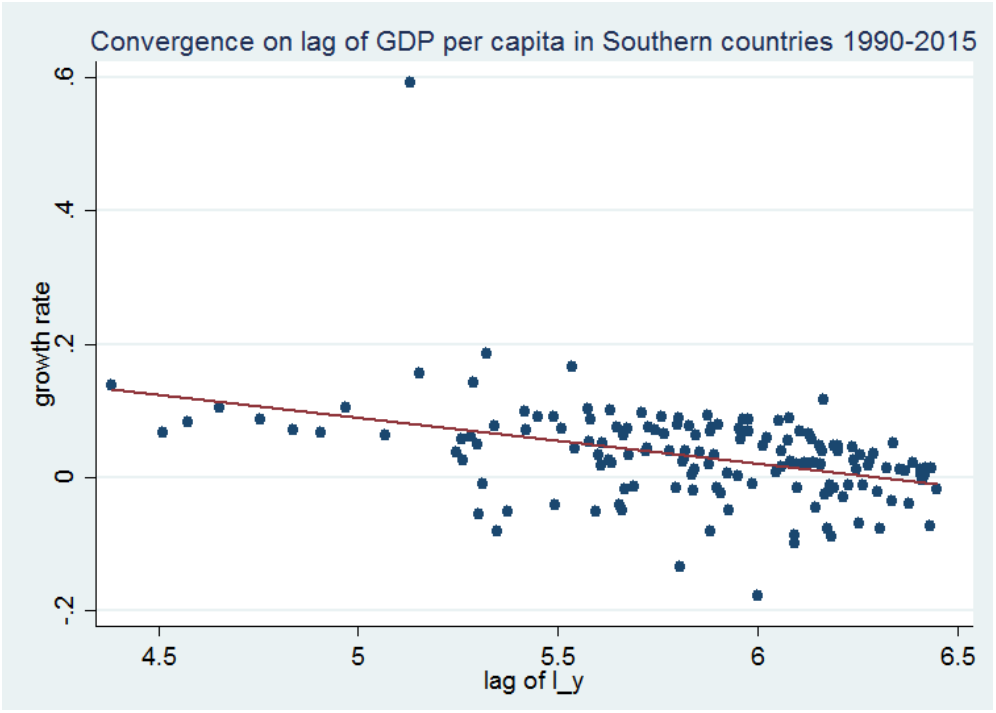
Table VI: Panel data estimation during the period 1990-2015, Augmented MRW model

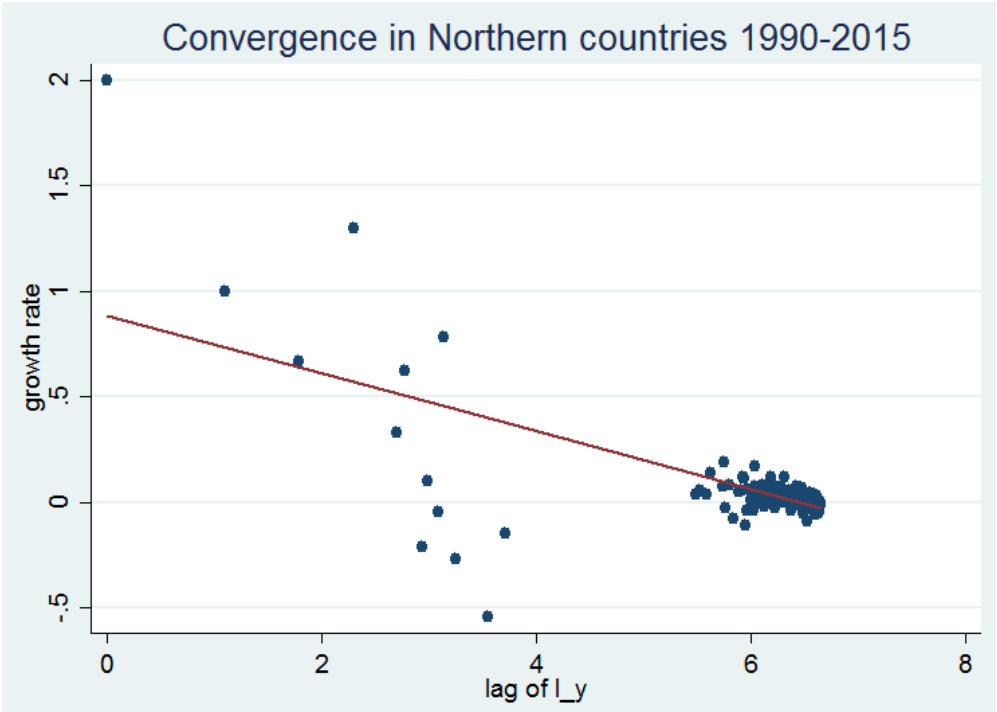
Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	619	619	238	238	150	150	231	231
constant	6.85*	4.61***	5.81***	1.51***	0.40	0.22*	-26.89	0.98*
	(3.45)	(0.50)	(1.64)	(0.32)	(0.23)	(0.13)	(45.75)	(11.96)
ln(y_(t-1))	-1.66*	-0.64***	-0.50***	-0.17***	-0.03	-0.06***	-2.36**	-2.46*
	(0.85)	(0.07)	(0.03)	(0.04)	(0.03)	(0.02)	(0.99)	(1.42)
ln(s)	0.15	-0.11***	0.05**	0.04**	0.02*	0.02**	0.37	-0.03
	(0.12)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.28)	(0.95)
ln(n+g+δ)	0.18	-0.17*	-0.01	-0.23***	-0.04	0.01	-0.55*	-0.22
	(0.44)	(0.09)	(0.05)	(0.07)	(0.05)	(0.04)	(0.25)	(1.63)
ln(hc)	0.24	-0.15***	-0.59*	-0.08*	-0.04	0.01	6.80	1.51
	(0.52)	(0.04)	(0.32)	(0.04)	(0.02)	(0.01)	(8.28)	(2.75)
F.D.I.	0.002	0.0002**	0.00	0.00	0.00	0.00	0.003	0.002
	(0.001)	(0.0001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.003)	(0.003)
Exports	0.001	0.0004***	-0.0001**	0.00***	0.00	0.00	0.009	0.003
	(0.001)	(0.0001)	(0.0002)	(0.00)	(0.00)	(0.0001)	(0.01)	(0.003)
Gov_share	0.002	0.002***	-0.00002	0.0001	-0.0001	-0.0001	0.006	0.002
	(0.003)	(0.0002)	(0.0001)	(0.0001)	(0.0001)	(0.0001)	(0.008)	(0.004)
Inflation	0.00	-0.0002	0.00	0.00	0.00	0.00	-0.003	-0.001
	(0.00)	(0.0002)	(0.00)	(0.00)	(0.00)	(0.00)	(0.003)	(0.003)
R^2	0.08	0.07	0.74	0.57	0.53	0.54	0.15	0.16

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

In augmented MRW model, the coefficient of the lag of income is again negative and statistically important thus there is convergence, the domestic investment has mostly positive sign and population growth negative sign. The human capital variable is only significant in European countries and Northern countries and paradoxically has a negative impact on GDP growth.

The extra variables have minor effect on growth as it tends to zero. The fit of regressions is at high level in North and South countries which means that independent variables can explain the variation of growth per capita. Intertemporally, the rates of convergence are declining both in EU27 countries and the different groups of convergence.





Graph 6.3. Convergence in North and South European countries, 1990-2015

6.4. 1990-2018

The results of panel data estimation between 1990 and 2018 are given below for the basic MRW model and the augmented MRW model.

Table VII: Panel data estimation during the period 1990-2018, MRW Model

	Dependent variable: grgdp							
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	700	700	268	268	168	168	264	264
constant	7.36*	3.60***	4.11***	1.35***	0.40***	0.20**	2.24	-0.60
	(4.08)	(0.47)	(0.87)	(0.27)	(0.15)	(0.10)	(14.01)	(16.96)
ln(y_(t-1))	-1.56*	-0.51***	-0.50***	-0.14***	0.05***	-0.06***	-2.57**	-2.27**
	(0.90)	(0.06)	(0.05)	(0.03)	(0.02)	(0.02)	(1.18)	(1.24)
ln(s)	0.11	-0.08***	0.05***	0.05**	0.02**	0.02***	0.19	-0.03
	(0.09)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.22)	(0.83)
ln(n+g+δ)	0.11	-0.31***	-0.03	-0.22***	-0.03	0.02	-0.21	-0.42
	(0.32)	(0.08)	(0.04)	(0.07)	(0.03)	(0.03)	(0.47)	(1.37)
ln(hc)	0.32	0.01	-0.24*	-0.09**	-0.02	0.01	2.46	2.40
	(0.43)	(0.03)	(0.11)	(0.03)	(0.02)	(0.01)	(3.46)	(2.10)
R^2	0.07	0.06	0.72	0.53	0.52	0.54	0.14	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

We notice that the lag of GDP per capita which is symbolized as ln(y_(t-1)) has negative sign in all regions and the EU countries category. We can conclude from this, that there is great tendency towards convergence in the European Union as a whole, but at the same time, there is also convergence among countries either they belong in North countries, southern or east European countries. This can be verified because most of the results are highly significant.

Considering the gross capital formation, we can observe that it has positive impact in each region and the coefficients are significant but in the European Union of 27 countries the capital formation affects negatively the GDP growth per capita. The population growth coefficient is negative in every group of countries but is significant only in EU and the Northern countries.

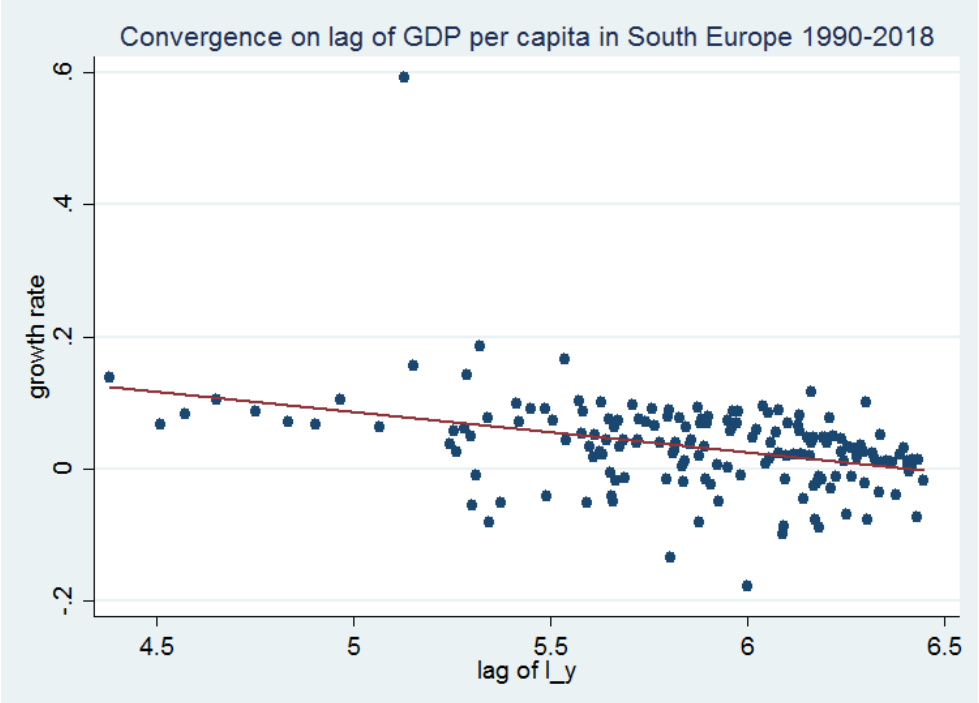
Table VIII: Panel data estimation during the period 1990-2018, Augmented MRW model

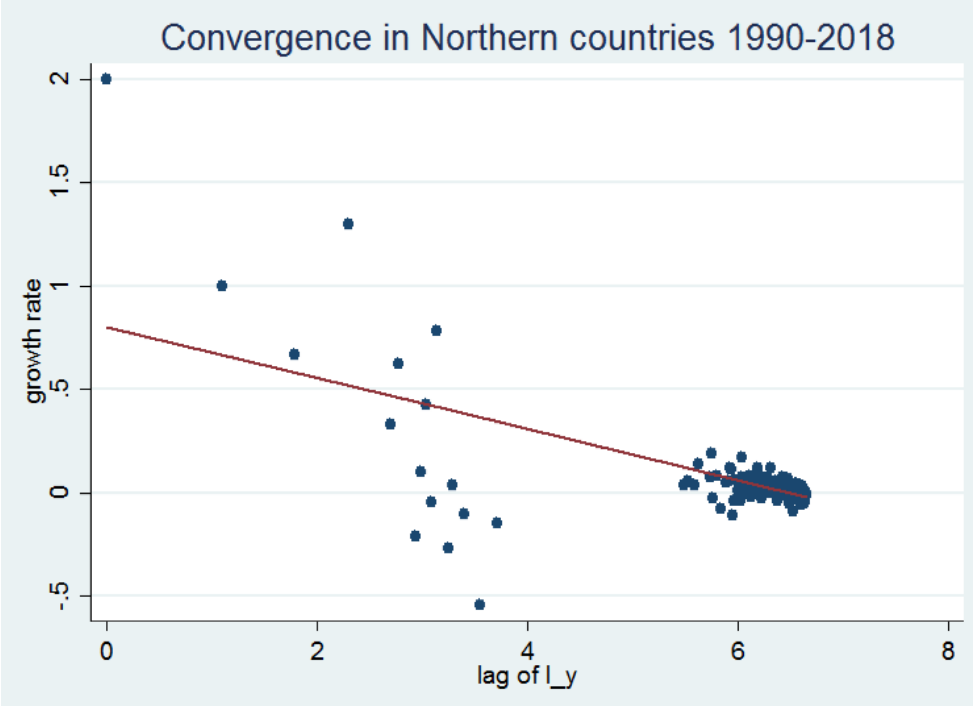
Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	700	700	268	268	168	168	264	264
constant	6.04*	4.04***	4.74***	1.38***	0.47	0.27**	-17.80	2.51
	(3.10)	(0.44)	(0.89)	(0.28)	(0.23)	(0.12)	(34.03)	(17.41)
ln(y_(t-1))	-1.52*	-0.61***	-0.50***	-0.16***	-0.05*	-0.06***	-2.35**	-2.38
	(0.83)	(0.06)	(0.05)	(0.03)	(0.02)	(0.02)	(1.02)	(1.27)
ln(s)	0.14	-0.08***	0.04*	0.05**	0.02*	0.02**	0.31	-0.03
	(0.12)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.26)	(0.85)
ln(n+g+δ)	0.20	-0.17*	-0.01	-0.23***	-0.04	0.003	-0.21	-0.24
	(0.43)	(0.08)	(0.04)	(0.07)	(0.04)	(0.04)	(0.41)	(1.40)
ln(hc)	0.31	-0.14***	0.34**	-0.07*	-0.03	0.01	5.12	1.38
	(0.50)	(0.04)	(0.12)	(0.04)	(0.03)	(0.01)	(6.15)	(2.33)
F.D.I.	0.001	0.00***	0.00	0.00	0.00	0.00	0.003	0.002
	(0.001)	(0.00)	(0.00)	(0.0001)	(0.00)	(0.00)	(0.003)	(0.003)
Exports	0.001	0.00***	0.00**	0.0001***	0.00	0.00	0.007	0.003
	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.002)
Gov_share	0.001	0.001***	0.00	0.00	-0.0001	-0.0001	0.005	0.001
	(0.002)	(0.002)	(0.00)	(0.00)	(0.0001)	(0.0001)	(0.007)	(0.004)
Inflation	0.00	0.00	0.00	0.00	0.00	0.00	-0.002	-0.001
	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.002)	(0.003)
R^2	0.07	0.07	0.73	0.54	0.52	0.54	0.15	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

Human capital index is only significant in the North and there has negative impact something which do not follow the Solow model. In East European countries every variable is insignificant except for the lag of income. The results for savings, population growth and human capital do not change much from the previous version of MRW model. Again, the rest of the variables such as inflation are not significant and their effect on growth tends to zero.

