ISSN(E) : 2313-8181
ISSN(P) : 2518-0118
Vol. 3, No. 2, 79-93, 2016
www.asianonlinejournals.com/index.php/Economy

An Analysis of the Economic Performance between Nations that made up the 2004 Enlargement of the EU

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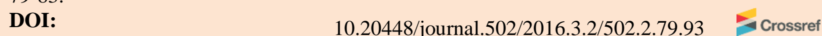


Abstract

The 2004 enlargement of the European Union was the largest single acceptance of members to the organization at a single time in its history. Many EU members were opposed to the enlargement because many of the nations that were being considered for acceptance were thought to have inferior economies to the other EU members, and 8 of the 10 were former communistic states. The hypothesis of this study was that acceptance to the EU was not beneficial for the member nations of the 2004 enlargement in relation to their annual GDP mean performance, which was found to be true. This article discusses the impact of the global financial crisis of 2008, and its impact on all EU members. It also discusses problems surrounding euro adoption of nations within the Eurozone and the flawed design of the EU, specifically the ECB and the EMU.

Keywords: GDP, EU, Europe, Economics, EMU, Financial, Euro.

Contents

1. Introduction 80
2. Purpose, Rationale, and Hypothesis 83
3. Methods 83
4. Results 83
5. Discussion 87
6. Conclusion 91
References 93

Citation | Alan Bayham (2016). An Analysis of the Economic Performance between Nations that made up the 2004 Enlargement of the EU. Economy, 3(2): 79-83.

DOI:	10.20448/journal.502/2016.3.2/502.2.79.93
ISSN(E) :	2313-8181
ISSN(P) :	2518-0118
Licensed:	This work is licensed under a Creative Commons Attribution 3.0 License
Funding:	This study received no specific financial support.
Competing Interests:	The author declares that there are no conflicts of interests regarding the publication of this paper.
Transparency:	The author confirms that the manuscript is an honest, accurate, and transparent account of the study was reported; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained.
Ethical:	This study follows all ethical practices during writing.
History:	**Received:** 25 June 2016/ **Revised:** 4 July 2016/ **Accepted:** 11 July 2016/ **Published:** 15 July 2016
Publisher:	Asian Online Journal Publishing Group

1. Introduction

1.1. Gross Domestic Product

The gross domestic product of a nation is used by economists as one of the primary economic indicators to measure the strength and health of countries economies (Investopedia, 2016). The GDP represents the total monetary value of all goods and services produced by a nation over a period of time, and it should be thought of as a representation of the size of a country's economy. Economists arrive at the figure of a country's GSP in one of two ways: by adding up the annual income of a nation or by adding up the money spent within a nation. The income approach is calculated by adding up employees' salaries, gross profits of companies within a nation, and taxes minus subsidies. The expenditure method, which is considered to be more common, is calculated by adding a nation's total consumption, investments, government spending, and net exports. A country's GDP figures, which show a nation's economic production and growth, impacts everyone within an economy because it reflects a country's economic health. Significant changes in a nation's GDP has a large impact on its unemployment rate, wage increases, and stock markets. Thus, poor GDP figures result in weakened economic growth for a nation, which results in fewer jobs, fewer profits, and lower stock prices. Negative GDP growth is what investors use to determine the strength of a nation's economy and whether or not it has entered an economic recession.

1.2. The European Union

Following World War II, the European Union formed out of an ideology that a single European government would end centuries of warfare on the continent among the nations. The EU began as the European Coal and Steel Community in 1950 with six members: Belgium, France, Germany, Italy, Luxembourg, and the Netherlands (Investopedia, 2016). It soon evolved into the European Economic Community in 1957 following the Treaty of Rome, and its main focus in its early years was establishing a common agricultural policy and eliminating customs barriers. In 1973, the EEC, now known as the European Community, expanded, and Denmark, Ireland, the United Kingdom, Greece, and Spain joined. Six years later, in 1979, the first directly elected European Parliament took office, which began to extend its powers over community members. This was legally established in 1986 when the Single European Act reinforced the powers over the community members by extending them and establishing the principles for foreign policy cooperation within EC. In 1993, the Maastricht Treaty took effect and the EC became the European Union, which provided a single currency for the member nations and was initially intended to be a single currency for the EU. The euro, however, was not adopted by the United Kingdom or Denmark, and many newer EU members have failed to adopt the currency as well. In 1993, the European Single Market was also established by 12 European nations, which ensured the freedom of movement of goods, services, people, and money within these nations. The EU is presently a group of 28 nations that functions as an economic and political partnership, and their official currency, the euro, has been adopted by 19 of the 28 members.

Following the global economic crisis of 2008, the EU and the European Central Bank have bailed out Greece, Spain, Portugal, Cyprus, and Ireland because of high sovereign debt (Investopedia, 2016). As a result, the nations have adopted fiscal austerity as means to decrease their future debt, and the entire EU is suffering from increased lending to the aforementioned nations. Unfortunately, some of the nations required second bail outs, and the multiple rounds of interest rate cuts and other stimulus measures have failed to remedy the economic situation. Nations within the EU resent the financial drain by members who are not as economically prosperous, specifically Germany, the United Kingdom, and the Netherlands. There is, however, a debate regarding the legality of removing member nations because it was not covered in the Maastricht Treaty when the EU was formed in 1993.

1.3. 2004 EU Expansion

Following the end of the Cold War, many countries in Central and Eastern Europe applied for EU membership, but they were not initially accepted as a result of the lack of economic development within the nations (European, 2016). There was a great deal of opposition within the Eurozone regarding the acceptance of countries from the region out of fear that an expansion of the EU would impede the development of the organization, specifically its foreign and security regulations. Despite the opposition, the European Union had its largest expansion to date in 2004 by admitting ten nations: Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Malta, Poland, Slovakia, and Slovenia. All of these nations were former communist states with the exception of Cyprus and Malta.

1.4. The Creation of the Euro

In 1999, 11 European countries adopted the euro, and it fully replaced national currencies of these nations in 2002 after using the euro for common national currencies for trades and payments in the interim (Frieden, 1998). The adoption of a single currency in the Eurozone represented 25 years of political battles within the EU, and it was finally adopted by the EU in an attempt to stabilize the fluctuations of national currencies within its member states. Opposition to the adoption of the currency resulted from both member states and within the EU itself because the organization is comprised of nations that vary significantly in their economic structures, productivity, and challenges. Thus, those who opposed a currency adoption by all member nations of the EU recognized that economic policies that may be correct for one nation could be a disaster for another. Those opposed to the adoption of the euro also felt that adoption of the currency would be politically intolerable because national attempts to fix economic problems would prove futile in comparison of the monetary policies of the ECB.

In the end, the euro was fully adopted by nations within the Eurozone, with the exception of the United Kingdom and Denmark, for political reasons (Frieden, 1998). The goal of the EU in establishing the Eurozone in 1999 and the ECB in 2002 was to help bring down inflation within the union, increase the integration of EU member nations, and to gain support by large corporations as a result of exchange-rate stability through the adoption of a single currency. The challenge for Europeans following the adoption of the euro was to agree on a common monetary policy for the various member countries, regions within them, and political groups, which it has failed at, to date, in many ways.

The reality is that the variation of economic interests within the EU in the different member states has made the ECB's task of setting a monetary policy that works for all within the Eurozone essentially impossible, and it could be easily argued that it was doomed to fail from the start. At a minimum, all monetary policies from the ECB have left individual national interests unconsidered, and it has resulted in subjecting many nations within the Eurozone to austerity measures because creating a uniform monetary policy for 26 nations is fundamentally flawed.

1.5. Refusing to Adopt the Euro

Of the 28 countries that are presently members of the EU, nine nations have not agreed to adopt the euro and decided to stick with their national currencies (Seth, 2015). Both the United Kingdom and Denmark are legally exempt from adopting the euro, but the other seven nations are required to adopt at some point in the future according to the criteria imposed on EU members. All nations in the EU, however, do have the right to postpone the adoption of the currency, and this has resulted in the seven nations that are members of the EU not formally adopting the currency to date.

The problems regarding the adoption of the euro center on the national diversity, culture, and population sizes within the Eurozone (Seth, 2015). All nations in the EU are facing differing economic problems and have varied national challenges to address. The problem regarding the adoption of the euro by nations in the EU who have presently abstained from using it as a national currency is that it forces a uniformly applied central monetary policy across all member nations, which conflicts with national economic interests. Therefore, most nations in the EU that refuse to use the euro have done so to remain economically independent. EU nations that do not use the euro can draft monetary policies that are separate from the ECB's, and a good example of this would be when the UK introduced a quantitative easing program because of the 2007-2008 financial crisis, which occurred 6 years prior to the ECB's QE program that began in 2015. Every country in the EU has specific economic challenges, and, by using the euro, an EU nation is limited by the ECB's regulations. This has made it difficult for Greece and other EU member nations using the euro to keep inflation low within their nations, but, in contrast, the UK has been able to keep interest rates low within its nation by not using the euro and as a result of the monetary policy of the Bank of England.