The R^2 is high enough in Northern and Southern countries thus the independent variables can explain adequately the variance of the dependent variable.





Graph 6.4. Convergence in North and South European countries, 1990-2018

6.5. 1990-2020

Finally, the summarized tables for the time period 1990-2020 are presented and the results are the following.

Table IX: Panel data estimation during the period 1990-2020, MRW model

Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	754	754	288	288	180	180	286	286
constant	7.05*	3.43***	4.21***	1.36***	0.21	0.19***	2.59	-1.93
	(4.00)	(0.44)	(0.82)	(0.27)	(0.12)	(0.10)	(12.78)	(8.83)
ln(y_(t-1))	-1.46	-0.49***	-0.50***	-0.14***	0.05***	-0.05***	-2.52**	-2.22**
	(0.87)	(0.06)	(0.04)	(0.03)	(-0.05)	(0.02)	(1.18)	(1.17)
ln(s)	0.08	-0.06***	0.05***	0.06***	0.02**	0.02***	0.12	-0.05
	(0.08)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.22)	(0.71)
ln(n+g+δ)	0.23	-0.32***	-0.04	-0.24***	-0.03	0.02	-0.06	-0.34
	(0.37)	(0.08)	(0.04)	(0.07)	(0.03)	(0.02)	(0.53)	(1.29)
ln(hc)	0.25	0.004	-0.27**	-0.10**	-0.02	0.01	2.42	2.33
	(0.40)	(0.02)	(0.11)	(0.03)	(0.02)	(0.01)	(3.21)	(1.95)
$\mathbf{R^2}$	0.07	0.06	0.73	0.49	0.60	0.61	0.13	0.14

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

The lag of GDP growth per worker is always negative which means that there is convergence among EU countries and inside every group of European countries. East European countries are converging on a higher rate than Southern and Northern countries. South European countries seem to resist converging as their values are close to zero and, in this estimation, they present even divergence using the fixed effects method. Every value is significant mostly at 1% level.

The gross capital formation appears to have positive significant impact on growth in Northern and Southern countries but negative impact in all European countries. The coefficients in East Europe are statistically insignificant. The population growth has negative sign when the coefficient is statistically significant in EU countries and Northern countries as the Solow model proposes. In this sample, there is one specific indication that Southern European countries are diverging from their steady state.

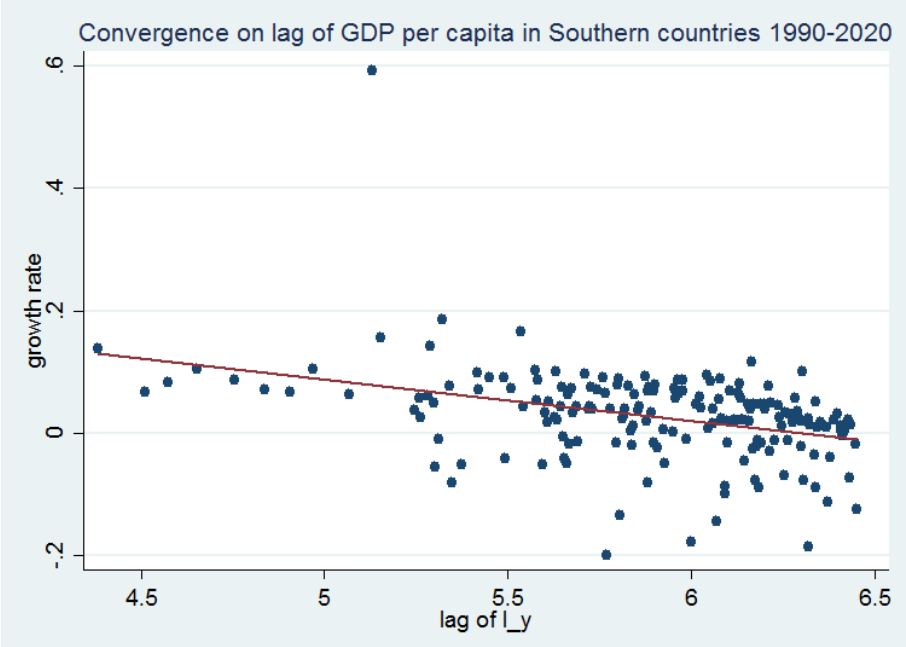
Table X: Panel data estimation during the period 1990-2020, Augmented MRW model

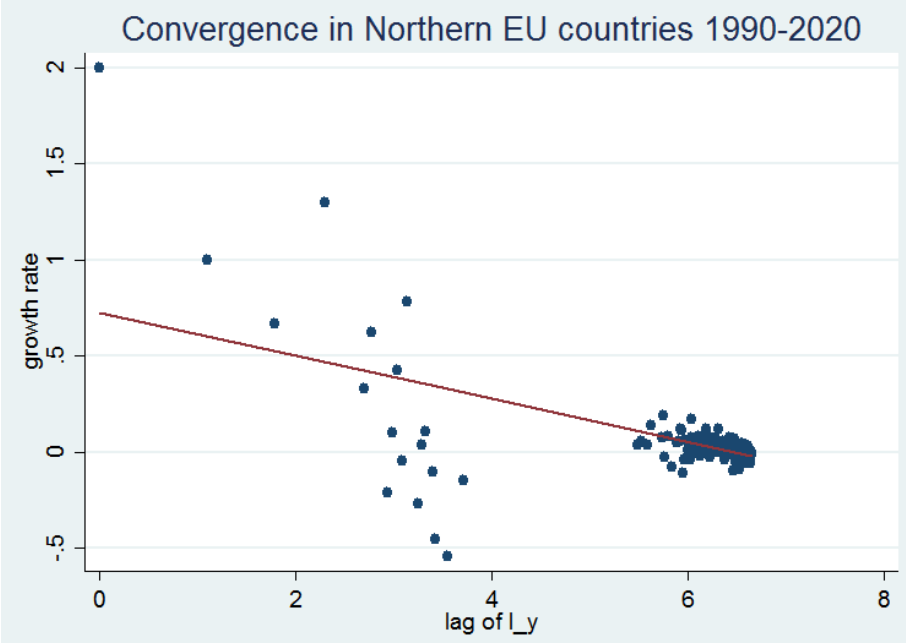
Dependent variable: grgdp								
	EU Countries		**North Countries**		**South Countries**		**East Countries**	
	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors	Fixed effects	Corrected errors
observations	754	754	288	288	180	180	286	286
constant	5.56*	3.88***	4.89***	1.36***	0.31	0.31***	-12.80	1.35
	(2.86)	(0.42)	(0.85)	(0.29)	(0.18)	(0.11)	(28.11)	(9.56)
ln(y_(t-1))	-1.43*	-0.58***	-0.51***	-0.16***	-0.05**	-0.05***	-2.33**	-2.34*
	(0.89)	(0.06)	(0.05)	(0.03)	(0.02)	(0.02)	(1.04)	(1.20)
ln(s)	0.11	-0.06***	0.04**	0.06***	0.02**	0.02**	0.22	-0.04
	(0.12)	(0.02)	(0.02)	(0.02)	(0.01)	(0.01)	(0.25)	(0.71)
ln(n+g+δ)	0.31	-0.19**	-0.01	-0.24***	-0.04	0.001	-0.08	-0.21
	(0.46)	(0.07)	(0.04)	(0.07)	(0.03)	(0.04)	(0.50)	(1.28)
ln(hc)	0.26	-0.14***	-0.38***	-0.09**	-0.02	0.01	4.11	1.35
	(0.47)	(0.03)	(0.12)	(0.04)	(0.02)	(0.01)	(4.98)	(2.10)
F.D.I.	0.001	0.00**	0.00	0.00	0.00	0.00	0.0002	0.001
	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.0002)	(0.002)
Exports	0.001	0.00***	0.00**	0.00***	0.00	0.00	0.006	0.003
	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	(0.002)
Gov_share	0.002	0.01***	0.00	0.00	0.00	-0.0001	0.005	0.001
	(0.003)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.007)	(0.003)
Inflation	0.00	0.00	0.00	0.00	0.00	0.00	-0.002	-0.001
	(0.001)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.002)	(0.003)
R^2	0.07	0.06	0.74	0.51	0.61	0.61	0.14	0.15

Notes: */**/*** indicate significance at 1%, 5%, 10% level. Standard errors are in parentheses.

The human capital variable is only significant in Northern Europe and in EU countries, but the coefficient appears to be negative, contrary to the main theory. At the Augmented MRW model, the previous results about capital formation, convergence and population growth are quite similar.

As in the previous cases, FDI, Exports, Government consumption and Inflation have almost zero influence on growth per capita and most of the coefficients are not significant. At this model version, there is no indication for divergence in Southern Europe nevertheless Mediterranean countries still seem to stagnate as they present values which are close to zero. At panel corrected errors technique, even Northern countries appear to converge at very slow pace with the rest of the Europe.





Graph 6.5. Convergence in North and South European countries, 1990-2020

From the above graphs, it is depicted the negative correlation between growth rate and GDP per capita although it seems that European wealthier North is developing faster than the European poorer South, conclusion which contradicts Solow model. It can be argued that the growth rates after the 2010 follow a downturn which is a result of the 2008 financial and economic crisis, but this is more evident in Northern EU.

7.Conclusions

Firstly, there is convergence either among EU27 countries or in separate groups of countries in all time periods that were tested. Most of the coefficients of lag of GDP per capita are significant. Specifically, European Union is converging conditionally in all time periods both in the MRW framework and under the use of different econometric techniques. It seems that panel corrected standard errors method gives lower rates of convergence. Also, in EU27 from 2004 to 2020 there is a gradual decline of convergence as values of the coefficients tend to -0.5. However, R^2 is very low showing that the regressions of EU cannot explain adequately the variation of growth per capita.

The same pattern is also valid about East European countries. The fit of regression in Eastern Europe is close to zero nevertheless these specific countries present high convergence rates in every time period that we have studied. These values present a slow decline from 2004 to 2020 although they are higher than the rates of convergence of EU27. This is an indication that not only East European countries converge conditionally but they converge unconditionally as well.

Regarding North European countries in 2004 they show signs of divergence among them but from 2010 and afterwards they return to conditional convergence rates which remain steady until now. The R^2 index is above 0.5 thus we can assume that the results are solid. As for the South Mediterranean countries, they appear very low conditional rates of convergence (close to zero from the start until 2015). For the time periods 1990-2018 and 1990-2020 there is an indication for divergence among them using the basic MRW model and the panel fixed effects technique.

Concerning the variables that they were used, the gross capital formation is mainly significant in EU27, in Northern countries and only in some cases in Southern Europe. In East European countries the capital formation has no contribution on growth. We observe that in all the specifications the sign of gross capital formation as a percentage of GDP is positive for North European countries and for South European countries. This is because the production process of the North EU countries depends a lot on physical capital, and in South EU countries especially for Italy and Spain physical capital is an important element for the production process since they are industrialized countries. For Eastern EU countries physical capital cannot be adapted

efficiently since they are coming from ex-socialist types of countries. Finally, due to the huge heterogeneity, the sign of this variable for the whole dataset of countries appears to be negative. For these reasons, we prefer to consider more seriously the effect of the individual samples.

The population growth has always negative contribution to the GDP growth as Solow model predicts but very often it is not a significant factor especially in European South, East and Northern Europe before 2010. The coefficient of human capital is not significant in most regressions and when it is significant it appears to have a negative sign which is contrary to the relevant theory. The other variables, which were added at the augmented model as control variables, have coefficients close to zero and they are not significant at all in many cases.

In conclusion, for Eastern countries these values reveal that poorer countries with the same characteristics tend to grow faster than the wealthier countries as Solow model proposes. The same pattern does not happen in South European countries where they seem stagnant or even diverged. The EU27 show convergence although at a declining rate and Eastern Europe seems to catch up the wealthier North European countries which are also converging in their group. However, from all these periods that were studied, Southern Europe shows very low degree of conditional convergence even before the Euro zone crisis. The Southern Europe is incapable to catch up wealthier part of Europe and, moreover after 2018, indications of conditional divergence were appeared among the countries of South European countries.

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- General government final consumption expenditure (% of GDP) | Data (worldbank.org)
- Gross capital formation (% of GDP) | Data (worldbank.org)
- Inflation, GDP deflator (annual %) | Data (worldbank.org).
- Population growth (annual %) | Data (worldbank.org).
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Appendix A: Descriptive Statistics

Table A: Descriptive statistics 1990-2020

	GDP_capita	*FDI*	*Gov_consumption*	*Exports*	*Capital_Formation*	*Inflation*	*Pop_growth*
Average	35796,81	9,66	19,83	54,64	23,21	6,72	0,24
St_dev	17349,89	33,23	3,02	31,95	4,52	37,29	0,79
Min	9960,89	-57,53	11,67	14,05	1,16	-9,67	-3,85
Max	120647,82	449,08	28,11	205,48	54,70	913,21	3,93
CV (%)	48,46	343,94	15,25	58,47	19,50	554,69	338,58

The average GDP per capita during this period is 35796.81 €. Its minimum estimation equals with 9960.89€ and its maximum value is 120647.82€. CV indicator is around 48% indicating some differences in GDP capita among European countries. The average capital formation equals with 23% of EU GDP ranging from 1.16% to 54.70% of GDP across different countries. The coefficient of variation is low showing that there are similarities across European countries. The average FDI is around 10% in EU with high standard deviation and as a result the coefficient of variation has also a high value meaning that there is great variation among different countries. The same trend can be underlined on inflation values. Exports is above 50% of European GDP presenting mild variation. On the contrary, Government consumption is a small part of GDP around 20% and presents low variation across EU.