All nations' economies are sensitive to Treasury bond yields, and nations that have not adopted the euro can act as a lender of last resort for their national debt through state central banks (Seth, 2015). EU member nations that have the ECB as their central bank are at a disadvantage because the ECB will not buy national bonds of nations to increase liquidity in national markets, which raises bond yields. Countries that are not in the Eurozone cannot increase their interest rates when inflation rises because they do not have their own central banks and cannot have their own monetary policies with independent regulation. Nations within the Eurozone also cannot independently devalue their currency to combat economic challenges resulting from "high inflation, high wages, reduced exports, or reduced industrial production"(Seth, 2015). Devaluation of a currency is important when nations want to make their exports cheaper and competitive, and it also encourages increased foreign investment. Unfortunately, for the 19 nations in the Eurozone, this is impossible, and devaluation of the euro is solely controlled by the ECB.

Nations in the Eurozone initially benefitted from the euro, and the ECB's monetary policies, which resulted in the elimination of exchange rate volatility (Seth, 2015). They also gained increased access to a unified European market with price transparency. The Eurozone and the EU have not fully recovered from the global financial crisis of 2008, and the crisis ultimately revealed some financial risks associated with being in the Eurozone and even some economic risks associated with being an EU member. As a result of the ECB's ineffectiveness during the 2007-2008 crisis, many Eurozone economies suffered, especially Greece, Spain, Portugal, Cyprus, and Ireland. The future of the euro is unclear, and it is clear that nations under the Eurozone will continue to economically suffer from the ECB's monetary policies until the ECB address the monetary policy in manner the meets individual economic challenges faced by nations within the Eurozone.

1.6. Financial Crises

The aftermath of financial crises has shown that there are deep and long-lasting effects on prices, output, and employment within the Eurozone and throughout the world (Carmen and Rogoff, 2009). The high unemployment and steep decline in housing prices that is seen following a recession can last between five and six years. All financial crises do end, but employment and housing has historically suffered longer than other aspects of national economies like output, which has historically shown to only decline for an average of two years. Most financial crises and recessions usually result in large government debt, but national central banks have shown to be more aggressive in economic downturns than in the past resulting from policy frameworks and more flexible monetary policies. This much needed aggressiveness from the banking and financial sector that was lacking in past economic downturns and recessions seen throughout the world caused longer on prices, output, and employment. The banking and financial sector were quicker to act in most nations throughout the world in comparison to past economic downturns. The world, however, has learned one important lesson from the 2008 financial crisis: world financial systems are not immune to contagions, and economic engineering cannot protect us entirely from business cycles resulting in financial downturns.

Although economic conditions have recovered throughout most of the world since 2008 global financial crisis, government debt in most nations will continue to rise to historically high levels, and the crisis will continue to persist for most states despite the tools that national policymakers and economics have at their disposal (Carmen and Rogoff, 2009). It is clear from the aftermath 2008 global financial crisis that most nations will not be able to repair their economies through increased output leading to higher employment rates within their nations and to increase spending within their nations through borrowing. Most nations throughout the world will continue to suffer long-lasting effects on pricing, high unemployment rates, and fluctuations in their output as they struggle to combat the effects of the 2008 global financial crisis, especially developing nations. Most governments throughout the world had to increase their borrowing, and many will begin a perpetual borrowing cycle in which they default and have to

be bailed out. Emerging markets will be hit by this cycle the hardest, and the trend of defaults occurring simultaneously with national banking crises will likely continue over the next decade.

1.7. The EU Financial Crisis

The EU at its core is altruistic, but it is partially haphazard because the member states have their own personal interests (Kiamba, 2013). Despite being a utilitarian entity, its main goal is ensuring that the EU's members and institutions are engaged in the prosperity and well-being of the EU, and, at its core, there is a hierarchal structure within the organization, which was created to ensure the EU is preserved and not the states that make it. The ECB has a record of ineffectively dealing with financial crises in the Eurozone, and the inability for many EU members to control their national banks has resulted in negative effects on prices, increased unemployment, and decreased output at the state level. For current member nations and nations under consideration for membership, it is clear that they will have to protect themselves from national shocks resulting from contagions in global financial systems, and member nations already accepted should proceed with affiliation to the organization with serious caution. New member nations would be wise to question using the euro and the ECB's true motives. Clearly, there interest lies at the regional level and not the national level, which has resulted in economic catastrophe for all in the Eurozone. The 2008 global financial crisis demonstrates that it is impossible to protect world markets from economic downturns. Nations, however, that have the ability to set their own monetary policy and regulate their own currencies have fared much better than member organizations stuck in the Eurozone.

The result of the mismanagement by the EU and the ECB of the effects of the 2008 global financial crisis has left many nations in the Eurozone without the ability to protect themselves from economic downturns (Kiamba, 2013). The result of the current Eurozone policies and the dominance of the European Monetary Union have threatened the entire European economy and nations' economies, especially Greece's, Spain's, Portugal's, Cyprus', and Ireland's. The inaction of the ECB during the economic downturn during 2008 global financial crisis and thereafter has left the European economy in a precarious and fragile condition, and the lack of response from the ECB elongated the financial crisis in the region and resulted in a prolonged economic downturn, which threatens to become a normative economic state throughout the Eurozone and the rest of Europe. The result of the ECB's lack of swift and savvy economic action regarding the financial crisis, which correctly reacted years after the fact, has reinforced many critics opinions regarding the organization's inadequacies ability to properly assist Eurozone member nations in resolving their fiscal needs.

Supporters of the ECB ascertain that the European Monetary Union must strengthen the mechanisms that it uses to regulate economic systems within the EU, but the reality is that the system can be construed as flawed, especially in consideration of what has happened to 26% of its members, Greece, Spain, Portugal, Cyprus, and Ireland, following the 2008 global financial crisis (Kiamba, 2013). The EU has described itself as a system without boundaries, but this is unrealistic because it is made up of integral parts or states, which have faced and are continuing to face economic threats as a result of the ECB's inaction and present regulatory policies. The result of the current economic crisis in Europe has not only weakened the Eurozone, but it has caused states within the Eurozone and the wider group of EU members to be labeled as either economically stable or unstable. It is quite possible that these labels would not have created hegemons within the organization, like Germany, if nations within the Eurozone were able to manage their own central banks and maintain their own stability through quick national action as a result of national monetary tools and more state-specific economic policies.

1.8. Challenges Facing the EU

Advocates of the EU's present make up maintain the ECB and the European Monetary Union are not fully to blame the stagnant economies throughout the Eurozone, and they argue that the suffering of 26% of the member nations within the Eurozone is a result of the provisions agreed upon in the Maastricht Treaty of 1992, which crafted the current outlined the current monetary policies within the Eurozone and were signed by the majority of the nations who have joined the EU (Craig, 2015). Most of these nations signed the treaty in 1992, so it is believed by ECB supporters that the treaty adequately reflects what member nations were willing to give up to have the benefits of the Eurozone. Unfortunately, however, the Maastricht Treaty of 1992 and the EMU were centered around having a single currency and creating the Eurozone, which were based, in part, on German economic beliefs regarding the division of labor. This was later reinforced in 2007 by the provisions of the Lisbon Treaty, and it stated that "countries that subscribed to the euro" were within "the exclusive competence of the European Union" (Craig, 2015). The Maastricht Treaty of 1992 permitted nations within the Eurozone to retain economic control over their state budgets with limited oversight from the ECB, but, as a result, member states retained national liability for their debt, which did allow the EU to bail countries out. This resulted in nations within the Eurozone not having the proper monetary tools because of the joint currency to manage their economic problems within their states and their national debt.

The economic policies put forth within the Maastricht Treaty of 1992 remained nearly unaltered in the Lisbon Treaty of 2007, and, from 1992 until the global financial crisis in 2008, the majority of EU members states were unwilling to endorse fully the national economic oversight of the organization, which effectively weakened the ECB within the Eurozone (Craig, 2015). When the global financial crisis in 2008 began to affect the Eurozone, member states became more willing to accept the economic regulations put forth by the EU, which resulted in the organization tightening centralized control over national budgets through enacted regulatory measures. The global financial crisis of 2008 ultimately led to increased economic support for nations within the Eurozone by the ECB out of necessity and increased acceptance of the EU's control over national monetary policies of member nations within the union. Both member states and the EU are accountable for how the financial crisis was dealt with because the Maastricht Treaty of 1992 was agreed on by both states and the organization. The ECB, however, should have been more proactive following the 2008 global financial crisis toward member nations in the Eurozone and the economic obstacles that were presented to all.

The economic crisis in the EU is the result of regulatory failures because of both debt and problems in the banking sector (Craig, 2015). The sovereign debt crisis of 2009 resulted from the ECB's weak control over member states economic policies, and the problems within the banking sector also resulted from regulatory failure in which too much national discretion was left up to the member states. Both problems arose as a result of the Maastricht Treaty of 1992, and the lack of regulatory changes implemented and agreed upon in the Lisbon Treaty of 2007. Reforms following the financial crisis have changed the role of national regulation in relation to economics within the Eurozone for future economic contractions, but the current crisis has not finished and the austerity measures being implemented within 26% of the EU's member states have resulted in tremendous economic hardship, which has threatened the existence of member states and the EU as well. The EU, as a result of the global financial crisis of 2008, increased supervision of member states' economic sectors, provisions regarding accounts, and national transportation, which was needed long before in consideration of the fact that 19 nations are using the same currency. The Eurozone, however, is flawed in design, and nations will either have to adopt their own currencies to survive within the Eurozone, or the Eurozone will have to become a single state.

2. Purpose, Rationale, and Hypothesis

The purpose of this study was to investigate the annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU. The rationale behind the study was to investigate the subsequent economic improvement of joining the EU or lack thereof. The 2004 enlargement of the EU is substantial because it represents the largest addition to nations of the EU since its inception. There are 50 countries within Europe, so the addition of ten nations in 2004 was substantial because it assisted in making the use of the euro widespread by almost 40% of the nations within Europe, and it helped to perpetuate the ECB's monetary policy throughout Europe for nations within the Eurozone. The addition of the ten nations in the 2004 enlargement of the EU was opposed by many EU members and other countries throughout Europe because 8 of them were former communist states, and the ten nations added were believed to be economically inferior to other nations who were already accepted to the EU. The hypothesis for this investigation was that the 2004 enlargement negatively impacted the annual GDP mean performance of the 10 member states because of the economic problems within the Eurozone that have persisted since the 2008 global economic crisis and as a result of the EU's lack of response to the crisis, specifically monetary policies set by the ECB in conjunction with the forced adoption of the euro.

3. Methods

The annual GDP mean performance for all EU members that joined in 2004 was collected for two time periods: 1993 to 2003 and 2004 to 2014. Each country's annual GDP mean performance was individually averaged, and the percentage of change was calculated. The percentage of change between the nations that joined the organization in 2004 was then averaged. The annual GDP mean performance for all 28 EU member states for the two time periods, 1993 to 2003 and 2004 to 2014, was collected. Each country's annual GDP mean performance was individually averaged, the percentage of change was calculated for each time period, and both time periods were collectively averaged. All members of the EU who joined after 1992 were removed from the data set from 1993 to 2003 to maintain statistical integrity, and all members who joined after 2003 were removed from the data set from 2004 to 2014 statistical integrity. For the second time period, from 2004 to 2014, averages were calculated holistically, and, then, they were calculated separately between the nations that were accepted to the EU prior to 2005, which included the nations in the 2004 enlargement of the EU. Bulgaria, Romania, and Croatia were not included in either analysis to maintain statistical integrity because both Bulgaria and Romania were accepted into the EU in 2007, and Croatia was accepted into the EU in 2013. Finally, for comparative purposes, the annual GDP mean performance was collected for two smaller and separate time periods, 2001 to 2003 and 2004 to 2006, for the nations that were part of the 2004 enlargement of the EU. The annual GDP mean performance was calculated individually for each nation as well as the percentage of change between the two periods. The average annual GDP mean for each time period and percentage of change was calculated for the group as a whole as well.

4. Results

The annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU was collected for the 1993 to 2003 time period and, then, averaged.

Country Name	Average Annual GDP Mean 1993-2003
Cyprus	3.796677206
Czech Republic	2.410692236
Estonia	6.346587033
Hungary	2.834918222
Latvia	5.987018225
Lithuania	5.928891572
Malta	3.956201707
Poland	4.480466911
Slovenia	3.871732661
Slovak Republic	4.095448681
	4.370863445

The World Bank Group (2016)

The annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU was collected for the 2004 to 2014 time period and, then, averaged.

Country Name	Average Annual GDP Mean 2004-2014
Cyprus	0.98968046
Czech Republic	2.406916208
Estonia	3.022497801
Hungary	1.288961652
Latvia	3.161499646
Lithuania	3.516577597
Malta	2.04655117
Poland	3.95450475
Slovenia	1.601334333
Slovak Republic	4.048585687
	2.60371093

The World Bank Group (2016)

The percentage of change for annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU was then calculated.

Country Name	Average Annual GDP Mean 1993-2003	Average Annual GDP Mean 2004-2014	% of Change
Cyprus	3.796677206	0.98968046	-0.739329839
Czech Republic	2.410692236	2.406916208	-0.001566367
Estonia	6.346587033	3.022497801	-0.523760127
Hungary	2.834918222	1.288961652	-0.54532669
Latvia	5.987018225	3.161499646	-0.471940868
Lithuania	5.928891572	3.516577597	-0.406874362
Malta	3.956201707	2.04655117	-0.482697971
Poland	4.480466911	3.95450475	-0.117390034
Slovenia	3.871732661	1.601334333	-0.586403692
Slovak Republic	4.095448681	4.048585687	-0.011442701
	4.370863445	**2.60371093**	**-0.404302843**

The World Bank Group (2016)

The annual GDP mean performance for all 28 countries within the EU was collected for the 1993 to 2003 time period and, then, averaged.

Country Name	Year of Acceptance	Average GDP Mean 1993-2003
Austria	1995	2.225557802
Belgium	1958	2.044756376
Bulgaria	2007	1.994782261
Croatia	2013	3.931479422
Cyprus	2004	3.796677206
Czech Republic	2004	2.410692236
Denmark	1973	2.295871482
Estonia	2004	6.346587033
Finland	1995	2.834918222
France	1958	3.55319407
Germany	1958	2.024914055
Greece	1981	1.256391767
Hungary	2004	3.143585514
Ireland	1973	2.834918222
Italy	1958	7.640565401
Latvia	2004	1.488405249
Lithuania	2004	5.987018225
Luxembourg	1958	5.928891572
Malta	2004	4.311953598
Netherlands	1958	3.956201707
Poland	2004	2.866268693
Portugal	1986	4.480466911
Romania	2007	2.306600926
Slovakia	2004	2.532676629
Slovenia	2004	4.095448681
Spain	1986	3.871732661
Sweden	1995	3.147438752
United Kingdom	1973	2.725417777
		3.293955819

The World Bank Group (2016)

The annual GDP mean performance for all 28 countries within the EU was collected for the 2004 to 2014 time period and, then, averaged.

Country Name	Year of Acceptance	Average GDP Mean 2004-2014
Austria	1995	1.430515043
Belgium	1958	1.463274711
Bulgaria	2007	3.122937201
Croatia	2013	0.659732998
Cyprus	2004	0.98968046
Czech Republic	2004	2.406916208
Denmark	1973	0.601409823
Estonia	2004	3.022497801
Finland	1995	1.000792003
France	1958	1.040742648
Germany	1958	1.303959665
Greece	1981	-1.318715745
Hungary	2004	1.288961652
Ireland	1973	2.232949795
Italy	1958	-0.293601523
Latvia	2004	3.161499646
Lithuania	2004	3.516577597
Luxembourg	1958	2.793174893
Malta	2004	2.04655117
Netherlands	1958	1.078605567
Poland	2004	3.95450475
Portugal	1986	-0.030562194
Romania	2007	3.277250112
Slovakia	2004	4.048585687
Slovenia	2004	1.601334333
Spain	1986	0.76883826
Sweden	1995	1.948207332
United Kingdom	1973	1.442331122
		1.73424825

The World Bank Group (2016)

The percentage of change for annual GDP mean performance between the two time periods, 1993 to 2003 and 2004 to 2014, for all member countries of the EU was then calculated.