Table B: Descriptive statistics 1990-2018

	*GDP*_capita	*FDI*	*Gov_consumption*	*Exports*	*Capital_Formation*	*Inflation*	*Pop_growth*
Average	35160,92	9,62	19,79	53,64	23,25	7,05	0,23
St_dev	17028,86	33,44	3,01	31,13	4,38	38,58	0,79
Min	9960,89	-57,53	11,67	14,05	1,16	-9,67	-3,85
Max	120647,82	449,08	28,11	196,42	41,59	913,21	3,49
CV(%)	48,43	347,65	15,22	58,03	18,85	547,44	343,20

The average GDP per capita during these years reaches 35160.92€. The minimum and the maximum value do not change at all. The coefficient of variance slightly below 50% indicating medium disparities among different countries. Capital formation equals with 23.25% of European Union GDP with a range from 1% to 41.60%. This variable along with Government consumption do not present great differences among countries. On the contrary, F.D.I. and inflation fluctuates intensively and as a result coefficient of variation appears very high values. Exports is slightly above 50% of European GDP showing medium variation. Its minimum value is 14% of GDP and its maximum 196% which seems rather unusual. Finally, population growth fluctuates intensively as well which is natural since European Union consists of small and large states.

Table C: Descriptive statistics 1990-2015

	GDP_capita	*FDI*	*Gov_consumption*	*Exports*	*Capital_Formation*	*Inflation*	*Pop_growth*
Average	34157,59	10,15	19,86	51,60	23,40	7,74	0,23
St_dev	16562,68	35,07	2,98	29,75	4,40	40,94	0,78
Min	9960,89	-57,53	11,67	14,05	1,16	-9,67	-3,85
Max	120647,82	449,08	28,11	191,84	41,59	913,21	2,89
CV(%)	48,49	345,59	14,98	57,65	18,82	529,08	346,52

During this time period, GDP per capita is increasing gradually compared to the previous time periods reaching 34157.59€ with standard deviation equals with 16562.68. The minimum and maximum value remain the same. The coefficient of variance gradually increased from 2010 indicating that the disparities among countries were increased. Government consumption and capital formation consists of 20% of GDP as usual and the CV shows that there are similarities in EU countries. FDI is 10% of European GDP, the high maximum price derives from Malta during the financial crisis in 2008. FDI presents extremely high differences due to the countries such as Malta, Cyprus and Luxembourg. Similarly, inflation appears high values due to the countries of Eastern Europe in the 1990s. Except for that, inflation does not present high fluctuations all these years.

Table D: Descriptive statistics 1990-2010

	GDP_capita	*FDI*	*Gov_consumption*	*Exports*	*Capital_Formation*	*Inflation*	*Pop_growth*
Average	32746,34	9,34	19,82	47,68	24,06	9,37	0..24
St_dev	15827,85	34,37	2,93	26,57	4,35	45,89	0.78
Min	9960,89	-57,53	11,67	14,05	1,16	-9,67	-3.85
Max	120647,82	449,08	28,11	169,58	41,59	913,21	2.89
CV(%)	48,33	368,08	14,78	55,72	18,08	490,05	321.60

The average GDP per capita during this period is 32746.34 €. Its minimum estimation equals with 9960.89€ and its maximum value 120647.82€. CV indicator is around 48% depicting some differences in GDP capita among European countries. The average capital formation is estimated around 24% of EU GDP ranging from 1.16% to 41.59% of GDP across different countries. The coefficient of variation is low showing that there is a pattern across European countries. Exports is slightly below 50% of European GDP presenting medium variation. On the contrary, Government consumption is a small part of GDP around 20% and presents low variation across EU. The average FDI is 9.34% in EU during the specific period with high standard deviation and, as a result, the coefficient of variation is also high thus there is great variation among different countries. The same trend can be pointed on inflation.

Table E: Descriptive statistics 1990-2004

	GDP_capita	*FDI*	*Gov_consumption*	*Exports*	*Capital_Formation*	*Inflation*	*Pop_growth*
Average	29922,64	4,58	19,80	43,60	23,69	12,28	0,23
St_dev	13389,49	8,38	3,02	22,65	4,03	55,26	0,75
Min	9960,89	-11,14	11,67	14,05	1,16	-9,38	-3,85
Max	107634,84	122,48	28,11	143,73	36,11	913,21	2,70
CV(%)	44,75	183,07	15,27	51,94	17,01	449,88	318,23

GDP per capita is estimated around 30.000 €. Minimum value for income is 9960€ which recorded in Latvia in 1996. Maximum value belongs in Luxemburg estimated around 107000 €. The coefficient of variance is lower than the next years which means that the differences among countries are not so intense. Capital formation and Government consumption fluctuate as always around 20% showing low discrepancies among European countries. The highest value of Gross capital formation is 36.11% and happened in Czech Republic in 1996. The coefficient of variance is quite low. FDI index shows, given that its CV is very high, that some countries like Luxemburg and Malta have high influx of capitals while others like Greece or Italy have influx close to zero. Inflation as an index fluctuates around 2% in all countries following the Maastricht rules. The extreme values stem from the Eastern European countries during the 1990s and no longer exist.

Appendix B: Dataset

Country	code	year	GDP_capita	FDI	Gov_cons	Exports	s	Inflation	hc	P+g+δ	Region
Austria	1	1990	37494,56	0,39	17,98	35,70	26,69	3,00	2,97	0,06	1
Austria	1	1991	38399,67	0,21	18,16	34,59	26,90	3,64	2,98	0,06	1
Austria	1	1992	38774,49	0,76	18,49	33,16	26,20	3,48	2,99	0,06	1
Austria	1	1993	38658,65	0,59	19,30	31,46	25,25	2,76	3,01	0,06	1
Austria	1	1994	39435,21	1,02	19,44	32,16	26,08	2,52	3,02	0,05	1
Austria	1	1995	40425,39	0,76	19,59	33,53	26,76	1,81	3,04	0,05	1
Austria	1	1996	41319,37	1,82	19,57	34,25	26,34	0,99	3,06	0,05	1
Austria	1	1997	42136,66	1,25	19,60	37,03	26,21	1,27	3,07	0,05	1
Austria	1	1998	43597,89	2,09	19,55	38,35	26,11	0,44	3,09	0,05	1
Austria	1	1999	45060,62	1,37	19,84	39,36	26,12	0,26	3,10	0,05	1
Austria	1	2000	46469,86	4,31	19,22	43,35	25,93	1,36	3,12	0,05	1
Austria	1	2001	46878,92	2,88	18,98	44,62	25,16	1,95	3,13	0,05	1
Austria	1	2002	47419,28	0,06	18,84	45,32	23,64	1,15	3,15	0,05	1
Austria	1	2003	47633,11	2,36	18,98	44,57	24,41	1,31	3,17	0,05	1
Austria	1	2004	48633,27	1,06	18,89	46,87	24,06	1,74	3,18	0,06	1
Austria	1	2005	49387,03	25,66	19,35	48,62	23,83	2,54	3,20	0,06	1
Austria	1	2006	50840,69	3,12	19,26	50,84	23,61	1,89	3,22	0,05	1
Austria	1	2007	52565,07	17,69	18,74	52,56	24,58	2,22	3,23	0,05	1
Austria	1	2008	53166,05	1,46	19,27	53,25	24,47	1,96	3,25	0,05	1
Austria	1	2009	51030,72	3,56	20,68	45,21	22,78	1,89	3,27	0,05	1
Austria	1	2010	51843,43	-5,61	20,49	51,26	22,61	0,87	3,28	0,05	1
Austria	1	2011	53179,15	5,32	19,90	53,95	24,14	1,83	3,29	0,05	1
Austria	1	2012	53297,44	1,27	19,86	53,97	23,98	2,05	3,30	0,05	1
Austria	1	2013	52997,75	0,10	19,92	53,44	23,72	1,62	3,32	0,06	1
Austria	1	2014	52932,90	0,39	19,80	53,39	23,53	2,18	3,33	0,06	1
Austria	1	2015	52873,86	-2,09	19,76	53,09	23,81	2,30	3,34	0,06	1
Austria	1	2016	53345,74	-7,31	19,65	52,41	24,26	1,85	3,35	0,06	1
Austria	1	2017	54172,99	3,24	19,49	54,05	24,84	1,01	3,36	0,06	1
Austria	1	2018	55258,37	-6,28	19,33	55,44	25,72	1,80	3,37	0,05	1
Austria	1	2019	55833,56	-2,95	19,47	55,44	25,40	1,62	3,38	0,05	1
Austria	1	2020	51857,69	-4,20	21,20	51,44	25,90	2,31	3,42	0,05	1
Belgium	2	1990	35506,93	3,92	20,22	61,61	24,35	2,81	2,76	0,05	1
Belgium	2	1991	36023,68	4,45	20,86	60,23	22,84	2,88	2,78	0,05	1
Belgium	2	1992	36426,99	4,81	20,96	58,81	22,59	3,42	2,81	0,05	1
Belgium	2	1993	35935,96	4,78	21,29	56,11	21,93	3,99	2,84	0,05	1
Belgium	2	1994	36981,45	3,48	21,10	58,42	22,01	2,09	2,86	0,05	1
Belgium	2	1995	37784,15	3,71	21,30	60,11	21,79	1,22	2,89	0,05	1
Belgium	2	1996	38208,72	5,04	21,72	61,19	21,63	0,48	2,91	0,05	1
Belgium	2	1997	39562,37	4,75	21,15	64,79	22,30	0,76	2,92	0,05	1
Belgium	2	1998	40252,47	8,78	21,09	64,17	22,35	1,81	2,94	0,05	1
Belgium	2	1999	41583,10	46,35	21,28	64,56	22,69	0,60	2,96	0,05	1
Belgium	2	2000	43024,14	37,48	21,04	72,55	23,78	2,01	2,97	0,05	1
Belgium	2	2001	43347,89	37,26	21,31	71,61	22,63	1,98	2,99	0,05	1
Belgium	2	2002	43890,60	7,01	22,14	70,83	20,75	1,64	3,01	0,05	1

Belgium	2	2003	44160,91	10,86	22,48	69,04	20,96	1,85	3,03	0,05	1
Belgium	2	2004	45540,47	12,05	22,20	70,91	22,67	1,91	3,05	0,05	1
Belgium	2	2005	46342,19	8,73	22,09	74,28	23,68	2,08	3,07	0,06	1
Belgium	2	2006	47212,58	14,41	21,94	76,80	23,97	2,26	3,07	0,06	1
Belgium	2	2007	48590,40	20,50	21,62	78,30	24,60	1,93	3,08	0,06	1
Belgium	2	2008	48423,52	36,80	22,67	80,88	25,94	1,91	3,08	0,06	1
Belgium	2	2009	47064,79	16,01	24,19	68,83	22,17	0,53	3,09	0,06	1
Belgium	2	2010	47972,56	26,07	23,73	75,85	23,13	1,89	3,09	0,06	1
Belgium	2	2011	48154,87	31,27	24,05	80,70	24,51	1,81	3,10	0,06	1
Belgium	2	2012	48210,92	2,38	24,30	80,40	23,69	1,96	3,11	0,06	1
Belgium	2	2013	48204,59	-5,68	24,31	79,32	22,43	1,27	3,11	0,05	1
Belgium	2	2014	48748,62	-2,84	24,23	79,80	23,14	0,98	3,12	0,05	1
Belgium	2	2015	49456,40	-4,22	23,62	77,81	23,63	1,33	3,12	0,06	1
Belgium	2	2016	49829,93	12,09	23,26	79,43	24,25	1,92	3,13	0,06	1
Belgium	2	2017	50442,27	-7,42	23,03	83,18	24,46	1,83	3,14	0,05	1
Belgium	2	2018	51139,07	-7,66	23,14	83,02	25,33	1,51	3,14	0,05	1
Belgium	2	2019	51937,42	-5,62	23,04	82,17	24,91	1,79	3,15	0,06	1
Belgium	2	2020	48752,50	-3,37	24,70	80,04	24,20	1,25	3,21	0,05	1
Bulgaria	3	1990	12507,71	0,02	18,19	33,12	25,59	26,19	2,75	0,03	2
Bulgaria	3	1991	11565,37	0,51	19,03	43,48	22,60	226,54	2,76	0,04	2
Bulgaria	3	1992	10840,08	0,40	20,34	47,11	19,89	59,58	2,78	0,04	2
Bulgaria	3	1993	10765,15	0,37	18,86	38,21	15,28	51,09	2,79	0,04	2
Bulgaria	3	1994	10998,15	1,09	17,19	45,05	9,39	72,70	2,81	0,05	2
Bulgaria	3	1995	11362,65	0,48	15,35	32,34	17,73	135,97	2,82	0,05	2
Bulgaria	3	1996	12015,93	0,89	13,85	48,50	1,16	62,97	2,84	0,04	2
Bulgaria	3	1997	10382,85	4,46	12,14	49,58	9,73	913,21	2,85	0,04	2
Bulgaria	3	1998	10848,42	3,57	18,35	41,94	18,71	33,95	2,87	0,04	2
Bulgaria	3	1999	9993,45	6,01	19,61	42,75	19,84	3,32	2,89	0,04	2
Bulgaria	3	2000	10503,62	7,56	19,79	36,22	19,05	7,38	2,90	0,05	2
Bulgaria	3	2001	11124,51	5,73	19,37	34,88	21,35	6,12	2,92	0,03	2
Bulgaria	3	2002	12036,18	5,52	19,18	33,65	20,53	3,85	2,94	0,03	2
Bulgaria	3	2003	12767,27	9,92	20,11	34,42	22,07	2,19	2,96	0,04	2
Bulgaria	3	2004	13701,50	11,75	19,36	40,96	23,43	5,58	2,97	0,04	2
Bulgaria	3	2005	14779,19	13,72	18,15	42,53	27,74	6,59	2,99	0,04	2
Bulgaria	3	2006	15904,90	22,90	18,15	46,98	32,06	6,76	3,01	0,04	2
Bulgaria	3	2007	17078,37	31,25	16,70	52,39	33,63	11,05	3,03	0,04	2
Bulgaria	3	2008	18250,54	18,91	17,16	52,52	36,95	8,10	3,05	0,04	2
Bulgaria	3	2009	17767,51	7,49	16,74	42,22	28,54	3,94	3,06	0,04	2
Bulgaria	3	2010	18160,61	3,64	16,50	50,11	22,52	0,76	3,08	0,04	2
Bulgaria	3	2011	18661,48	3,65	15,85	58,80	21,36	6,11	3,09	0,04	2
Bulgaria	3	2012	18911,58	3,29	15,79	60,35	21,89	1,11	3,11	0,04	2
Bulgaria	3	2013	18911,13	3,56	17,08	64,58	21,01	0,07	3,12	0,04	2
Bulgaria	3	2014	19202,81	1,92	16,83	64,60	21,51	1,34	3,13	0,04	2
Bulgaria	3	2015	19988,22	4,37	16,08	63,80	20,99	2,95	3,14	0,04	2
Bulgaria	3	2016	20740,79	2,76	15,58	63,87	18,95	3,32	3,15	0,04	2
Bulgaria	3	2017	21469,95	3,39	15,58	66,99	19,81	4,81	3,16	0,04	2
Bulgaria	3	2018	22206,09	2,73	16,41	65,70	21,21	4,23	3,17	0,04	2
Bulgaria	3	2019	23265,88	3,22	16,70	63,93	21,00	5,24	3,19	0,04	2
Bulgaria	3	2020	22379,09	5,19	19,49	55,32	20,34	4,20	3,22	0,04	2
Croatia	4	1996	16273,51	2,05	23,17	30,22	20,34	3,89	2,82	0,04	2