Country Name	Year of Acceptance	Average GDP Mean 1993-2003	Average GDP Mean 2004-2014	% of Change
Austria	1995	2.225557802	1.430515043	-0.357233031
Belgium	1958	2.044756376	1.463274711	-0.284376991
Bulgaria	2007	1.994782261	3.122937201	0.565552924
Croatia	2013	3.931479422	0.659732998	-0.832192178
Cyprus	2004	3.796677206	0.98968046	-0.739329839
Czech Republic	2004	2.410692236	2.406916208	-0.001566367
Denmark	1973	2.295871482	0.601409823	-0.738047261
Estonia	2004	6.346587033	3.022497801	-0.523760127
Finland	1995	2.834918222	1.000792003	-0.646976765
France	1958	3.55319407	1.040742648	-0.707096593
Germany	1958	2.024914055	1.303959665	-0.35604197
Greece	1981	1.256391767	-1.318715745	-2.049605529
Hungary	2004	3.143585514	1.288961652	-0.589970864
Ireland	1973	2.834918222	2.232949795	-0.212340667
Italy	1958	7.640565401	-0.293601523	-1.038426675
Latvia	2004	1.488405249	3.161499646	1.124085257
Lithuania	2004	5.987018225	3.516577597	-0.412632889
Luxembourg	1958	5.928891572	2.793174893	-0.528887506
Malta	2004	4.311953598	2.04655117	-0.525377274
Netherlands	1958	3.956201707	1.078605567	-0.727363353
Poland	2004	2.866268693	3.95450475	0.379669938
Portugal	1986	4.480466911	-0.030562194	-1.006821207
Romania	2007	2.306600926	3.277250112	0.420813664
Slovakia	2004	2.532676629	4.048585687	0.598540311
Slovenia	2004	4.095448681	1.601334333	-0.608996606
Spain	1986	3.871732661	0.76883826	-0.801422689
Sweden	1995	3.147438752	1.948207332	-0.381018191
United Kingdom	1973	2.725417777	1.442331122	-0.470785311
		3.42976473	**1.73424825**	**-0.494353582**

The World Bank Group (2016)

The annual GDP mean performance for the nations accepted to the EU prior to 1992 was collected for the 1993 to 2003 time period and 2004 to 2014 time period. The annual GDP mean performance was both individually calculated and, then, averaged for the group of nations. The percentage of change was calculated both individually and for the group of nations as well.

Country Name	Year of Acceptance	Average GDP Mean 1993-2003	Average GDP Mean 2004-2014	% of Change
Belgium	1958	2.044756376	1.463274711	-0.284376991
Denmark	1973	2.295871482	0.601409823	-0.738047261
France	1958	3.55319407	1.040742648	-0.707096593
Germany	1958	2.024914055	1.303959665	-0.35604197
Greece	1981	1.256391767	-1.318715745	-2.049605529
Ireland	1973	2.834918222	2.232949795	-0.212340667
Italy	1958	7.640565401	-0.293601523	-1.038426675
Luxembourg	1958	5.928891572	2.793174893	-0.528887506
Netherlands	1958	3.956201707	1.078605567	-0.727363353
Portugal	1986	4.480466911	-0.030562194	-1.006821207
Spain	1986	3.871732661	0.76883826	-0.801422689
United Kingdom	1973	2.725417777	1.442331122	-0.470785311
		3.551110167	**0.923533919**	**-0.743434646**

The World Bank Group (2016)

The annual GDP mean performance for the nations accepted to the EU prior to 2005 was collected for the 2004 to 2014 time period. The annual GDP mean performance was calculated both individually and for the group of nations, and the percentage of change was calculated both individually and for the group of nations. This measurement only includes 25 of the 28 EU member nations because Bulgaria and Romania were both accepted into the EU in 2007, and Croatia was accepted into the EU in 2013.

Country Name	Year of Acceptance	Average GDP Mean 1993-2003	Average GDP Mean 2004-2014	% of Change
Austria	1995	2.225557802	1.430515043	-0.357233031
Belgium	1958	2.044756376	1.463274711	-0.284376991
Cyprus	2004	3.796677206	0.98968046	-0.739329839
Czech Republic	2004	2.410692236	2.406916208	-0.001566367
Denmark	1973	2.295871482	0.601409823	-0.738047261
Estonia	2004	6.346587033	3.022497801	-0.523760127
Finland	1995	2.834918222	1.000792003	-0.646976765
France	1958	3.55319407	1.040742648	-0.707096593
Germany	1958	2.024914055	1.303959665	-0.35604197
Greece	1981	1.256391767	-1.318715745	-2.049605529
Hungary	2004	3.143585514	1.288961652	-0.589970864
Ireland	1973	2.834918222	2.232949795	-0.212340667
Italy	1958	7.640565401	-0.293601523	-1.038426675
Latvia	2004	1.488405249	3.161499646	1.124085257
Lithuania	2004	5.987018225	3.516577597	-0.412632889
Luxembourg	1958	5.928891572	2.793174893	-0.528887506
Malta	2004	4.311953598	2.04655117	-0.525377274
Netherlands	1958	3.956201707	1.078605567	-0.727363353
Poland	2004	2.866268693	3.95450475	0.379669938
Portugal	1986	4.480466911	-0.030562194	-1.006821207
Slovakia	2004	2.532676629	4.048585687	0.598540311
Slovenia	2004	4.095448681	1.601334333	-0.608996606
Spain	1986	3.871732661	0.76883826	-0.801422689
Sweden	1995	3.147438752	1.948207332	-0.381018191
United Kingdom	1973	2.725417777	1.442331122	-0.470785311
	1985.8	**3.512021994**	**1.659961228**	**-0.527348852**

The World Bank Group (2016)

The annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU was collected for the 2001-2003 time period and, then, averaged.

Country Name	2001	2002	2003	Average Mean
Cyprus	3.576056688	3.220606243	2.788196717	3.194953216
Czech Republic	3.051521283	1.64694964	3.601842545	2.766771156
Estonia	6.328672643	6.07641942	7.416210542	6.607100868
Hungary	3.849141606	4.480838685	3.843903617	4.057961303
Latvia	6.457260341	7.111753025	8.424604182	7.33120585
Lithuania	6.524430875	6.760749533	10.53856477	7.941248394
Malta	-1.549888586	2.811588371	0.132087471	0.464595752
Poland	1.2053016	1.443499193	3.562532958	2.070444584
Slovenia	2.949355156	3.836311613	2.842102933	3.209256567
Slovak Republic	3.316465879	4.522790656	5.418717306	4.419324614
				4.20628623

The World Bank Group (2016)

The annual GDP mean performance for the group of countries that made up the 2004 enlargement of the EU was collected for the 2004-2006 time period and, then, averaged.

Country Name	2004	2005	2006	Average Mean
Cyprus	4.379398998	3.863109461	4.516829031	4.253112497
Czech Republic	4.947456257	6.4422623	6.87654427	6.088754275
Estonia	6.294727029	9.373736784	10.27186523	8.646776348
Hungary	4.937714375	4.354623581	3.806359977	4.366232645
Latvia	8.341507485	10.70157261	11.90219148	10.31509052
Lithuania	6.550083027	7.727407918	7.406444355	7.227978434
Malta	-0.503224546	3.66560275	2.223906402	1.795428202
Poland	5.135655776	3.547057816	6.192727097	4.95848023
Slovenia	4.351785441	4.002988098	5.656016806	4.670263448
Slovak Republic	5.258838117	6.397286236	8.485509504	6.713877952
				5.903599456

The World Bank Group (2016)

The percentage of change for annual GDP mean performance between the two time periods, 2001 to 2003 and 2004 to 2006, for the group of countries that made up the 2004 enlargement of the EU was then calculated.

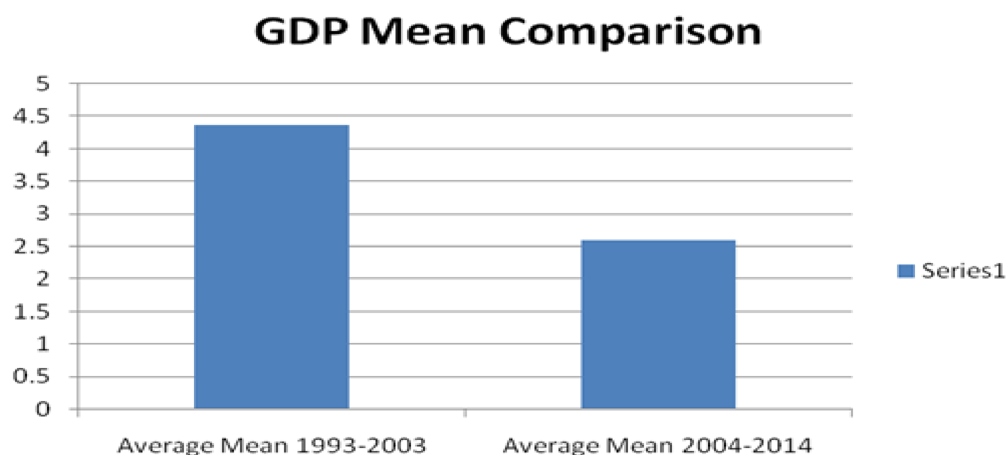
Country Name	Average Mean 2001-2003	Average Mean 2004-2006	% of Change
Cyprus	3.194953216	4.253112497	0.331197113
Czech Republic	2.766771156	6.088754275	1.200671444
Estonia	6.607100868	8.646776348	0.308709602
Hungary	4.057961303	4.366232645	0.075967048
Latvia	7.33120585	10.31509052	0.407011443
Lithuania	7.941248394	7.227978434	-0.089818367
Malta	0.464595752	1.795428202	2.86449552
Poland	2.070444584	4.95848023	1.394886716
Slovenia	3.209256567	4.670263448	0.455247765
Slovak Republic	4.419324614	6.713877952	0.519209051
	4.20628623	**5.903599456**	**0.403518242**

The World Bank Group (2016)

5. Discussion

The first measurement calculated annual GDP mean performance of the 10 member nations which made up the 2004 enlargement of the EU was compared between the 1993 to 2003 time period and the 2004 to 2014 time period. The annual GDP mean performance for the 10 member nations of the 2004 enlargement of the EU decreased by .40 between the two time periods analyzed.