Croatia	4	1997	17355,87	2,48	22,44	30,97	25,39	6,89	2,84	0,05	2
Croatia	4	1998	17749,61	3,89	23,37	29,07	21,68	8,20	2,86	0,05	2
Croatia	4	1999	17670,22	6,14	24,26	30,08	21,17	3,50	2,89	0,05	2
Croatia	4	2000	18362,11	4,65	22,29	34,97	20,02	4,34	2,91	0,04	2
Croatia	4	2001	19661,06	4,45	20,19	37,09	21,24	4,23	2,94	0,01	2
Croatia	4	2002	20773,85	3,62	19,90	35,86	24,49	3,84	2,97	0,05	2
Croatia	4	2003	21915,56	5,28	19,26	35,58	27,89	4,30	2,99	0,05	2
Croatia	4	2004	22818,54	3,13	19,32	36,58	26,67	3,64	3,02	0,05	2
Croatia	4	2005	23771,95	3,96	19,21	36,41	26,76	3,12	3,05	0,05	2
Croatia	4	2006	24940,02	6,58	19,13	37,60	28,94	3,89	3,09	0,05	2
Croatia	4	2007	26171,00	7,67	19,86	37,60	28,84	4,26	3,12	0,05	2
Croatia	4	2008	26670,22	7,42	19,40	36,15	30,52	5,50	3,16	0,05	2
Croatia	4	2009	24754,16	4,87	21,25	32,41	24,97	2,97	3,19	0,05	2
Croatia	4	2010	24500,07	2,56	21,27	35,81	20,94	0,93	3,23	0,05	2
Croatia	4	2011	24563,85	1,98	21,53	38,37	19,75	1,70	3,27	0,05	2
Croatia	4	2012	24078,33	2,56	21,58	39,05	18,62	1,43	3,31	0,05	2
Croatia	4	2013	24057,81	1,66	21,48	39,86	19,16	0,77	3,35	0,05	2
Croatia	4	2014	24072,44	5,46	21,84	42,78	18,77	0,15	3,39	0,05	2
Croatia	4	2015	24884,67	0,09	21,15	45,79	20,35	0,08	3,43	0,04	2
Croatia	4	2016	25944,26	0,82	20,68	47,00	20,73	-0,07	3,48	0,04	2
Croatia	4	2017	27154,08	0,82	20,55	49,25	21,69	1,16	3,52	0,04	2
Croatia	4	2018	28192,33	2,12	20,60	49,51	23,18	2,01	3,57	0,04	2
Croatia	4	2019	29336,09	6,27	20,60	50,75	22,79	1,92	3,62	0,04	2
Croatia	4	2020	27076,98	2,06	23,95	42,02	23,91	-0,13	3,60	0,05	2
Cyprus	5	1990	25232,00	2,26	17,34	51,50	27,05	5,43	2,31	0,07	0
Cyprus	5	1991	24769,06	1,42	18,46	47,09	25,84	3,89	2,33	0,07	0
Cyprus	5	1992	26385,94	1,55	19,04	49,46	28,70	6,04	2,35	0,07	0
Cyprus	5	1993	25936,69	1,27	16,87	47,49	24,09	4,80	2,38	0,07	0
Cyprus	5	1994	26904,70	1,01	16,66	47,69	25,52	5,27	2,40	0,07	0
Cyprus	5	1995	28630,78	2,45	12,42	66,76	26,59	13,60	2,43	0,07	0
Cyprus	5	1996	28529,89	2,33	13,15	70,21	24,26	2,64	2,45	0,07	0
Cyprus	5	1997	28871,17	5,72	14,79	69,19	24,09	2,24	2,47	0,07	0
Cyprus	5	1998	30262,11	3,37	16,06	68,70	19,08	1,97	2,50	0,07	0
Cyprus	5	1999	31421,02	7,74	16,06	66,93	19,94	2,30	2,52	0,07	0
Cyprus	5	2000	32943,11	8,56	15,09	69,96	20,58	2,74	2,55	0,07	0
Cyprus	5	2001	33878,07	9,09	15,94	68,21	17,89	3,66	2,57	0,07	0
Cyprus	5	2002	34738,94	9,66	16,61	62,41	20,46	0,30	2,59	0,07	0
Cyprus	5	2003	35219,59	6,24	17,91	57,76	19,68	5,39	2,60	0,07	0
Cyprus	5	2004	36498,35	6,46	16,58	56,89	22,07	2,71	2,62	0,07	0
Cyprus	5	2005	37722,42	6,30	16,51	55,69	22,45	2,02	2,64	0,07	0
Cyprus	5	2006	38847,04	9,33	16,90	53,44	24,60	3,09	2,65	0,07	0
Cyprus	5	2007	39967,43	9,57	16,44	53,26	24,38	4,14	2,67	0,07	0
Cyprus	5	2008	40397,70	44,16	17,05	50,08	28,96	4,73	2,69	0,07	0
Cyprus	5	2009	38535,11	249,11	18,78	48,72	22,87	0,26	2,70	0,07	0
Cyprus	5	2010	38296,70	120,59	18,52	50,38	24,03	1,88	2,72	0,06	0
Cyprus	5	2011	37481,81	146,73	19,09	53,50	18,93	1,62	2,74	0,06	0
Cyprus	5	2012	35642,64	280,13	18,81	55,31	16,20	1,68	2,76	0,06	0
Cyprus	5	2013	33384,46	108,64	18,45	61,36	12,93	-0,95	2,78	0,06	0
Cyprus	5	2014	33136,48	223,43	16,79	66,03	13,56	-1,33	2,80	0,06	0
Cyprus	5	2015	34453,12	145,95	16,35	70,10	13,68	-0,75	2,82	0,06	0

Cyprus	5	2016	36509,07	40,61	15,25	70,54	17,44	-0,57	2,84	0,06	0
Cyprus	5	2017	38287,97	62,99	14,82	73,94	20,71	1,04	2,86	0,06	0
Cyprus	5	2018	39977,00	-4,35	14,58	75,07	19,34	1,00	2,88	0,06	0
Cyprus	5	2019	41521,92	163,04	16,14	75,59	20,31	1,12	2,90	0,06	0
Cyprus	5	2020	39007,71	-1,33	19,87	75,78	19,17	-1,12	2,93	0,06	0
Czech Rep	6	1993	20760,05	1,60	20,91	39,94	26,71	21,01	3,27	0,05	2
Czech Rep	6	1994	21356,31	1,84	21,20	37,10	30,06	12,34	3,32	0,05	2
Czech Rep	6	1995	22758,60	4,27	20,20	40,21	34,17	8,82	3,38	0,05	2
Czech Rep	6	1996	23756,98	2,13	19,45	38,13	36,11	9,91	3,41	0,05	2
Czech Rep	6	1997	23659,32	2,07	20,05	40,25	32,98	8,31	3,45	0,05	2
Czech Rep	6	1998	23597,31	5,54	19,00	42,05	30,94	9,81	3,49	0,05	2
Czech Rep	6	1999	23948,39	9,69	19,88	42,76	29,83	3,04	3,53	0,05	2
Czech Rep	6	2000	24976,51	8,07	19,53	48,09	31,95	1,84	3,57	0,05	2
Czech Rep	6	2001	25833,41	8,32	19,47	48,86	32,12	4,89	3,58	0,05	2
Czech Rep	6	2002	26289,63	10,34	20,96	45,00	30,62	2,72	3,59	0,05	2
Czech Rep	6	2003	27239,56	2,02	21,92	46,73	29,69	1,29	3,60	0,05	2
Czech Rep	6	2004	28542,25	5,36	20,65	57,06	30,03	4,05	3,61	0,05	2
Czech Rep	6	2005	30384,45	10,01	20,32	61,81	29,55	0,09	3,62	0,05	2
Czech Rep	6	2006	32352,81	4,56	19,93	64,88	30,38	0,65	3,62	0,05	2
Czech Rep	6	2007	33956,25	7,26	19,12	66,10	32,39	3,54	3,62	0,06	2
Czech Rep	6	2008	34580,44	3,72	19,13	62,95	31,33	2,01	3,63	0,06	2
Czech Rep	6	2009	32782,61	2,54	20,67	58,35	26,80	2,59	3,63	0,06	2
Czech Rep	6	2010	33483,14	4,86	20,53	65,54	27,36	-1,43	3,64	0,05	2
Czech Rep	6	2011	34002,19	1,82	19,80	70,82	27,19	-0,02	3,64	0,05	2
Czech Rep	6	2012	33688,10	4,52	19,45	75,65	26,36	1,45	3,64	0,05	2
Czech Rep	6	2013	33661,47	3,48	19,72	76,06	25,01	1,36	3,65	0,05	2
Czech Rep	6	2014	34386,70	3,86	19,33	81,95	26,01	2,58	3,65	0,05	2
Czech Rep	6	2015	36168,42	0,90	18,92	80,56	27,98	0,99	3,66	0,05	2
Czech Rep	6	2016	37014,96	5,53	18,96	79,11	26,02	1,14	3,66	0,05	2
Czech Rep	6	2017	38824,89	5,14	18,76	79,03	26,37	1,31	3,67	0,05	2
Czech Rep	6	2018	39932,99	3,34	19,39	76,96	27,20	2,57	3,67	0,05	2
Czech Rep	6	2019	40981,06	4,26	19,57	73,89	27,61	3,89	3,67	0,05	2
Czech Rep	6	2020	38511,27	3,47	21,63	70,99	25,92	4,40	3,75	0,05	2
Denmark	7	1990	39027,98	0,82	23,91	36,42	20,80	2,60	3,10	0,05	1
Denmark	7	1991	39469,32	1,12	24,25	37,68	19,61	2,66	3,12	0,05	1
Denmark	7	1992	40108,89	0,67	24,16	36,95	18,94	1,66	3,14	0,05	1
Denmark	7	1993	39979,76	1,20	25,30	36,57	17,38	0,58	3,16	0,05	1
Denmark	7	1994	41969,69	3,21	24,40	36,85	18,73	1,57	3,18	0,05	1
Denmark	7	1995	43015,68	2,24	24,05	36,61	20,69	1,28	3,20	0,06	1
Denmark	7	1996	44013,39	0,41	24,11	37,07	20,06	2,01	3,22	0,06	1
Denmark	7	1997	45260,14	1,61	23,64	37,76	22,06	2,01	3,24	0,05	1
Denmark	7	1998	46096,37	3,77	24,13	37,19	22,66	1,23	3,26	0,05	1
Denmark	7	1999	47298,54	9,47	24,37	39,35	20,89	1,68	3,28	0,05	1
Denmark	7	2000	48907,01	21,94	23,87	44,85	22,35	3,02	3,30	0,05	1
Denmark	7	2001	49133,22	5,64	24,32	45,55	21,83	2,52	3,31	0,05	1
Denmark	7	2002	49204,90	2,48	24,87	45,70	21,34	2,35	3,33	0,05	1
Denmark	7	2003	49262,64	0,54	25,04	43,84	20,92	1,48	3,34	0,05	1
Denmark	7	2004	50446,54	-3,50	24,93	43,93	21,69	2,10	3,36	0,05	1
Denmark	7	2005	51483,27	4,86	24,50	47,45	22,21	2,91	3,37	0,05	1
Denmark	7	2006	53322,29	0,84	24,20	50,73	24,30	2,08	3,38	0,05	1

Denmark	7	2007	53569,03	3,70	24,34	51,48	25,28	2,43	3,40	0,05	1
Denmark	7	2008	52982,53	0,62	25,10	54,18	23,98	4,13	3,41	0,06	1
Denmark	7	2009	50114,05	1,17	27,93	47,13	19,09	0,53	3,43	0,06	1
Denmark	7	2010	50825,41	-3,65	27,37	50,52	18,08	3,22	3,44	0,05	1
Denmark	7	2011	51293,21	3,94	26,56	53,82	19,13	0,64	3,46	0,05	1
Denmark	7	2012	51216,31	-5,00	26,47	54,63	19,47	2,38	3,47	0,05	1
Denmark	7	2013	51479,27	0,20	26,01	54,83	19,69	0,89	3,49	0,05	1
Denmark	7	2014	52048,34	1,86	25,79	54,61	20,09	1,03	3,51	0,06	1
Denmark	7	2015	52892,65	0,61	25,47	55,42	20,63	0,43	3,53	0,06	1
Denmark	7	2016	54185,01	2,49	24,87	53,43	21,78	0,25	3,55	0,06	1
Denmark	7	2017	55356,68	1,09	24,41	55,08	22,05	1,18	3,56	0,06	1
Denmark	7	2018	56178,77	2,46	24,28	56,56	22,60	0,75	3,58	0,05	1
Denmark	7	2019	57161,69	-1,09	24,06	59,00	21,96	0,74	3,60	0,05	1
Denmark	7	2020	55819,91	0,44	24,66	54,88	22,93	2,61	3,61	0,05	1
Estonia	8	1996	13558,57	3,47	22,62	61,28	27,48	22,54	3,08	0,04	2
Estonia	8	1997	15503,84	5,32	20,41	70,38	30,72	9,92	3,14	0,04	2
Estonia	8	1998	16332,82	10,50	20,70	73,63	31,62	6,89	3,19	0,04	2
Estonia	8	1999	16215,58	5,66	21,93	69,87	25,90	6,46	3,25	0,05	2
Estonia	8	2000	17765,21	7,32	19,56	61,63	28,48	3,68	3,30	0,05	2
Estonia	8	2001	18952,11	9,48	18,63	61,25	29,58	6,80	3,32	0,04	2
Estonia	8	2002	20364,01	4,59	18,18	57,96	32,94	4,86	3,33	0,04	2
Estonia	8	2003	22049,68	10,51	17,85	57,16	35,20	3,89	3,35	0,04	2
Estonia	8	2004	23691,15	8,95	17,37	61,08	34,66	4,69	3,36	0,04	2
Estonia	8	2005	26096,99	21,67	16,86	65,44	33,36	5,92	3,38	0,04	2
Estonia	8	2006	28814,92	10,33	15,83	63,27	39,83	8,98	3,40	0,04	2
Estonia	8	2007	31140,58	13,51	15,90	62,60	40,01	12,36	3,42	0,05	2
Estonia	8	2008	29621,76	8,12	18,44	66,39	31,64	6,80	3,43	0,05	2
Estonia	8	2009	25337,18	9,51	20,53	60,86	21,01	-0,39	3,45	0,05	2
Estonia	8	2010	26015,75	13,28	19,56	75,05	21,69	1,82	3,47	0,05	2
Estonia	8	2011	27990,14	4,82	18,37	86,60	25,68	5,47	3,49	0,05	2
Estonia	8	2012	28997,32	7,76	18,20	86,21	29,36	4,07	3,51	0,05	2
Estonia	8	2013	29525,12	4,37	18,64	84,57	27,20	4,03	3,53	0,05	2
Estonia	8	2014	30494,10	6,69	18,73	81,87	27,10	2,92	3,55	0,05	2
Estonia	8	2015	31038,80	-3,13	19,58	77,44	25,00	1,04	3,57	0,05	2
Estonia	8	2016	32008,93	3,85	19,72	77,01	25,12	2,19	3,59	0,05	2
Estonia	8	2017	33821,93	6,45	19,26	75,81	26,38	3,59	3,62	0,05	2
Estonia	8	2018	35097,70	4,04	19,20	74,47	26,91	4,02	3,64	0,05	2
Estonia	8	2019	36401,11	9,87	19,54	74,05	26,08	3,19	3,66	0,05	2
Estonia	8	2020	35257,16	11,54	21,25	71,18	30,24	-0,29	3,69	0,05	2
Finland	9	1990	32939,38	0,57	20,87	22,15	30,14	5,20	2,96	0,05	1
Finland	9	1991	30831,61	-0,18	23,91	21,27	24,09	1,51	2,98	0,06	1
Finland	9	1992	29648,74	0,35	24,27	25,54	21,07	0,89	2,99	0,06	1
Finland	9	1993	29310,31	0,97	23,30	31,38	18,58	1,77	3,01	0,05	1
Finland	9	1994	30340,82	0,27	22,40	34,04	19,76	1,85	3,03	0,05	1
Finland	9	1995	31499,81	1,08	21,89	35,76	20,35	4,20	3,04	0,05	1
Finland	9	1996	32548,02	0,57	22,16	36,32	20,24	-0,08	3,06	0,05	1
Finland	9	1997	34506,77	1,93	21,31	37,78	21,75	2,08	3,08	0,05	1
Finland	9	1998	36293,39	9,34	20,57	37,44	23,01	3,10	3,10	0,05	1
Finland	9	1999	37795,06	5,76	20,26	37,60	22,41	0,93	3,11	0,05	1
Finland	9	2000	39894,19	10,71	19,74	42,03	23,86	1,64	3,13	0,05	1

Finland	9	2001	40842,34	2,49	19,93	39,76	23,18	3,30	3,15	0,05	1
Finland	9	2002	41439,02	5,77	20,63	39,14	22,05	0,94	3,17	0,05	1
Finland	9	2003	42168,69	3,48	21,10	37,32	22,23	0,19	3,19	0,05	1
Finland	9	2004	43724,97	3,43	21,18	38,62	22,87	0,60	3,21	0,05	1
Finland	9	2005	44786,91	5,30	21,41	40,27	24,60	0,93	3,23	0,05	1
Finland	9	2006	46412,20	2,14	21,32	43,07	24,00	0,92	3,25	0,05	1
Finland	9	2007	48664,27	8,57	20,77	43,83	25,55	2,75	3,27	0,05	1
Finland	9	2008	48817,99	6,79	21,56	44,90	25,25	3,04	3,29	0,05	1
Finland	9	2009	44662,10	-3,48	24,07	36,08	21,47	1,77	3,31	0,05	1
Finland	9	2010	45874,66	4,90	23,69	38,41	22,08	0,32	3,34	0,05	1
Finland	9	2011	46825,82	-2,18	23,36	38,90	24,04	2,62	3,35	0,05	1
Finland	9	2012	45952,25	1,91	24,10	38,81	23,39	2,97	3,37	0,05	1
Finland	9	2013	45328,58	-1,81	24,54	38,02	22,33	2,56	3,39	0,05	1
Finland	9	2014	44976,78	6,38	24,51	36,48	21,92	1,63	3,41	0,05	1
Finland	9	2015	45072,59	7,46	24,38	35,41	21,71	1,62	3,43	0,05	1
Finland	9	2016	46206,79	2,13	23,67	34,81	23,27	0,09	3,45	0,05	1
Finland	9	2017	47570,13	6,71	22,79	37,55	24,01	0,82	3,47	0,05	1
Finland	9	2018	48049,58	-3,83	22,91	38,47	25,26	2,00	3,49	0,05	1
Finland	9	2019	48582,59	5,81	23,20	39,88	24,08	1,50	3,50	0,05	1
Finland	9	2020	47397,42	-0,87	24,29	35,76	24,51	1,56	3,52	0,05	1
France	10	1990	33732,01	1,04	21,17	20,98	24,41	2,66	2,80	0,06	1
France	10	1991	33897,23	1,19	21,66	21,33	23,60	2,55	2,81	0,06	1
France	10	1992	34268,54	1,56	22,26	21,33	21,96	1,97	2,82	0,05	1
France	10	1993	33905,88	1,57	23,41	20,79	19,54	1,62	2,83	0,05	1
France	10	1994	34576,54	1,13	23,19	21,66	20,32	0,92	2,84	0,05	1
France	10	1995	35177,66	1,48	23,18	22,62	20,51	1,12	2,85	0,05	1
France	10	1996	35548,63	1,37	23,47	23,06	19,62	1,36	2,86	0,05	1
France	10	1997	36250,69	1,59	23,40	25,52	19,45	0,88	2,86	0,05	1
France	10	1998	37413,44	1,96	22,62	26,13	20,68	0,95	2,87	0,05	1
France	10	1999	38494,95	3,08	22,63	26,08	21,36	0,20	2,88	0,06	1
France	10	2000	39732,28	3,03	22,33	28,59	22,49	1,55	2,89	0,06	1
France	10	2001	40226,63	3,64	22,14	28,27	22,16	2,01	2,91	0,06	1
France	10	2002	40388,63	3,43	22,72	27,53	21,32	2,07	2,92	0,06	1
France	10	2003	40433,49	2,30	23,14	26,11	21,19	1,86	2,94	0,06	1
France	10	2004	41272,63	1,68	23,04	26,47	21,89	1,62	2,96	0,06	1
France	10	2005	41643,99	3,88	23,07	27,03	22,45	1,94	2,97	0,06	1
France	10	2006	42367,57	3,40	22,76	27,94	23,24	2,16	2,99	0,06	1
France	10	2007	43127,21	3,15	22,43	27,85	24,16	2,56	3,01	0,06	1
France	10	2008	42996,21	2,32	22,56	28,12	24,13	2,37	3,02	0,06	1
France	10	2009	41546,49	0,68	24,08	24,84	21,33	0,07	3,04	0,06	1
France	10	2010	42147,67	1,47	23,99	26,79	21,95	1,07	3,06	0,05	1
France	10	2011	42864,02	1,54	23,74	28,42	23,22	0,95	3,08	0,05	1
France	10	2012	42790,63	1,23	23,95	29,20	22,63	1,16	3,09	0,05	1
France	10	2013	42816,27	1,12	24,11	29,36	22,29	0,78	3,11	0,06	1
France	10	2014	43021,39	0,20	24,13	29,67	22,71	0,58	3,13	0,05	1
France	10	2015	43345,79	1,76	23,81	30,59	22,71	1,14	3,15	0,05	1
France	10	2016	43705,15	1,33	23,73	30,25	22,61	0,52	3,17	0,05	1
France	10	2017	44577,06	1,38	23,64	30,95	23,44	0,52	3,19	0,05	1
France	10	2018	45284,00	2,78	23,27	31,71	23,86	0,99	3,21	0,05	1
France	10	2019	46017,77	2,11	22,98	31,59	24,36	1,28	3,23	0,05	1

France	10	2020	42320,52	0,50	25,07	27,87	23,81	2,52	3,22	0,05	1
Germany	11	1990	36699,48	0,14	19,10	22,84	24,83	3,40	3,43	0,06	1
Germany	11	1991	38294,15	0,25	18,68	23,66	25,77	3,09	3,44	0,06	1
Germany	11	1992	38734,94	-0,10	19,22	22,19	25,26	5,31	3,46	0,06	1
Germany	11	1993	38105,23	0,02	19,35	20,31	23,94	3,88	3,47	0,06	1
Germany	11	1994	38881,57	0,34	19,31	21,11	24,33	2,05	3,48	0,05	1
Germany	11	1995	39366,09	0,47	19,42	21,99	24,33	1,98	3,50	0,05	1
Germany	11	1996	39568,60	0,62	19,71	22,86	23,26	0,60	3,51	0,05	1
Germany	11	1997	40218,85	0,84	19,35	25,36	23,38	0,27	3,52	0,05	1
Germany	11	1998	41022,61	1,32	19,10	26,41	24,02	0,69	3,54	0,05	1
Germany	11	1999	41769,81	3,92	19,25	26,96	24,00	0,34	3,55	0,05	1
Germany	11	2000	42928,18	12,73	19,04	30,85	24,49	-0,49	3,57	0,05	1
Germany	11	2001	43576,64	2,93	18,95	31,84	22,96	1,30	3,57	0,05	1
Germany	11	2002	43417,31	2,47	19,23	32,59	20,78	1,38	3,58	0,05	1
Germany	11	2003	43089,47	2,61	19,33	32,81	20,44	1,32	3,59	0,05	1
Germany	11	2004	43605,28	-0,73	18,82	35,71	19,84	1,12	3,60	0,05	1
Germany	11	2005	43949,29	2,10	18,78	38,06	19,49	0,41	3,61	0,05	1
Germany	11	2006	45678,08	2,92	18,33	41,43	20,57	0,40	3,62	0,05	1
Germany	11	2007	47100,61	1,48	17,86	43,32	21,38	1,77	3,63	0,05	1
Germany	11	2008	47643,22	0,83	18,26	43,80	21,45	0,91	3,64	0,05	1
Germany	11	2009	45044,49	1,66	19,99	38,12	18,56	1,84	3,64	0,05	1
Germany	11	2010	46999,24	2,53	19,56	42,57	20,07	0,65	3,65	0,05	1
Germany	11	2011	49757,92	2,60	19,07	45,06	21,64	1,07	3,66	0,03	1
Germany	11	2012	49872,45	1,86	19,28	46,31	19,72	1,50	3,66	0,05	1
Germany	11	2013	49954,17	1,80	19,63	45,42	20,05	1,96	3,66	0,05	1
Germany	11	2014	50845,53	0,50	19,59	45,62	20,37	1,88	3,66	0,05	1
Germany	11	2015	51159,30	1,86	19,69	46,92	19,74	1,85	3,67	0,06	1
Germany	11	2016	51879,67	1,86	19,90	46,07	19,97	1,33	3,67	0,06	1
Germany	11	2017	53071,46	2,97	19,84	47,16	20,96	1,50	3,67	0,05	1
Germany	11	2018	53486,84	4,20	19,90	47,30	21,90	1,97	3,67	0,05	1
Germany	11	2019	53929,64	1,84	20,30	46,62	22,14	2,06	3,68	0,05	1
Germany	11	2020	51423,24	3,71	22,41	43,42	21,15	1,60	3,72	0,05	1
Greece	12	1990	24262,95	1,03	17,48	14,78	27,56	20,69	2,53	0,06	0
Greece	12	1991	24716,62	1,08	16,49	14,20	28,41	19,79	2,56	0,06	0
Greece	12	1992	24700,24	0,98	15,95	14,88	25,41	14,80	2,58	0,06	0
Greece	12	1993	24162,48	0,90	16,60	14,05	24,18	14,43	2,60	0,06	0
Greece	12	1994	24522,63	0,84	15,98	14,45	22,79	11,18	2,61	0,06	0
Greece	12	1995	24920,84	0,77	17,79	14,43	22,47	9,79	2,63	0,05	0
Greece	12	1996	25521,39	0,73	17,61	14,29	23,35	7,64	2,65	0,05	0
Greece	12	1997	26534,61	0,69	17,68	16,22	22,44	6,55	2,67	0,05	0
Greece	12	1998	27415,74	0,05	17,50	16,30	25,18	5,10	2,69	0,06	0
Greece	12	1999	28149,97	0,06	17,98	19,26	24,15	3,62	2,71	0,05	0
Greece	12	2000	29133,97	-0,01	18,26	23,72	25,83	1,59	2,73	0,05	0
Greece	12	2001	30180,36	0,00	18,71	22,79	25,69	3,47	2,75	0,06	0
Greece	12	2002	31249,53	0,02	19,23	20,11	24,75	3,35	2,77	0,05	0
Greece	12	2003	32981,49	0,70	18,96	18,54	27,37	3,45	2,79	0,05	0
Greece	12	2004	34565,06	0,89	19,16	20,71	25,31	3,06	2,81	0,05	0
Greece	12	2005	34670,34	0,28	20,02	21,31	22,10	2,24	2,83	0,05	0
Greece	12	2006	36520,21	1,98	20,16	21,17	26,15	3,50	2,85	0,05	0
Greece	12	2007	37619,82	0,61	20,52	22,52	27,13	3,42	2,88	0,05	0

Greece	12	2008	37394,33	1,61	20,72	23,36	24,51	4,34	2,90	0,05	0
Greece	12	2009	35692,10	0,83	23,31	18,98	18,34	2,57	2,92	0,05	0
Greece	12	2010	33693,21	0,18	22,36	21,80	17,99	-0,18	2,94	0,05	0
Greece	12	2011	30318,40	0,39	22,10	25,49	14,03	0,96	2,96	0,05	0
Greece	12	2012	28322,57	0,69	22,26	28,74	12,10	-0,28	2,98	0,04	0
Greece	12	2013	27810,91	1,23	20,72	30,21	11,94	-2,05	3,00	0,04	0
Greece	12	2014	28129,96	1,15	20,59	32,49	11,89	-1,94	3,03	0,04	0
Greece	12	2015	28260,39	0,65	20,65	32,13	12,08	-0,29	3,05	0,04	0
Greece	12	2016	28239,92	1,40	20,61	31,29	12,84	-0,58	3,07	0,05	0
Greece	12	2017	28604,86	1,72	20,49	35,03	12,02	0,29	3,09	0,05	0
Greece	12	2018	29141,17	1,90	19,78	38,99	13,15	-0,17	3,11	0,05	0
Greece	12	2019	29698,03	2,44	20,03	40,13	12,61	0,25	3,14	0,05	0
Greece	12	2020	27072,62	1,75	22,77	31,98	15,00	-0,84	3,15	0,05	0
Hungary	13	1992	15934,83	3,82	25,75	27,61	16,46	21,51	2,83	0,05	2
Hungary	13	1993	15861,11	5,86	27,73	23,19	20,44	21,28	2,85	0,05	2
Hungary	13	1994	16350,92	2,65	25,47	25,40	22,73	19,49	2,87	0,05	2
Hungary	13	1995	16617,59	10,35	22,87	39,19	23,15	26,73	2,88	0,05	2
Hungary	13	1996	16659,88	7,05	21,63	41,88	24,81	21,93	2,90	0,05	2
Hungary	13	1997	17218,17	8,80	21,26	47,91	26,28	20,26	2,91	0,05	2
Hungary	13	1998	17931,36	6,70	20,92	52,93	28,72	13,77	2,93	0,05	2
Hungary	13	1999	18534,46	6,90	21,26	55,64	27,16	8,12	2,95	0,05	2
Hungary	13	2000	19415,02	5,82	21,20	66,86	28,06	9,58	2,96	0,05	2
Hungary	13	2001	20252,41	7,55	21,08	64,88	26,24	11,05	2,99	0,05	2
Hungary	13	2002	21273,12	5,39	21,86	58,14	25,60	8,09	3,02	0,05	2
Hungary	13	2003	22205,54	4,87	23,01	56,33	24,61	5,44	3,05	0,05	2
Hungary	13	2004	23367,61	4,36	22,02	59,55	27,38	5,09	3,08	0,05	2
Hungary	13	2005	24419,83	24,28	22,12	62,50	25,97	2,63	3,11	0,05	2
Hungary	13	2006	25423,43	16,14	21,98	73,76	26,22	3,66	3,15	0,05	2
Hungary	13	2007	25533,37	50,37	20,77	77,80	24,81	5,44	3,18	0,05	2
Hungary	13	2008	25835,55	47,42	21,37	79,16	25,06	4,81	3,21	0,05	2
Hungary	13	2009	24168,98	-2,13	22,01	74,20	21,05	4,20	3,24	0,05	2
Hungary	13	2010	24486,04	-15,71	21,39	81,07	21,18	2,53	3,27	0,05	2
Hungary	13	2011	25012,29	7,56	20,59	86,04	20,79	1,93	3,29	0,05	2
Hungary	13	2012	24825,58	8,39	19,95	85,85	20,15	2,89	3,31	0,04	2
Hungary	13	2013	25343,71	-2,64	19,72	85,38	21,61	2,82	3,32	0,05	2
Hungary	13	2014	26485,41	9,26	19,99	87,10	24,05	3,70	3,34	0,05	2
Hungary	13	2015	27531,64	-4,21	19,71	87,50	23,51	2,78	3,35	0,05	2
Hungary	13	2016	28218,28	54,17	19,96	86,39	21,54	1,32	3,37	0,05	2
Hungary	13	2017	29501,12	-8,48	20,19	85,91	23,10	4,03	3,38	0,05	2
Hungary	13	2018	31121,67	-40,08	19,69	83,74	26,81	4,85	3,40	0,05	2
Hungary	13	2019	32553,69	60,24	19,84	81,78	28,47	4,77	3,42	0,05	2
Hungary	13	2020	31167,71	109,33	20,99	79,01	27,32	6,31	3,47	0,05	2
Ireland	14	1990	26437,22	1,26	17,16	54,71	21,53	-0,73	2,73	0,05	1
Ireland	14	1991	26792,88	2,73	18,15	55,58	19,67	1,80	2,74	0,06	1
Ireland	14	1992	27500,37	2,61	18,55	58,41	16,64	2,81	2,75	0,06	1
Ireland	14	1993	28100,04	2,06	18,34	63,37	15,47	5,18	2,77	0,05	1
Ireland	14	1994	29600,52	1,50	18,16	67,96	16,51	1,69	2,78	0,05	1
Ireland	14	1995	32286,40	2,09	17,22	73,52	18,87	3,03	2,79	0,06	1
Ireland	14	1996	34393,73	3,45	16,59	74,91	20,53	2,30	2,80	0,06	1
Ireland	14	1997	37801,17	2,45	16,12	77,12	22,23	3,94	2,82	0,06	1