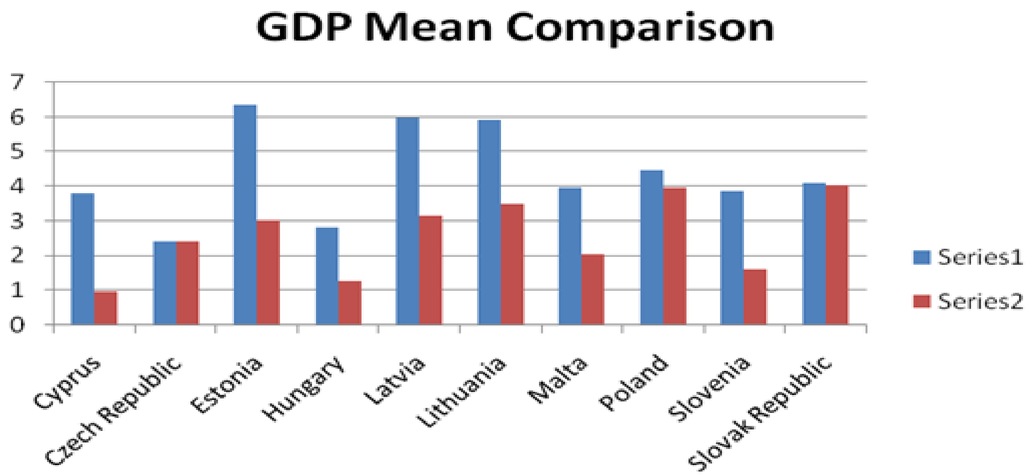
As can be seen in the chart above, the annual GDP mean performance of the ten nations added to the EU during the 2004 enlargement decreased by over 40%, which is a substantial shift, and shows that membership to the EU has not benefitted these nations. This data also suggests that the adoption of the euro and addition of these nations to the Eurozone was not economically beneficial to these nations. It can also be concluded that the ECB's monetary policies have not been effective at the national level for these nations, which is clearly represented in the lack of economic performance by the group and more specifically in the decline of the annual GDP mean performance of the ten nations from the 2004 enlargement of the EU.



The growth of Eurozone was high in its first two years of circulation during 2003 and 2004, but it later fell as many of the countries within the Eurozone fell into recession (Gough, 2013). Growth rates for the currency picked up in 2007, and they fell once again during the 2008 global financial crisis. Some positive growth was seen again later in 2010, but "the currency weakened again in 2011" (Gough, 2013). There were uneven performances in the early part of the decade by nations within the Eurozone, which saw slow growth in major economies throughout the Eurozone, like Germany, France, and Italy, and high growth within smaller economies within the Eurozone. Even performances were seen throughout the Eurozone later in the decade, but this shifted dramatically when the global financial crisis hit in 2008 for all nations within the Eurozone, which resulted in a variation between economic performances across the region once again. This fluctuation in performance has continued to persist into the present

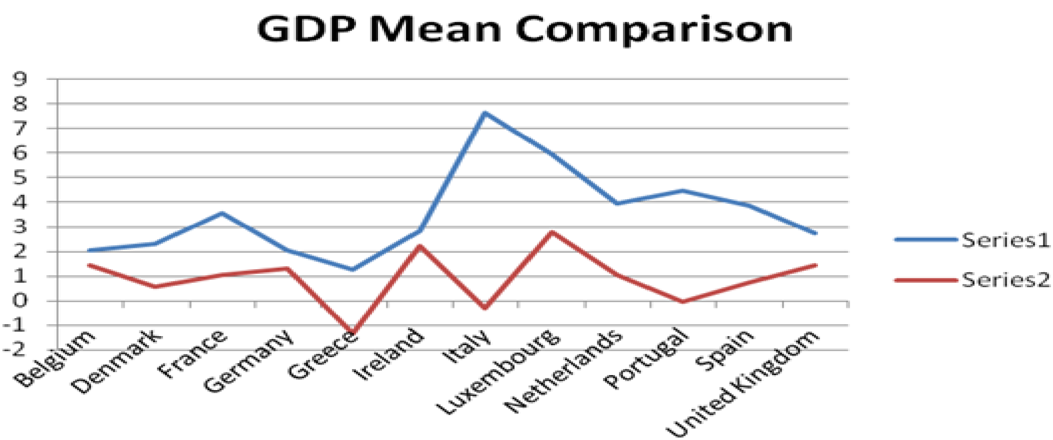
day with many Eurozone nations suffering from austerity measures and ineffective policies being implemented by the ECB. The result has been that 26% of the Eurozone member nations have been subjected to austerity measures, and multiple countries that have adopted the euro have now put their nation's economic systems in the control of non-national organization, which cannot possibly consider all the individual economic interests of Eurozone member nations.

The second measurement compared the annual GDP mean performance from the 1993 to 2003 period against the 2004 to 2014 time period of the ten nations that made up the 2004 enlargement of the EU.



In the above graph, Series 1 represents the annual GDP mean performance from 1993 to 2003, and Series 2 represents the annual GDP mean performance from 2004 to 2014. The year 2004 was substantial at both the national level and for the Eurozone because it represented the eventual surrender of the above nations national banks to the ECB's monetary policies, and it also represents the largest expansion of EU membership and an agreement to adopt the euro in a single year in the history of the organization. There was a percentage of change in the annual GDP mean performance of the group of nations between the 1993 to 2003 and 2004 to 2014 by 40% collectively. Cyprus suffered the worst annual GDP mean performance change at 74%, and the nation the had the lowest annual GDP mean performance change was the Czech Republic at less 1%. The data clearly shows that the majority of countries from the 2004 enlargement of the EU are suffering from an annual GDP mean performance contraction, which can be seen through an analysis of the lack of growth within these nations economies and the contractions that they have incurred as a result of the current monetary system used in the Eurozone and the regulatory measures, or lack thereof, taken by the ECB. The EU and the ECB lacked the financial foresight to properly assist member nations during the 2008 global financial crisis, and there must be a mechanism within banking systems to intervene and recapitalize banks with insufficient resources during these economic periods (Grauwe, 2013). The only existing system within the EU that could have filled this role prior to the 2008 global financial crisis was the European Stability Mechanism, but it is doubted by many members of the Eurozone that this institution within the EU had sufficient resources to deal with the systemic banking crisis unfolded throughout the entire Eurozone. Therefore, it was impossible for the ECB to implement measures to counteract the effects of the 2008 global financial crisis to properly assist the individual economic crises happening at the national level within the member states. The ECB did act as a lender of last resort when it was forced to increase liquidity to save itself, but it failed to act as a LOLR to sovereign nations within the EU in 2010 during the debt crisis suffered by many member nations within the Eurozone. The ECB did finally act decide to act as a LOLR to nations within the EU following the double dip recession suffered by the Eurozone in 2012, but most economists feel that this move by the EU was not sufficient and did not guarantee the survival of the monetary union within the Eurozone. The ECB acting as LOLR has clearly reduced the risk of financial implosion within the banking systems throughout the member states within the Eurozone, but it has not reduced the ongoing social and political problems individual member states have with the EU and ECB throughout the Eurozone, espcially in Southern Europe.

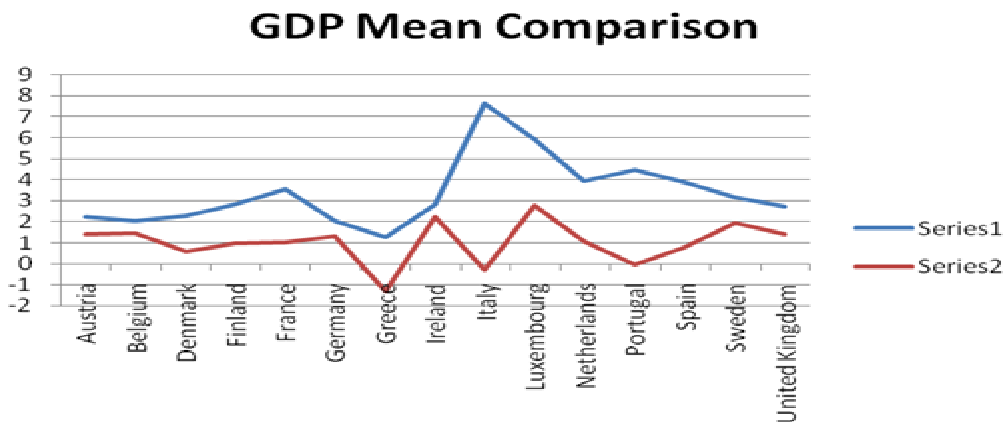
The third measurement compared the annual GDP mean performance of all EU member nations that were accepted prior to 1992 between the 1993 to 2003 time period and 2004 to 2014 time period.