Ireland	14	1998	40684,89	9,83	15,55	84,32	24,10	6,56	2,83	0,06	1
Ireland	14	1999	44461,92	18,41	15,03	86,46	24,64	4,38	2,84	0,06	1
Ireland	14	2000	47996,98	25,73	14,75	94,39	24,51	6,88	2,86	0,06	1
Ireland	14	2001	49744,63	8,83	15,40	95,22	24,26	6,86	2,87	0,07	1
Ireland	14	2002	51797,43	22,80	15,81	90,45	24,08	5,19	2,89	0,07	1
Ireland	14	2003	52494,20	13,83	16,06	80,84	25,74	3,92	2,91	0,07	1
Ireland	14	2004	55040,82	-5,46	16,17	80,48	27,22	0,52	2,93	0,07	1
Ireland	14	2005	56943,83	22,18	16,06	79,53	30,31	3,08	2,94	0,07	1
Ireland	14	2006	58189,78	9,51	16,23	79,03	31,89	3,43	2,96	0,08	1
Ireland	14	2007	59530,89	22,19	16,85	80,84	29,25	1,20	2,98	0,08	1
Ireland	14	2008	55712,50	8,45	18,65	84,33	24,67	-0,50	3,00	0,07	1
Ireland	14	2009	52336,63	22,83	20,04	93,56	20,30	-4,62	3,01	0,06	1
Ireland	14	2010	52965,79	17,01	18,67	103,25	17,28	-2,98	3,03	0,06	1
Ireland	14	2011	53298,81	9,92	19,14	103,27	17,17	1,50	3,05	0,05	1
Ireland	14	2012	53045,65	25,76	18,18	104,27	20,19	2,28	3,07	0,05	1
Ireland	14	2013	53435,64	29,72	17,11	103,81	18,78	0,94	3,08	0,06	1
Ireland	14	2014	57668,76	37,60	16,38	109,96	22,23	-0,06	3,10	0,06	1
Ireland	14	2015	71508,73	81,30	12,48	121,98	25,78	7,70	3,12	0,06	1
Ireland	14	2016	72150,04	34,43	12,73	121,54	37,57	0,71	3,13	0,06	1
Ireland	14	2017	77749,20	17,38	12,32	121,13	34,67	0,93	3,15	0,06	1
Ireland	14	2018	83726,36	17,49	11,90	122,99	28,55	0,71	3,17	0,06	1
Ireland	14	2019	86650,00	-11,68	11,88	127,93	54,70	4,22	3,19	0,06	1
Ireland	14	2020	90789,22	7,62	12,65	131,11	40,88	-1,21	3,19	0,06	1
Italy	15	1990	36585,68	0,55	19,60	18,26	22,56	8,91	2,55	0,05	0
Italy	15	1991	37122,82	0,19	19,69	17,04	22,20	7,58	2,58	0,05	0
Italy	15	1992	37407,11	0,24	19,53	17,48	21,57	4,37	2,60	0,05	0
Italy	15	1993	37065,43	0,35	19,38	20,40	19,07	3,89	2,62	0,05	0
Italy	15	1994	37855,01	0,20	18,69	21,87	19,01	3,54	2,64	0,05	0
Italy	15	1995	38947,20	0,41	17,43	24,67	20,04	4,93	2,66	0,05	0
Italy	15	1996	39429,50	0,27	17,62	23,70	19,36	4,51	2,68	0,05	0
Italy	15	1997	40129,90	0,30	17,68	24,15	19,50	2,57	2,71	0,05	0
Italy	15	1998	40844,75	0,21	17,53	24,06	19,73	2,40	2,73	0,05	0
Italy	15	1999	41501,79	0,55	17,55	23,20	20,23	1,54	2,75	0,05	0
Italy	15	2000	43053,93	1,15	17,74	25,63	20,86	1,79	2,77	0,05	0
Italy	15	2001	43869,43	1,27	18,40	25,65	20,84	3,03	2,79	0,05	0
Italy	15	2002	43915,39	1,35	18,55	24,41	21,57	3,27	2,82	0,05	0
Italy	15	2003	43781,22	1,24	18,98	23,30	21,18	3,15	2,84	0,05	0
Italy	15	2004	44118,04	1,11	19,16	24,01	21,26	2,67	2,86	0,06	0
Italy	15	2005	44260,83	1,98	19,61	24,60	21,17	2,01	2,88	0,05	0
Italy	15	2006	44918,17	2,92	19,48	26,17	21,96	2,12	2,90	0,05	0
Italy	15	2007	45356,54	2,98	19,03	27,36	22,25	2,48	2,93	0,06	0
Italy	15	2008	44623,60	-0,39	19,56	26,86	21,78	2,40	2,95	0,06	0
Italy	15	2009	42074,92	0,75	20,68	22,40	19,51	1,68	2,97	0,05	0
Italy	15	2010	42664,36	0,46	20,55	25,07	20,58	0,44	3,00	0,05	0
Italy	15	2011	42892,31	1,50	19,82	26,87	20,47	1,61	3,01	0,05	0
Italy	15	2012	41501,71	0,00	19,81	28,38	17,79	1,55	3,03	0,05	0
Italy	15	2013	40268,11	0,91	19,81	28,63	16,89	1,15	3,05	0,06	0
Italy	15	2014	39898,53	0,79	19,54	29,11	16,96	0,91	3,07	0,06	0
Italy	15	2015	40247,83	0,72	19,11	29,72	17,11	0,93	3,09	0,05	0
Italy	15	2016	40837,74	1,37	19,03	29,33	17,56	1,13	3,10	0,05	0

Italy	15	2017	41581,12	0,57	18,83	30,73	18,05	0,73	3,12	0,05	0
Italy	15	2018	42045,92	2,12	18,88	31,35	18,53	1,07	3,14	0,05	0
Italy	15	2019	42746,30	1,55	18,62	31,60	18,24	0,92	3,16	0,04	0
Italy	15	2020	39071,02	-1,17	20,76	29,53	17,70	1,38	3,20	0,05	0
Latvia	16	1996	9960,89	5,55	21,95	40,42	19,03	12,43	2,74	0,04	2
Latvia	16	1997	10949,72	7,27	21,02	39,70	21,06	5,89	2,76	0,04	2
Latvia	16	1998	11753,80	5,18	22,63	39,24	25,65	4,82	2,79	0,04	2
Latvia	16	1999	12176,46	4,62	22,54	35,03	22,09	1,49	2,81	0,04	2
Latvia	16	2000	12992,20	4,07	20,89	36,78	24,49	3,62	2,83	0,04	2
Latvia	16	2001	13993,95	2,07	20,54	38,00	27,88	2,30	2,86	0,04	2
Latvia	16	2002	15160,84	1,68	20,63	36,54	27,88	5,07	2,88	0,04	2
Latvia	16	2003	16597,39	2,69	21,10	36,05	29,82	5,02	2,91	0,04	2
Latvia	16	2004	18169,18	4,10	19,82	38,91	33,11	7,06	2,94	0,04	2
Latvia	16	2005	20334,60	4,76	17,87	42,97	35,09	11,20	2,96	0,04	2
Latvia	16	2006	22977,48	7,91	17,22	39,75	39,85	12,44	2,98	0,04	2
Latvia	16	2007	25469,16	8,74	17,62	38,26	41,59	20,06	2,99	0,04	2
Latvia	16	2008	24903,59	4,00	19,71	39,26	35,30	11,65	3,00	0,04	2
Latvia	16	2009	21710,77	-0,57	19,04	42,21	22,48	-9,67	3,02	0,03	2
Latvia	16	2010	21176,28	1,98	18,41	53,26	20,38	-0,34	3,03	0,03	2
Latvia	16	2011	22118,41	5,53	18,81	59,78	25,75	6,53	3,04	0,03	2
Latvia	16	2012	23970,44	3,84	17,50	61,44	27,51	3,64	3,06	0,04	2
Latvia	16	2013	24715,72	3,28	17,86	60,40	24,34	1,72	3,07	0,04	2
Latvia	16	2014	25423,64	3,33	17,97	61,13	23,89	1,92	3,08	0,04	2
Latvia	16	2015	26628,46	2,98	18,37	60,25	23,76	0,12	3,10	0,04	2
Latvia	16	2016	27509,17	1,19	18,14	59,58	21,18	0,86	3,11	0,04	2
Latvia	16	2017	28673,56	3,78	18,29	61,57	22,03	2,95	3,13	0,04	2
Latvia	16	2018	30050,72	1,24	18,19	61,48	23,27	3,89	3,14	0,04	2
Latvia	16	2019	31012,14	3,17	19,30	59,84	23,26	2,58	3,16	0,04	2
Latvia	16	2020	30053,26	2,81	20,66	60,44	21,70	-0,12	3,20	0,04	2
Lithuania	17	1996	11274,64	1,82	24,08	41,95	21,11	18,99	2,78	0,04	2
Lithuania	17	1997	12302,10	3,58	24,16	44,97	24,62	11,45	2,81	0,04	2
Lithuania	17	1998	13317,91	8,17	25,88	39,13	24,38	3,35	2,84	0,04	2
Lithuania	17	1999	13259,62	5,15	23,67	32,42	21,40	-1,26	2,87	0,04	2
Lithuania	17	2000	13846,68	3,30	22,43	38,59	18,83	1,30	2,90	0,04	2
Lithuania	17	2001	14872,38	3,62	21,17	44,10	19,09	-0,32	2,94	0,04	2
Lithuania	17	2002	16004,44	4,63	20,59	47,40	20,81	0,32	2,97	0,04	2
Lithuania	17	2003	17839,78	1,16	19,57	46,22	21,97	-0,81	3,01	0,04	2
Lithuania	17	2004	19226,47	3,89	19,19	48,77	22,89	2,68	3,04	0,04	2
Lithuania	17	2005	21053,18	4,95	18,52	55,13	24,27	6,89	3,07	0,03	2
Lithuania	17	2006	22978,00	7,49	19,15	57,04	26,95	6,74	3,09	0,03	2
Lithuania	17	2007	25835,37	6,55	17,47	51,64	32,31	8,55	3,10	0,04	2
Lithuania	17	2008	26784,88	3,61	18,68	57,62	28,12	9,71	3,12	0,04	2
Lithuania	17	2009	23065,06	-0,96	21,27	51,79	12,66	-3,30	3,13	0,04	2
Lithuania	17	2010	23942,76	2,97	19,84	63,94	18,13	2,53	3,15	0,03	2
Lithuania	17	2011	25968,58	4,32	18,32	72,88	21,96	5,35	3,17	0,03	2
Lithuania	17	2012	27330,90	1,58	17,45	78,23	19,76	2,73	3,18	0,04	2
Lithuania	17	2013	28589,03	1,65	16,66	78,67	19,53	1,28	3,20	0,04	2
Lithuania	17	2014	29855,83	0,74	16,61	72,27	19,62	0,83	3,21	0,04	2
Lithuania	17	2015	30748,20	2,50	17,21	68,78	21,27	0,06	3,23	0,04	2
Lithuania	17	2016	31925,80	2,74	17,00	67,59	19,21	1,58	3,25	0,04	2

Lithuania	17	2017	33761,87	2,90	16,30	73,60	19,18	4,24	3,26	0,04	2
Lithuania	17	2018	35446,71	2,42	16,37	75,21	20,35	3,53	3,28	0,04	2
Lithuania	17	2019	37166,21	6,28	16,91	77,31	17,56	2,65	3,30	0,05	2
Lithuania	17	2020	37107,06	7,92	18,52	73,50	13,47	1,46	3,35	0,05	2
Luxembourg	18	2002	103317,33	17,94	15,96	136,36	20,43	1,46	2,92	0,06	1
Luxembourg	18	2003	104743,00	14,46	16,37	132,85	21,31	2,19	2,94	0,06	1
Luxembourg	18	2004	107634,84	14,77	16,38	143,73	21,31	3,12	2,97	0,06	1
Luxembourg	18	2005	108632,36	12,33	16,58	153,82	21,51	4,82	2,99	0,07	1
Luxembourg	18	2006	113346,04	75,09	15,17	167,74	19,00	6,45	3,03	0,07	1
Luxembourg	18	2007	120647,82	-57,53	14,43	169,58	19,51	1,89	3,07	0,07	1
Luxembourg	18	2008	118154,67	12,09	14,49	161,49	20,58	6,61	3,11	0,07	1
Luxembourg	18	2009	112230,08	50,04	16,08	147,93	16,18	0,87	3,15	0,07	1
Luxembourg	18	2010	114343,99	69,61	15,79	162,71	18,08	4,65	3,19	0,07	1
Luxembourg	18	2011	112998,39	14,33	16,04	169,49	19,27	3,45	3,23	0,07	1
Luxembourg	18	2012	112137,14	42,65	16,30	171,21	18,75	3,27	3,27	0,07	1
Luxembourg	18	2013	113050,66	24,55	16,35	176,38	18,15	2,28	3,32	0,07	1
Luxembourg	18	2014	113313,58	27,46	16,05	182,78	19,09	2,80	3,36	0,07	1
Luxembourg	18	2015	113182,73	20,81	15,97	191,84	18,96	2,22	3,41	0,07	1
Luxembourg	18	2016	116283,70	51,27	15,67	191,10	17,93	-1,11	3,46	0,07	1
Luxembourg	18	2017	114985,84	-10,37	16,22	192,75	18,89	2,14	3,51	0,07	1
Luxembourg	18	2018	115049,93	-23,51	16,74	196,42	17,10	1,73	3,57	0,07	1
Luxembourg	18	2019	116518,28	21,07	17,17	205,48	18,43	0,58	3,62	0,07	1
Luxembourg	18	2020	112557,31	84,72	18,33	204,69	17,90	4,27	3,63	0,07	1
Malta	19	1990	16124,14	1,18	16,23	75,83	30,63	3,15	2,57	0,06	0
Malta	19	1991	16677,36	3,27	16,83	77,37	28,96	3,35	2,59	0,08	0
Malta	19	1992	17280,49	2,80	17,35	81,76	25,28	3,55	2,61	0,06	0
Malta	19	1993	17875,36	2,08	18,55	84,81	27,38	2,85	2,64	0,06	0
Malta	19	1994	18709,71	5,06	18,85	85,96	28,10	3,56	2,66	0,06	0
Malta	19	1995	19758,14	10,54	18,01	126,67	25,71	9,00	2,69	0,06	0
Malta	19	1996	20370,30	8,19	19,19	114,10	26,74	1,09	2,71	0,06	0
Malta	19	1997	21279,51	3,61	18,42	110,17	24,55	0,95	2,73	0,06	0
Malta	19	1998	22225,29	8,06	18,30	109,42	25,77	1,22	2,75	0,06	0
Malta	19	1999	23136,74	16,18	17,85	111,68	23,56	0,77	2,77	0,06	0
Malta	19	2000	27512,25	18,26	17,81	120,25	26,91	-9,38	2,79	0,06	0
Malta	19	2001	26985,61	10,20	19,06	108,64	20,72	4,42	2,82	0,06	0
Malta	19	2002	27472,29	-11,14	18,96	113,40	17,36	2,73	2,84	0,06	0
Malta	19	2003	28404,09	16,73	18,97	107,52	22,84	1,87	2,87	0,06	0
Malta	19	2004	28253,53	122,48	19,16	103,13	24,03	2,11	2,89	0,06	0
Malta	19	2005	29023,92	339,79	18,44	103,58	27,69	1,94	2,92	0,06	0
Malta	19	2006	29644,26	369,34	18,82	123,40	23,60	2,16	2,93	0,05	0
Malta	19	2007	30951,55	449,08	18,20	129,24	23,56	2,28	2,95	0,05	0
Malta	19	2008	31927,45	163,22	19,82	148,50	22,13	3,23	2,97	0,06	0
Malta	19	2009	31328,35	16,61	19,68	147,02	20,03	2,02	2,98	0,06	0
Malta	19	2010	32903,07	102,31	19,06	150,95	22,28	3,17	3,00	0,05	0
Malta	19	2011	32916,98	80,99	19,60	160,59	17,68	1,12	3,02	0,05	0
Malta	19	2012	33965,61	35,12	19,83	163,12	17,16	2,15	3,03	0,06	0
Malta	19	2013	35325,19	4,83	18,76	155,97	16,17	2,28	3,05	0,06	0
Malta	19	2014	37270,08	1,34	18,51	149,81	15,66	2,34	3,07	0,07	0
Malta	19	2015	39887,71	32,82	17,09	154,62	24,14	4,22	3,09	0,07	0
Malta	19	2016	40303,46	23,79	15,83	157,80	23,25	2,00	3,11	0,07	0

Malta	19	2017	43559,32	28,81	14,54	154,56	21,31	2,10	3,13	0,08	0
Malta	19	2018	44602,76	29,18	15,49	145,19	20,99	2,22	3,14	0,08	0
Malta	19	2019	45396,73	26,54	16,59	146,08	21,25	2,37	3,16	0,09	0
Malta	19	2020	40696,74	29,72	21,10	149,23	21,99	1,48	3,20	0,07	0
Netherlands	20	1990	36461,42	3,35	21,69	54,41	24,24	1,56	3,00	0,06	1
Netherlands	20	1991	37057,58	1,72	21,89	55,11	23,33	3,12	3,01	0,06	1
Netherlands	20	1992	37405,93	1,70	22,40	53,38	23,32	2,50	3,03	0,06	1
Netherlands	20	1993	37613,25	1,80	22,67	52,61	21,27	1,60	3,04	0,06	1
Netherlands	20	1994	38494,22	1,88	22,49	54,74	21,52	2,06	3,06	0,06	1
Netherlands	20	1995	39498,14	2,70	22,43	57,22	21,73	2,06	3,07	0,05	1
Netherlands	20	1996	40691,89	3,69	21,37	57,39	22,56	1,04	3,08	0,05	1
Netherlands	20	1997	42235,49	2,65	20,99	60,36	22,84	2,64	3,10	0,06	1
Netherlands	20	1998	43933,57	8,59	20,83	59,34	22,94	2,08	3,11	0,06	1
Netherlands	20	1999	45839,13	9,21	20,59	59,91	23,22	1,28	3,13	0,06	1
Netherlands	20	2000	47422,20	15,12	20,55	66,03	22,57	3,42	3,14	0,06	1
Netherlands	20	2001	48160,78	12,05	20,99	63,30	22,72	4,18	3,16	0,06	1
Netherlands	20	2002	47958,33	5,38	22,12	60,15	21,01	3,77	3,17	0,06	1
Netherlands	20	2003	47806,88	3,53	22,90	59,28	20,49	2,17	3,18	0,05	1
Netherlands	20	2004	48586,70	21,25	22,51	62,67	20,32	1,20	3,19	0,05	1
Netherlands	20	2005	49467,44	30,63	22,28	65,63	20,45	1,99	3,21	0,05	1
Netherlands	20	2006	51097,36	51,16	23,19	68,18	21,02	2,56	3,22	0,05	1
Netherlands	20	2007	52909,97	86,48	23,23	68,78	23,35	2,07	3,23	0,05	1
Netherlands	20	2008	53848,25	20,54	23,49	69,79	22,33	2,31	3,24	0,05	1
Netherlands	20	2009	51607,61	11,00	26,00	62,24	20,72	0,22	3,26	0,06	1
Netherlands	20	2010	52032,99	13,66	26,24	69,80	20,22	0,94	3,27	0,06	1
Netherlands	20	2011	52594,23	36,68	25,79	75,50	20,04	0,19	3,28	0,05	1
Netherlands	20	2012	51860,06	28,57	26,03	79,50	18,72	1,45	3,30	0,05	1
Netherlands	20	2013	51640,08	37,47	25,79	79,88	18,51	1,28	3,31	0,05	1
Netherlands	20	2014	52187,00	13,18	25,68	80,58	17,91	0,25	3,33	0,05	1
Netherlands	20	2015	52974,12	42,14	24,98	82,66	22,47	0,77	3,34	0,05	1
Netherlands	20	2016	53847,83	29,76	24,68	79,54	20,49	0,45	3,35	0,06	1
Netherlands	20	2017	55088,63	25,62	24,32	83,39	20,59	1,26	3,37	0,06	1
Netherlands	20	2018	56060,91	-37,71	24,37	84,68	20,96	2,44	3,38	0,06	1
Netherlands	20	2019	56784,04	-18,60	24,62	82,54	22,10	3,03	3,40	0,06	1
Netherlands	20	2020	54324,38	-16,34	25,95	77,86	21,74	2,29	3,41	0,06	1
Poland	21	1995	12459,67	2,57	18,89	22,94	19,66	27,94	2,90	0,05	2
Poland	21	1996	13211,57	2,81	18,51	22,07	21,67	17,95	2,92	0,05	2
Poland	21	1997	14054,39	3,08	18,09	23,33	23,67	13,67	2,95	0,05	2
Poland	21	1998	14701,34	3,65	17,70	25,95	25,14	11,02	2,97	0,05	2
Poland	21	1999	15386,94	4,36	17,88	24,09	25,42	6,16	2,99	0,05	2
Poland	21	2000	16257,65	5,42	18,07	27,19	24,58	6,12	3,02	0,04	2
Poland	21	2001	16466,79	2,97	18,66	27,19	20,52	3,12	3,04	0,05	2
Poland	21	2002	16809,82	2,06	18,64	28,71	18,41	1,85	3,06	0,05	2
Poland	21	2003	17409,64	2,47	18,92	33,35	18,80	0,78	3,08	0,05	2
Poland	21	2004	18287,83	5,44	18,32	34,24	20,23	4,92	3,10	0,05	2
Poland	21	2005	18937,48	3,61	18,33	34,61	19,89	2,56	3,12	0,05	2
Poland	21	2006	20111,30	6,23	18,54	37,82	21,68	1,73	3,14	0,05	2
Poland	21	2007	21543,16	5,83	18,19	38,52	25,20	3,72	3,16	0,05	2
Poland	21	2008	22444,91	2,73	18,68	37,81	24,65	3,89	3,19	0,05	2
Poland	21	2009	23064,95	3,19	18,75	37,14	20,56	3,79	3,21	0,05	2

Poland	21	2010	23996,14	3,83	19,18	39,88	21,51	1,65	3,23	0,05	2
Poland	21	2011	25124,28	3,51	18,14	42,39	22,65	3,27	3,25	0,05	2
Poland	21	2012	25457,21	1,48	18,08	44,25	21,25	2,36	3,28	0,05	2
Poland	21	2013	25759,34	0,15	18,33	46,00	19,25	0,30	3,30	0,05	2
Poland	21	2014	26649,58	3,65	18,31	47,22	20,66	0,52	3,33	0,05	2
Poland	21	2015	27797,06	3,15	18,07	49,09	20,60	0,97	3,35	0,05	2
Poland	21	2016	28682,69	3,88	17,92	51,92	19,70	0,31	3,38	0,05	2
Poland	21	2017	30064,50	2,23	17,68	54,16	19,91	1,86	3,40	0,05	2
Poland	21	2018	31674,13	3,00	17,73	55,24	20,77	1,20	3,43	0,05	2
Poland	21	2019	33185,16	2,82	18,02	55,40	19,73	3,19	3,46	0,05	2
Poland	21	2020	32398,70	2,91	19,20	56,18	17,25	4,10	3,47	0,05	2
Portugal	22	1990	23556,86	3,32	15,19	29,17	27,72	13,14	1,94	0,05	0
Portugal	22	1991	24642,60	2,74	16,87	26,55	25,74	10,09	1,97	0,05	0
Portugal	22	1992	24930,45	1,74	16,90	24,46	24,95	11,45	1,99	0,05	0
Portugal	22	1993	24391,20	1,61	17,48	23,60	22,15	7,38	2,02	0,05	0
Portugal	22	1994	24560,36	1,27	17,54	25,13	22,95	7,28	2,05	0,05	0
Portugal	22	1995	25523,71	0,58	17,46	26,77	24,19	3,43	2,07	0,05	0
Portugal	22	1996	26318,98	1,28	17,68	26,55	24,41	2,39	2,11	0,05	0
Portugal	22	1997	27354,84	2,32	17,60	27,15	26,52	3,89	2,14	0,05	0
Portugal	22	1998	28525,52	4,90	17,83	27,33	28,32	3,83	2,17	0,06	0
Portugal	22	1999	29472,71	0,58	18,03	26,48	29,03	3,37	2,21	0,06	0
Portugal	22	2000	30383,14	6,15	18,87	28,20	28,78	3,42	2,24	0,06	0
Portugal	22	2001	30756,02	5,03	19,25	27,44	28,16	3,72	2,24	0,06	0
Portugal	22	2002	30823,85	0,44	19,55	27,07	25,90	4,19	2,24	0,06	0
Portugal	22	2003	30422,60	6,27	20,11	27,37	23,11	3,43	2,24	0,05	0
Portugal	22	2004	30892,82	1,31	20,42	27,67	23,82	2,40	2,23	0,05	0
Portugal	22	2005	31076,64	1,71	20,99	27,08	23,36	3,33	2,23	0,05	0
Portugal	22	2006	31524,75	6,42	20,32	30,36	22,93	3,18	2,26	0,05	0
Portugal	22	2007	32251,57	2,50	19,61	31,19	23,10	2,97	2,28	0,05	0
Portugal	22	2008	32307,91	2,97	19,77	31,26	23,58	1,74	2,31	0,05	0
Portugal	22	2009	31269,41	2,28	21,31	27,29	20,84	1,10	2,33	0,05	0
Portugal	22	2010	31798,15	3,77	20,59	30,07	21,13	0,64	2,36	0,05	0
Portugal	22	2011	31304,82	4,01	19,71	34,45	18,60	-0,27	2,38	0,05	0
Portugal	22	2012	30156,70	9,90	18,34	37,78	15,70	-0,39	2,39	0,05	0
Portugal	22	2013	30042,89	6,95	18,85	39,61	14,63	2,25	2,41	0,04	0
Portugal	22	2014	30444,60	5,24	18,40	40,22	15,32	0,70	2,43	0,04	0
Portugal	22	2015	31118,79	0,64	17,85	40,62	15,86	2,02	2,44	0,05	0
Portugal	22	2016	31847,54	3,56	17,59	40,21	15,83	1,72	2,46	0,05	0
Portugal	22	2017	33044,72	4,83	17,18	42,72	17,23	1,51	2,48	0,05	0
Portugal	22	2018	34040,73	3,24	16,98	43,45	18,29	1,81	2,50	0,05	0
Portugal	22	2019	34945,66	4,30	17,00	43,51	18,49	1,75	2,51	0,05	0
Portugal	22	2020	31961,78	1,67	19,15	37,03	18,75	1,94	2,54	0,05	0
Romania	23	1991	11685,09	0,14	15,15	17,60	28,05	195,00	2,77	0,04	2
Romania	23	1992	10757,38	0,31	14,28	27,79	31,41	199,86	2,79	0,04	2
Romania	23	1993	10936,72	0,36	12,34	23,02	28,93	227,31	2,81	0,05	2
Romania	23	1994	11383,28	1,13	13,77	24,90	24,81	139,02	2,84	0,05	2
Romania	23	1995	12117,35	1,12	12,25	25,63	23,32	43,93	2,86	0,05	2
Romania	23	1996	12627,19	0,71	11,67	26,46	23,10	44,00	2,87	0,05	2
Romania	23	1997	12049,53	3,42	12,69	28,20	21,30	135,34	2,89	0,05	2
Romania	23	1998	11829,41	4,87	11,89	23,02	18,38	48,13	2,91	0,05	2