In the above chart, Series 1 represents the 1993 to 2003 time period, and Series 2 represents the 2004 to 2014 time period. The percentage of change for the entire group of EU nations shown was 74%, which shows a dramatic

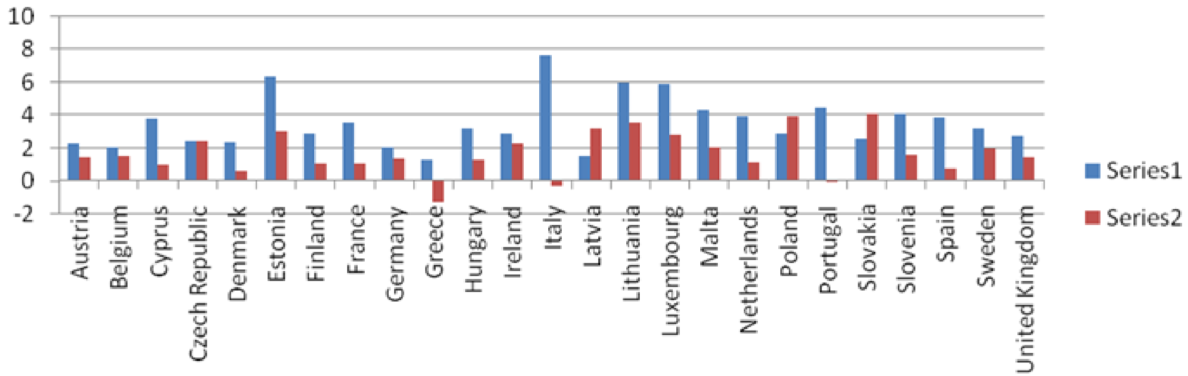
annual GDP mean performance contraction in all longtime member nations of the EU between the two time periods. Greece suffered the worst annual GDP mean performance change at 205%, and the nation the suffered the lowest annual GDP mean performance change was Belgium at 28%. The data shows a systemic economic problem within the EU, specifically in the core nations that make up the organization. It is clear from the data and the variation in the annual GDP mean performance changes between the nations that the economic problems within each nation are individualized, and these problems are most likely directly linked to the ECB and its monetary policies for the Eurozone because all of the nations listed shown on the chart use the euro with the exception of the United Kingdom and Denmark. The nations that showed the largest annual GDP mean performance change are Greece, Italy, Portugal, and Spain, and they all use the euro and are economically governed by the ECB's monetary regulations. This data shows that there are serious national economic problems in many longtime members of the EU, and a contributing factor to these national economic problems is the lack control at the national level of the banking industry, which is a result of having adopted the euro. The EU members who have adopted the euro are generally in agreement that a single currency will contribute to the stabilization of the economy in the Eurozone, and economic supporters of the adoption of the euro within EU member nations believe that euro can offer increased stability to the Eurozone in times of global economic instability (Davulis, 2009). The reality is that the adoption of the euro in nations within the Eurozone that have large and prosperous economies, like Germany, did not have a significant effect on prices within their nations when their currencies switched from their national currency to the euro. Unfortunately, however, price shock has been inevitable for smaller economies within the Eurozone, which has negatively impacted domestic economics, wages, and employment. The Maastricht Treaty of 1992 set forth criteria for candidate countries to meet specific economic indexes for acceptance into the EU, which was clearly not been stringent enough. It did not anticipate the effects of the adoption of the euro by most member nations, and the role the ECB would have to play in relation to governing economics within the Eurozone, especially in relation to the global financial crisis in 2008 and the sovereign debt crisis since the end of 2009 within the EU. The 2008 global financial crisis and the sovereign debt crisis of 2009 continues to plague the Eurozone and economies within it. The fact that the core nations of the EU have been some of the most negatively impacted in relation to annual GDP mean performance contraction shows that their is a banking problem and a currency problem within the Eurozone, which has not been properly dealt with to date by the EU.

The fourth measurement compared the two time periods, 1993 to 2003 and 2004 to 2014, for all EU member nations that were accepted into the organization prior to 2003.



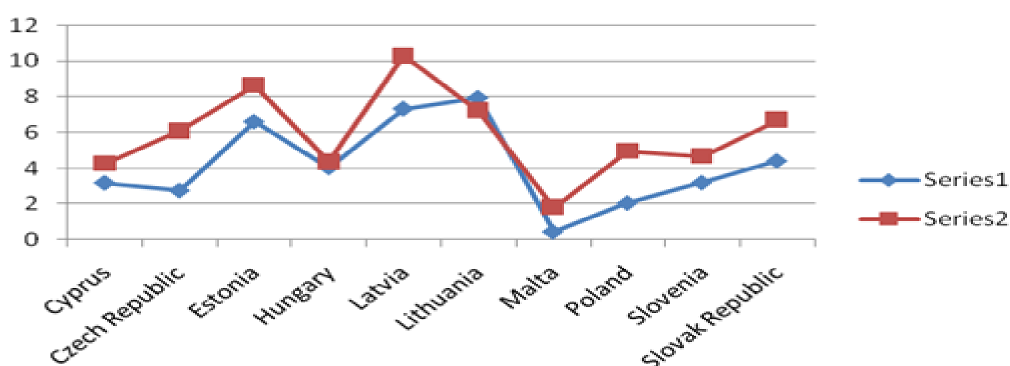
In the above chart, Series 1 represents the 1993 to 2003 time period, and Series 2 represents the 2004 to 2014 time period. The percentage of change for the entire group of EU nations shown was 70%, which represents a dramatic annual GDP mean performance contraction in all longtime member nations, member nations who were accepted in the 80s, member nations who were accepted in the 90s. Greece suffered the worst annual GDP mean performance change at 205%, and the nation the that suffered the lowest annual GDP mean performance change was the Belgium at 28%. This data is quite similar to the data in the third measurement, and not only do we see a dramatic percentage change for the two time periods measured, but there are also annual GDP mean performance contractions for nations that were accepted into the EU during the 80s and 90s. This data shows that nations that have been members of the for decades have dramatically suffered when comparing the annual GDP mean performance between the two time periods measured. Early on in the adoption of the euro, EU member nations experienced more growth and decreased inflations rates, and, for candidates of the EU, the aforementioned incentives were enticing in conjunction with increased trade opportunities within the Eurozone that is only possible for EMU members (Dandashly, 2015). The adoption of the euro today is less alluring in comparison to previous economic periods in the Eurozone because it cannot be said that the economic situation is presently stable or flourishing within the region. EU membership has proven to be disastrous for all nations with contracted economies across the Eurozone because the final stage of joining the EMU following acceptance to the EU is forfeiting a nation's central bank's ability to alter exchange rates as needed with market fluctuations impacting state economies, which is a major monetary policy instrument needed by nations to manage national economies and debt. In joining the EU and the EMU, this power is ultimately surrendered to the ECB, and nations essentially give up their ability to set independent monetary policies for a single vote among the governing members within the ECB. This often results in EMU members not being allowed to use currency devaluation or revaluation in necessary instances needed to maintain economic stability within their nations.

For the fifth measurement, the EU members that joined prior to 2005 annual GDP mean performance was compared between the 1993-2003 time period and 2004 to 2014 time period.



In the above chart, Series 1 represents the 1993 to 2003 time period, and Series 2 represents the 2004 to 2014 time period. The percentage of change for the entire group of EU nations shown was 53%, which shows a dramatic annual GDP mean performance contraction in nearly all the nations in the EU and Eurozone. Latvia was the only nation to be unaffected by the 2008 financial crisis and the 2009 sovereign debt crisis throughout the EU, and its annual GDP mean performance increased by 112% when comparing the two time periods from 1993 to 2003 and 2004 to 2014. The Czech Republic also was minimally affected by the 2008 financial crisis and the 2009 sovereign debt crisis, but the data shows that its economy did not grow when comparing the two periods in relation to its annual GDP mean performance. The nations that had the highest negative percentage change between the 1993 and 2003 time period and the 2004 and 2014 were Greece, Italy, Portugal, Spain, and Denmark. The percentage of change of Greece's annual GDP mean performance was 205%, the percentage of change of Italy's annual GDP mean performance was 104%, the percentage of change of Portugal's annual GDP mean performance was 101%, the percentage of change in Spain's annual GDP mean performance was 80%, and the percentage of change of Denmark's annual GDP mean performance was 74%. All of these nations economies have sharply contracted between the two periods measured, and five of these nations makeup the 26% of the EU that has had to adopt national austerity measures as a result of the ECB's poor reaction to the 2008 global financial crisis in offering protection EU members who had adopted the euro or had postponed adoption of it. It is interesting that Denmark appears among the nations with the largest percentage change in its annual GDP mean performance between the two periods because it is legally exempt from having to adopt the euro as its currency. In consideration of the lack of monetary tools that nations have within the Eurozone, it is probable that the economic contraction experienced in the 2004 to 2014 period would have been greater for Denmark if it was unable to use the tools at its disposal as a result of having a central bank within its state. During the global financial crisis in 2008, the entire EU was economically impacted, but the effects of the crisis were not dispersed evenly among the 28 member nations. Full EMU members were forced to apply to the ECB for money to bail out their by 2010 because they essentially suffered a monetary catastrophe after recapitalizing their banks in 2008 (Campbell and Hall, 2015). This occured for many nations throughout the EU, like Ireland, because they had grown dependent on the ECB and without having their own currency they had very few economic tools at their disposal. Denmark is also a small EU nation, but it was able to deal with the global financial crisis in 2008 and the sovereign debt crisis much better than other small EU nations because it has its own currency. It was still negatively impacted by the systemic economic problems throughout the Eurozone, which can be seen in its annual GDP mean performance contraction between the two periods analyzed in this study. In comparison between Denmark and Ireland, the end result of the financial bailout and intiatives within the countries between the 2008 and 2013 was that Denmark ultimately made the banks pay for the bail outs, and Ireland, like many other small nations in the EU, made their tax payers and bond holders from other nations within the Eurozone pay for its sovereign debt. The conclusion that can be drawn from this comparison is that all nations within the Eurozone are ultimately reliant on the ECB as a result of using the euro, and they have limited financial instruments in their national banks as a result of being full members of the EMU. The ECB was slow to react to the 2008 global financial crisis because the Eurozone is a flawed design, and, in reality, there is not instituation better suited to deal with national economic problems than a national bank, which needs the ability to devalue and revalue its national currency as a tool within its state to deal with sovereign debt and global financial downturns.

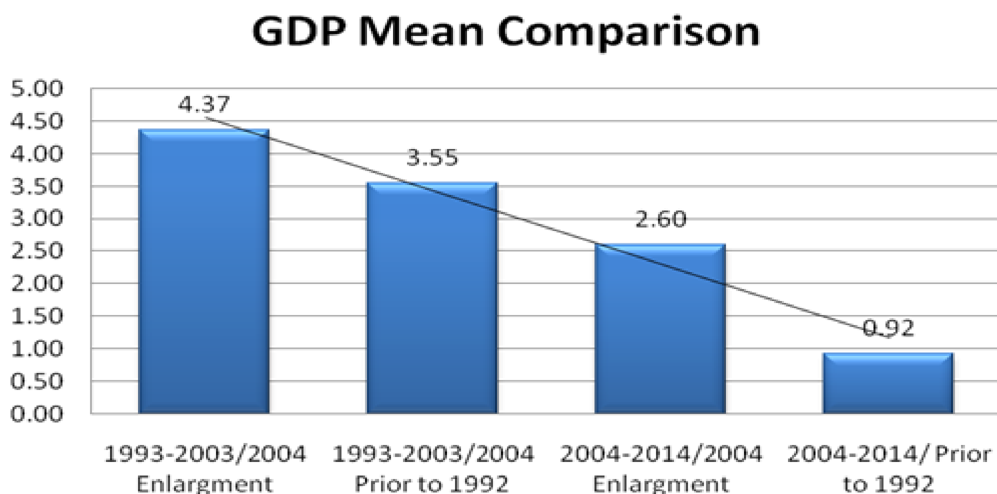
For the fifth measurement, the annual GDP mean performance was compared between the 2001 to 2003 time period and 2004 to 2006 time period for the EU members that were accepted during the 2004 enlargement.



In the above chart, Series 1 represents the 2001 to 2003 time period, and Series 2 represents the 2004 to 2006 time period. The percentage of change for the entire group of EU nations shown was 40%, and there was a moderate increase in annual GDP mean performance by the entire group with the exception of Lithuania. Lithuania, however, showed strong annual GDP mean performance between the two periods at 3.75 above the annual GDP mean performance for 2001 to 2003 and 1.32 above the annual GDP mean performance for 2004 to 2006. Therefore, it can be concluded that the 2004 enlargement was beneficial for the majority of nations that joined the EU in their initial years as members from 2004 to 2006. The nations that saw the largest positive percentage change between the two periods were Malta, Poland, and the Czech Republic. Malta had a positive percentage change of 286%, Poland had a positive percentage change of 139%, and the Czech Republic a positive percentage change of 120%. The global financial crisis began in 2007, and its effects were felt throughout the EU and the rest of the world in 2008. The United States entered a recession in the third quarter of 2008, and, by the end of the year, it became apparent that the recession in the US was going to impact the entire developed world as a result of globalization and trade interdependence (Grigor'ev and Salikhov, 2009) economic analysts anticipated a 40% drop in GDPs throughout the world, and, in many developed economies, the impact was much larger, especially in some nations within the Eurozone. The situation in the financial sector needed to be stabilized to increase trade and to end protectionism during this period, but it required actions to be taken by banks that were coordinated, especially to avoid steep economic downturns within large markets throughout the world. Times of economic recession result in budget problems for governments, and they lead to decreased stability within nations because there is a universal slowdown within countries in dealing with social problems, which can lead to dangerous sociopolitical positions. The causes of the 2008 global financial crisis are attributed to the high economic growth rates in the early twenty-first century coupled with savings imbalances, negative interest rates in developed nations, and a weakening of regulation within the banking industry in conjunction with an increased use of financial instruments. The result of the poor annual GDP mean performance by the majority of nations in the 2004 enlargement of the EU between the 1993 and 2003 time period in comparison to the 2004 to 2014 time period can be attributed to the global financial crisis. There are, however, banking and structural issues in the EU that must be considered, which contributed to the lack of economic tools at the national level and, ultimately, resulted in austerity measures being adopted by 26% of the Eurozone's members.

6. Conclusion

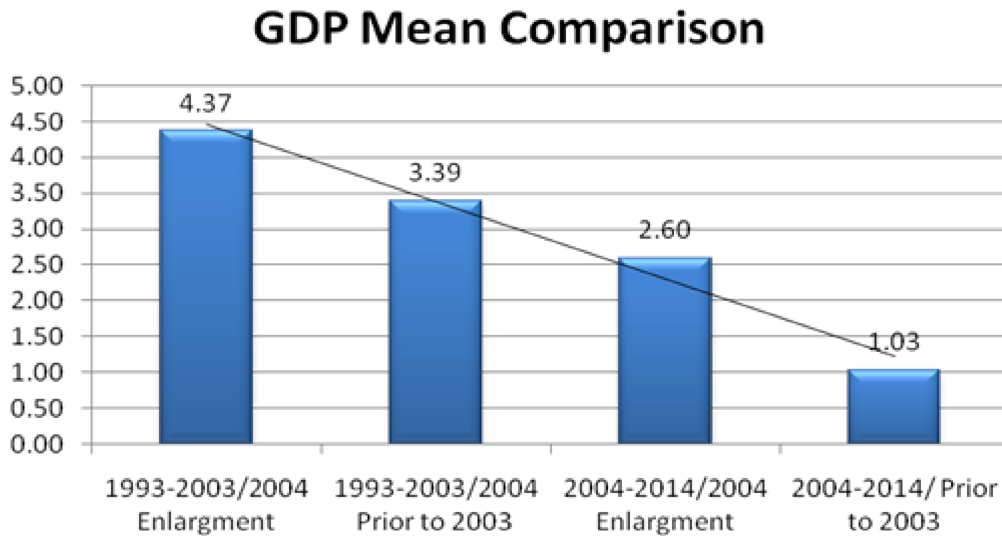
From the first measurement, it can be concluded that the 2004 EU enlargement negatively impacted the annual GDP mean performance of the nations that took part in it when comparing the annual GDP mean performance of the ten nations between the two time periods analyzed: 1993 to 2003 and 2004 to 2014. In the second measurement in this study, the data shows that the annual GDP performance of the EU member nations from the 2004 enlargement showed an annual GDP mean performance decrease of 40% between 1993 and 2003 time period and the 2004 and 2014 time period. In the third measurement in this study, the data showed a 74% decrease in the annual GDP mean performance for the nations accepted to the EU prior to 1992 between the 1993 to 2003 time period in comparison to the 2004 and 2014 time period. Although the decrease of the annual GDP mean performance of the nations accepted prior to 1992 is almost double that of the nations accepted into the EU during the 2004 enlargement, it can be concluded that 2008 global financial crisis impacted both groups economically, the design of the EU and the ECB is flawed, the EU and ECB are not fit to assist nations in dealing with global economic crises, and nations within the Eurozone may not benefit at the national level from adopting the euro.