Romania	23	1999	11803,37	2,90	16,72	26,66	15,65	49,52	2,92	0,05	2
Romania	23	2000	12109,54	2,78	16,86	21,59	19,67	43,18	2,94	0,05	2
Romania	23	2001	12920,48	2,86	15,80	22,11	22,76	37,96	2,95	0,04	2
Romania	23	2002	13909,66	2,48	14,82	24,01	22,17	22,71	2,96	0,03	2
Romania	23	2003	14338,35	3,19	16,04	24,21	23,20	23,15	2,98	0,04	2
Romania	23	2004	15924,04	8,59	14,73	25,74	24,22	15,46	2,99	0,04	2
Romania	23	2005	16770,64	6,60	16,24	24,54	22,93	12,01	3,00	0,04	2
Romania	23	2006	18224,77	9,02	15,92	24,77	27,47	10,61	3,02	0,04	2
Romania	23	2007	19833,95	5,79	15,39	24,71	31,34	15,82	3,04	0,04	2
Romania	23	2008	22044,29	6,38	15,88	26,16	33,09	16,02	3,06	0,03	2
Romania	23	2009	21002,26	2,66	16,10	26,02	27,20	4,09	3,08	0,04	2
Romania	23	2010	20303,15	1,93	15,47	32,38	27,13	3,59	3,10	0,04	2
Romania	23	2011	20792,16	1,29	14,27	37,06	28,13	3,77	3,12	0,05	2
Romania	23	2012	21311,12	1,79	14,57	37,53	27,04	3,77	3,14	0,05	2
Romania	23	2013	22197,02	2,02	14,29	40,03	25,47	3,40	3,16	0,05	2
Romania	23	2014	23084,36	1,93	14,50	41,43	24,77	1,80	3,18	0,05	2
Romania	23	2015	23878,17	2,43	14,02	41,39	25,13	3,26	3,19	0,05	2
Romania	23	2016	25145,00	3,32	15,09	41,78	23,41	2,45	3,21	0,04	2
Romania	23	2017	27141,90	2,81	15,71	42,02	23,43	4,68	3,23	0,04	2
Romania	23	2018	28523,45	3,04	16,83	41,86	22,78	6,19	3,25	0,04	2
Romania	23	2019	29875,06	2,95	17,67	40,38	23,63	6,80	3,27	0,04	2
Romania	23	2020	28925,79	1,44	18,81	37,15	24,44	3,89	3,28	0,04	2
Slovakia	24	1993	11872,31	1,20	28,11	52,45	23,46	15,58	3,17	0,05	2
Slovakia	24	1994	12559,46	1,34	24,03	55,32	19,95	13,45	3,20	0,05	2
Slovakia	24	1995	13254,53	0,91	23,79	53,93	23,63	9,89	3,22	0,05	2
Slovakia	24	1996	14102,08	1,26	25,30	49,29	34,08	4,54	3,23	0,05	2
Slovakia	24	1997	14910,19	0,64	22,99	53,61	34,83	4,79	3,24	0,05	2
Slovakia	24	1998	15497,15	2,17	23,19	45,52	34,44	4,85	3,24	0,05	2
Slovakia	24	1999	15464,94	1,11	21,08	46,35	29,29	7,22	3,25	0,05	2
Slovakia	24	2000	15666,54	7,47	20,74	53,21	27,06	9,49	3,25	0,05	2
Slovakia	24	2001	16205,93	4,98	20,89	57,12	30,65	5,12	3,30	0,05	2
Slovakia	24	2002	16942,88	11,93	20,38	56,97	30,09	3,94	3,35	0,05	2
Slovakia	24	2003	17886,36	2,07	20,71	62,33	25,58	5,33	3,40	0,05	2
Slovakia	24	2004	18834,39	7,07	18,83	69,05	26,75	5,74	3,44	0,05	2
Slovakia	24	2005	20079,91	6,25	18,48	72,30	29,67	2,54	3,49	0,05	2
Slovakia	24	2006	21784,33	8,06	18,77	81,24	28,47	2,90	3,52	0,05	2
Slovakia	24	2007	24136,97	5,84	17,14	83,38	28,21	1,12	3,54	0,05	2
Slovakia	24	2008	25460,74	4,60	17,53	80,15	28,41	2,86	3,56	0,05	2
Slovakia	24	2009	24039,66	1,70	19,99	68,04	20,50	-1,16	3,59	0,05	2
Slovakia	24	2010	25528,75	2,33	19,27	76,87	24,18	0,53	3,61	0,05	2
Slovakia	24	2011	26168,28	5,46	18,40	84,70	25,39	1,68	3,64	0,05	2
Slovakia	24	2012	26478,60	1,88	17,89	91,19	20,41	1,26	3,66	0,05	2
Slovakia	24	2013	26623,35	1,02	18,14	93,79	20,65	0,51	3,69	0,05	2
Slovakia	24	2014	27322,14	-0,36	18,42	91,71	21,56	-0,19	3,71	0,05	2
Slovakia	24	2015	28719,86	1,72	18,60	91,87	24,37	-0,22	3,74	0,05	2
Slovakia	24	2016	29236,92	5,29	18,94	93,76	23,01	-0,51	3,77	0,05	2
Slovakia	24	2017	30061,55	4,43	18,95	95,33	22,78	1,22	3,79	0,05	2
Slovakia	24	2018	31159,02	2,13	18,63	96,29	23,10	2,03	3,82	0,05	2
Slovakia	24	2019	31927,59	2,17	19,55	92,26	23,49	2,49	3,85	0,05	2
Slovakia	24	2020	30509,77	-0,31	21,46	85,44	19,35	2,37	3,88	0,05	2

Slovenia	25	1996	22182,21	0,81	17,72	46,13	25,11	11,45	3,20	0,05	2
Slovenia	25	1997	23333,72	1,61	17,65	47,56	26,20	8,43	3,22	0,05	2
Slovenia	25	1998	24151,54	0,97	17,64	47,50	27,20	7,43	3,23	0,05	2
Slovenia	25	1999	25421,29	0,47	17,80	44,11	29,12	6,53	3,25	0,05	2
Slovenia	25	2000	26276,94	0,67	18,46	50,14	28,90	5,57	3,26	0,05	2
Slovenia	25	2001	27079,47	2,40	18,83	51,75	26,67	8,68	3,27	0,05	2
Slovenia	25	2002	27994,06	7,87	18,66	52,32	25,44	7,58	3,28	0,05	2
Slovenia	25	2003	28805,39	1,81	18,77	51,00	26,56	5,64	3,28	0,05	2
Slovenia	25	2004	30041,81	2,22	18,83	55,05	28,80	3,36	3,29	0,05	2
Slovenia	25	2005	31128,83	2,68	18,91	59,81	28,46	1,52	3,30	0,05	2
Slovenia	25	2006	32812,74	1,75	18,65	64,87	30,29	2,22	3,32	0,05	2
Slovenia	25	2007	34907,37	3,92	17,45	67,90	33,05	4,18	3,33	0,05	2
Slovenia	25	2008	36075,47	1,94	18,16	66,31	32,89	4,47	3,35	0,05	2
Slovenia	25	2009	33052,23	-0,69	20,16	57,26	23,45	3,40	3,37	0,05	2
Slovenia	25	2010	33350,61	0,66	20,42	64,27	22,36	-1,03	3,39	0,05	2
Slovenia	25	2011	33568,07	1,70	20,56	70,25	21,69	1,04	3,41	0,05	2
Slovenia	25	2012	32613,49	0,07	20,36	72,89	18,76	0,48	3,43	0,05	2
Slovenia	25	2013	32234,03	0,21	19,64	74,22	19,59	1,60	3,45	0,05	2
Slovenia	25	2014	33093,75	2,04	18,89	76,15	19,37	0,46	3,47	0,05	2
Slovenia	25	2015	33799,73	4,01	18,82	77,15	19,16	1,01	3,49	0,05	2
Slovenia	25	2016	34853,04	3,23	19,04	77,60	18,43	0,87	3,51	0,05	2
Slovenia	25	2017	36507,55	2,46	18,45	83,13	20,03	1,46	3,53	0,05	2
Slovenia	25	2018	37984,13	2,84	18,27	84,82	21,24	2,12	3,55	0,05	2
Slovenia	25	2019	38946,69	3,97	18,35	83,96	20,62	2,20	3,57	0,05	2
Slovenia	25	2020	37050,55	0,91	20,56	77,88	20,00	1,23	3,56	0,05	2
Spain	26	1990	27543,92	2,61	16,25	15,72	26,84	7,33	2,43	0,05	0
Spain	26	1991	28173,39	2,16	16,92	15,76	26,02	6,94	2,45	0,05	0
Spain	26	1992	28296,26	2,10	17,81	16,19	24,07	6,71	2,48	0,05	0
Spain	26	1993	27859,54	2,06	18,35	17,71	21,46	4,54	2,50	0,06	0
Spain	26	1994	28388,01	1,65	17,76	20,31	21,65	3,88	2,52	0,05	0
Spain	26	1995	29042,34	1,35	17,61	21,83	22,52	4,93	2,55	0,05	0
Spain	26	1996	29691,10	1,53	17,49	23,03	22,23	3,46	2,57	0,05	0
Spain	26	1997	30661,65	1,60	17,01	25,67	22,61	2,36	2,59	0,05	0
Spain	26	1998	31876,44	2,54	16,86	26,10	23,93	2,57	2,60	0,05	0
Spain	26	1999	33173,12	3,09	16,79	26,35	25,54	2,54	2,62	0,05	0
Spain	26	2000	34757,62	6,77	16,70	28,56	26,64	3,33	2,64	0,05	0
Spain	26	2001	35874,75	4,60	16,54	27,86	26,46	4,11	2,65	0,06	0
Spain	26	2002	36337,56	5,55	16,62	26,55	26,68	4,08	2,67	0,06	0
Spain	26	2003	36750,44	3,39	16,78	25,63	27,50	3,93	2,68	0,07	0
Spain	26	2004	37249,77	2,36	17,17	25,41	28,29	3,88	2,70	0,07	0
Spain	26	2005	37963,37	2,34	17,33	24,98	29,39	4,10	2,72	0,07	0
Spain	26	2006	38858,47	2,61	17,36	25,24	30,57	3,98	2,73	0,07	0
Spain	26	2007	39520,82	4,63	17,71	25,98	30,44	3,42	2,75	0,07	0
Spain	26	2008	39240,40	4,54	18,82	25,62	28,45	2,25	2,77	0,07	0
Spain	26	2009	37430,68	0,64	20,64	23,06	23,30	0,14	2,79	0,06	0
Spain	26	2010	37319,48	2,57	20,63	25,95	22,30	0,15	2,80	0,05	0
Spain	26	2011	36884,26	1,81	20,67	29,53	20,57	-0,02	2,82	0,05	0
Spain	26	2012	35769,46	1,57	19,98	31,46	18,44	-0,11	2,84	0,05	0
Spain	26	2013	35371,74	3,50	19,88	32,96	17,22	0,40	2,86	0,05	0
Spain	26	2014	35968,62	2,40	19,64	33,48	17,90	-0,22	2,88	0,05	0

Spain	26	2015	37377,07	1,93	19,48	33,63	19,00	0,55	2,90	0,05	0
Spain	26	2016	38477,58	3,59	19,06	33,88	18,75	0,32	2,92	0,05	0
Spain	26	2017	39528,93	2,40	18,62	35,15	19,41	1,30	2,94	0,05	0
Spain	26	2018	40256,95	4,13	18,67	35,16	20,48	1,25	2,96	0,05	0
Spain	26	2019	40802,49	1,78	18,83	34,95	20,89	1,30	2,99	0,06	0
Spain	26	2020	36210,87	2,63	21,86	30,62	20,69	1,10	2,99	0,05	0
Sweden	27	1990	34156,82	0,76	25,16	27,92	29,67	9,47	3,14	0,06	1
Sweden	27	1991	33536,01	2,32	25,99	26,09	25,13	8,25	3,14	0,06	1
Sweden	27	1992	32953,62	0,00	27,05	25,96	23,11	1,02	3,14	0,06	1
Sweden	27	1993	32086,01	1,74	27,38	30,41	19,08	2,21	3,15	0,06	1
Sweden	27	1994	33110,83	2,74	26,39	33,60	20,42	2,59	3,15	0,06	1
Sweden	27	1995	34233,70	5,59	25,48	37,12	20,85	3,81	3,16	0,06	1
Sweden	27	1996	34719,11	1,88	25,84	36,03	20,61	1,01	3,16	0,05	1
Sweden	27	1997	35764,68	3,83	25,31	39,13	20,47	1,53	3,17	0,05	1
Sweden	27	1998	37286,10	8,62	25,37	40,02	21,59	0,81	3,17	0,05	1
Sweden	27	1999	38839,43	22,95	25,40	40,11	21,77	0,90	3,18	0,05	1
Sweden	27	2000	40625,36	8,68	24,53	43,26	22,91	1,51	3,18	0,05	1
Sweden	27	2001	41103,73	7,52	24,74	42,92	22,96	2,48	3,20	0,05	1
Sweden	27	2002	41870,26	6,89	25,45	41,25	22,14	1,55	3,21	0,05	1
Sweden	27	2003	42678,28	1,80	25,71	40,33	21,95	1,70	3,23	0,05	1
Sweden	27	2004	44354,39	4,38	25,02	42,69	21,85	0,33	3,25	0,05	1
Sweden	27	2005	45440,30	5,30	24,90	45,02	22,28	0,69	3,26	0,05	1
Sweden	27	2006	47292,31	5,21	24,63	47,49	23,26	1,76	3,28	0,06	1
Sweden	27	2007	48557,38	9,39	24,15	47,61	24,88	2,83	3,30	0,06	1
Sweden	27	2008	47963,49	8,00	24,64	49,09	24,59	3,24	3,31	0,06	1
Sweden	27	2009	45492,77	2,05	26,00	43,45	21,04	2,36	3,33	0,06	1
Sweden	27	2010	47791,37	0,13	25,03	44,68	22,96	0,95	3,35	0,06	1
Sweden	27	2011	48947,44	1,22	24,94	45,27	23,83	1,09	3,36	0,06	1
Sweden	27	2012	48300,84	0,77	25,75	45,03	22,59	1,00	3,37	0,06	1
Sweden	27	2013	48462,16	0,22	26,20	42,53	22,52	0,93	3,38	0,06	1
Sweden	27	2014	49259,00	-1,48	26,08	43,27	23,50	1,74	3,39	0,06	1
Sweden	27	2015	50928,96	2,03	25,72	43,77	24,43	2,12	3,40	0,06	1
Sweden	27	2016	51334,43	3,03	26,37	42,69	24,72	1,53	3,41	0,06	1
Sweden	27	2017	51947,95	4,54	26,02	43,73	25,72	2,14	3,42	0,06	1
Sweden	27	2018	52349,29	-0,25	26,06	45,68	26,01	2,40	3,43	0,06	1
Sweden	27	2019	52850,57	2,93	25,75	47,81	25,12	2,55	3,44	0,06	1
Sweden	27	2020	50925,18	3,38	26,73	44,58	24,77	1,76	3,45	0,06	1