The above chart shows a comparison of the average GDP mean performance of the 2004 enlargement group and the EU members who were accepted prior 1992 between the two time periods, or the second and third measurements in this study. It is clear that there was a decreased performance trend between the two groups for the time periods measured, which can be attributed to the aforementioned reasons. The data shows that the annual GDP mean performance of the 2004 enlargement of the EU decreased by 1.77 between 1993 and 2003 in comparison to 2004 to 2014, and the annual GDP mean performance of the EU members who were accepted prior 1992 decreased by 2.63 between 1993 and 2003 in comparison to 2004 to 2014.

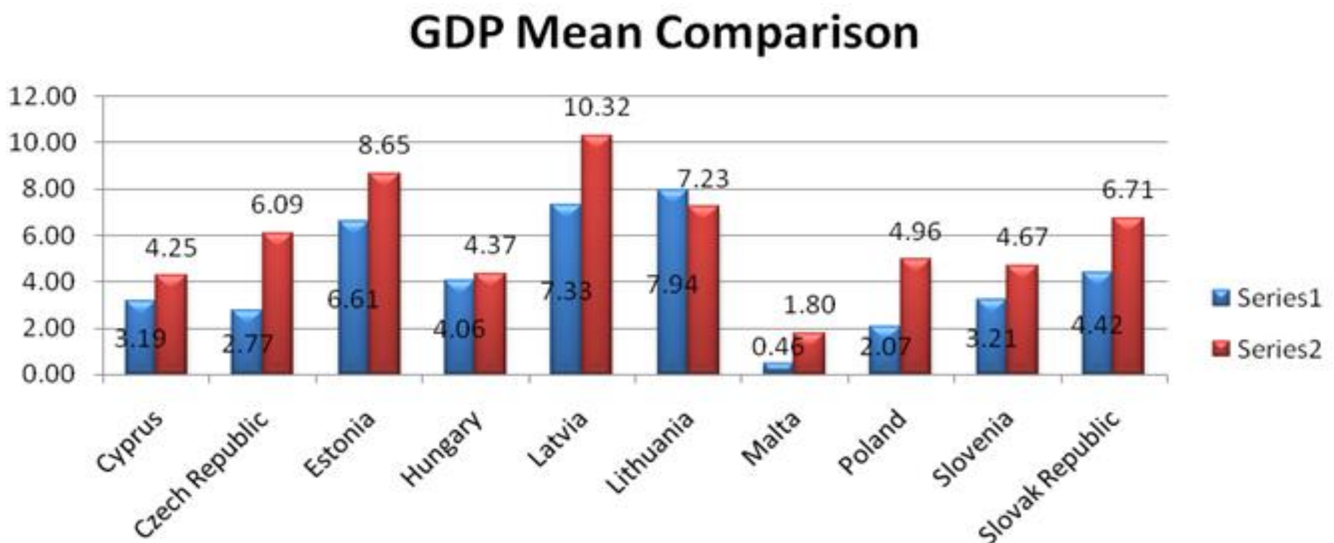
In comparing the second and the fourth measurements within this study, it is apparent the nations who made of the 2004 enlargement in comparison to the nations that were accepted prior to 1992 share a similar annual GDP mean performance decreases between the two time periods as can be seen in the comparison between the first and second measurements. In the second measurement in this study, the data shows that the annual GDP performance of

the EU member nations from the 2004 enlargement showed an annual GDP mean performance decrease by 40% between 1993 and 2003 time period and the 2004 and 2014 time period. In the fourth measurement in this study, the data showed a 70% decrease in the annual GDP mean performance for the nations accepted to the EU prior to 2003 between the 1993 to 2003 time period in comparison to the 2004 and 2014 time period.



The above chart shows a comparison of the average GDP mean performance of the 2004 enlargement group and the EU members who were accepted prior 1992 between the two time periods. It is clear that there was a decreased performance trend between the two groups between the time periods measured, which can be attributed to the 2008 global financial crisis, the design of the EU and the ECB's handling of economics in the Eurozone, and the loss of economic control nations have within the Eurozone that results from the adoption of the euro. The data shows that the annual GDP mean performance of the 2004 enlargement of the EU decreased by 1.77 between 1993 and 2003 in comparison to 2004 to 2014, and the annual GDP mean performance of the EU members who were accepted prior 2003 by 2.36 between 1993 and 2003 in comparison to 2004 to 2014. This is a significant annual GDP mean performance decrease for both groups, but it is apparent that the margin is less significant than the comparison of the second and third measurements in this study in relation to performance loss. This suggests that the economic problems in the Eurozone were systemic and affected older EU members more greatly, and, in consideration of the sovereign debt crisis of 2009, the ECB was slow to react to all EU members national needs in relation to economic support.

In the fifth and final measurement in this study, the data shows that the annual GDP mean performance improved significantly for the EU member nations who were part of the 2004 enlargement between 2001 to 2003 time period when compared to the 2004 to 2006 time period.



In the above chart, Series 1 represents the 2001 to 2003 time period, and Series 2 represents the 2004 to 2006 time period. The annual GDP mean performance for the entire group of EU nations increased by 1.70, and there was a moderate increase by the entire group with the exception of Lithuania. Lithuania, however, showed strong annual GDP mean performance between the two periods at 3.75 above the annual GDP mean performance for 2001 to 2003 in comparison all member of the 2004 EU enlargement and 1.32 above the annual GDP mean performance for 2004 to 2006 in comparison all member of the 2004 EU enlargement. It can be concluded that the 2004 enlargement was beneficial for the nations that joined the EU in their initial years as members from 2004 to 2006. The impact of the global financial crisis of 2008 and the sovereign debt crisis of 2009 coupled with the ECB's ineffective response to the systemic economic problems in Europe proved the hypothesis in this study to be true. The 2004 enlargement negatively impacted the annual GDP mean performance of the 10 member states, but the economic problems within the Eurozone that have persisted since the 2008 global economic crisis and ECB's poor handling of the economic problems within have not affected them all equally.

Country Name	Average Mean 1993-2003	Average Mean 2004-2014	GDP Shift
Cyprus	3.796677206	0.98968046	-2.806996746
Czech Republic	2.410692236	2.406916208	-0.003776028
Estonia	6.346587033	3.022497801	-3.324089232
Hungary	2.834918222	1.288961652	-1.54595657
Latvia	5.987018225	3.161499646	-2.825518579
Lithuania	5.928891572	3.516577597	-2.412313975
Malta	3.956201707	2.04655117	-1.909650537
Poland	4.480466911	3.95450475	-0.525962161
Slovenia	3.871732661	1.601334333	-2.270398328
Slovak Republic	4.095448681	4.048585687	-0.046862994
	4.370863445	2.60371093	-1.767152515

The World Bank Group (2016)

The nations that showed the largest annual GDP mean negative performance shift from the 2004 enlargement of the EU between Estonia at 3.32, Latvia at 2.83, and Cyprus at 2.81. The nations that showed the smallest annual GDP mean negative performance shift from the 2004 enlargement of the EU between the time periods measures were the Czech Republic at .004, The Slovak Republic at .05, and Poland at .53. All of the nations with the smallest GDP shift out of the members of the 2004 enlargement of the EU are former communist states.

The conclusion that can be drawn from this study is that the EU has not benefitted member nations over the last decade, specifically following the 2008 global financial crisis. The current design of the EU and the EMU is flawed, and it essentially leaves members nations at the mercy of the ECB's ineffective monetary policies, which cannot possibly meet the needs of the 26 individual nations who either use the euro as their currency or will adopt it in the future. Both the United Kingdom and Denmark suffered during the 2008 global financial crisis, but they had the ability to devalue and revalue their currencies unlike the other 19 member nations of the EU that had already adopted the euro as their national currency. This was a huge advantage and allowed them to manage their sovereign debt better than other nations within the EU. All nations who currently have member status in the EU should attempt to renegotiate their monetary agreements with the EU, similarly to the United Kingdom, to maintain national control over their economies. The ECB has proved to be ineffective in navigating large financial problems and slow to respond to member nations' economic needs within the Eurozone, and, as a result of the mismanaging of the 2008 global financial crisis and its effect on the Eurozone, the sovereign debt crisis of 2009 resulted and the subsequent economic problems within EU member states. The effects of the ECB's inefficiency during the 2008 global financial crisis should have resulted in greater protectionism by member states, but they were part of the EMU, which has resulted in contracted annual GDP mean performances throughout Europe and austerity measures being forced on 26% of the members of the Eurozone. The free trade that EU membership permits within Europe is beneficial to the entire continent, but the adoption of the euro and the power of the ECB has over EMU members have proven to be disastrous. Despite the exchange rate savings that the euro brings large corporations within the EU, there is little benefit for the nations and individuals using it, especially in consideration of the lack of power their national banks have over state economies as a result.

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