The Impact of European Union Membership on the Levels of Economic Development.

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**Abstract**

This paper explores the impact of European Union (EU) membership on the levels of economic development by comparing 43 European countries using data for the year 2012. The impact of other variables including length of time as a member of the EU, foreign direct investment (FDI), corruption, exports as a percentage of GDP, public debt as a percentage of GDP, and economic globalization are also investigated. The data obtained through the use of correlation and regression statistics indicated that membership in the EU itself is not a significant factor in predicting economic development. However, the length of time as a member is a determining factor of economic development. Furthermore, corruption and economic globalization were also significant variables in this research. The results from this study led to the conclusion that length of time as a member of the EU, corruption and economic globalization are significant predictors of economic development. In the future, this research can explore more independent variables as the model showed that the error term was also significant.

*Keywords:* *European Union, Economic Development, Foreign direct investment, corruption, globalization, export oriented growth hypothesis and modernization theory.*

**Introduction**

The World War left European economies in need of reconstruction. In quest to restore their economies, the European countries resorted to nationalism (Monnier and Rogers, 2004 &Wells, 2007). However, the ambition of some European political leaders, such as Robert Schuman and Jean Monnet, to the creation of a “United States of Europe,” economic integration was achieved. Economic integration led to the birth of the EU in 1993.

The Treaty of Paris signed in 1951 between Germany, France, Italy, and the BENELUX countries (Belgium, the Netherlands, and Luxembourg) established the European Coal and Steel Community (ECSC), the first symbol of European integration. Members who signed this treaty were commonly to as the “the six”. The ECSC was a supranational entity which eliminated competition between its members as they pooled their coal and steel production. With the need for further European Integrations, the “six” signed the Treaty of Rome in 1957 to establish the European Economic Community (EEC) commonly known as the single market and the European Atomic Energy Community (Euratom) (Burgess, 1996 and Wells, 2007). The EEC further led to the creation of the European Community (EC), which came with the single market benefits. The single market allowed for globalization (free movement of goods, services, people, and money) and promoted international trade and commerce. Furthermore the countries in the EC shared macro and microeconomic policies and common external tariffs. Between 1973 and 1986, the EC doubled its member states. (Burgess, 1996, Sapir, 1992 and Wells, 2007).

Undoubtedly, as the EC member states increased, Europe experienced more integration but there was still need to promote further integration. The Treaty of the European Union signed in 1993 was aimed promoting economic prosperity and peace (Sapir, 1992). Additionally, the Treaty of the European Union paved the way for European Monetary Union and introduced elements of political union. In 1999, the Economic and Monetary Union (EMU) which established a single currency was created and by 2000, the Euro came into use. The Euro ensured deeper economic integration, maintained a common external exchange rate, and controlled the monetary and fiscal policies of member states. Although the EU promoted integration and globalization, some member states like the United Kingdom believed the EMU would rob them of their sovereignty and decided not to be part of it (European Commission, 2012 and Lane, 2006).

Evidently, membership in these intergovernmental and supranational entities since the end of WWII ensured economic growth for the member states. By 2013, the EU member states had increased to 28 (European Commission, 2014). The UE aimed at promoting economic, social, and territorial cohesion. Because the EU sought to increase economic convergence and growth as well as increasing employment opportunities, a third of its budget was set aside to provide capital for its member states and eliminate disparities between them (Belka, 2013).

This research is a continuation of the research I conducted on the impact of EU membership on economic development on 43 European countries. The impact of four other independent variables (corruption, foreign direct investment, political stability, and unemployment) were investigated. I concluded that membership in the European Union had no impact on economic development. Amongst four other independent variables investigated, corruption was the only variable that had a significant impact on development. Some of the suggestions made for further research included treating the European Free Trade Agreement (EFTA) members of the EU in order to control for the free trade and bilateral agreements that the EFTA has with the European Union. Furthermore, one of the limitations of the study was the fact that the length of time as a member of the European Union was not the same for all the countries. For example, the “six” had been members for 54 years since the ECSC whereas countries like Cyprus, Czech Republic, and Estonia among other countries had only been members in the EU for 8 years in 2012.

Taking into account the suggestions from the previous study, the current study treats EFTA members as EU members and includes length of time as a member of the EU as an independent variable. Hence, this research focuses on membership in the EU, the length of membership and five other independent measures including exports as a percentage of GDP, public debt as a percentage of GDP, foreign direct investment, and economic globalization. Because corruption was significant in the previous model, it was included in the current model.

The first part of this paper focuses on the review of literature and the theory used to establish the hypotheses, followed by the methodology and discussion of hypotheses. The third section of the paper analyzes and explains the research findings. Finally, the conclusion and the implications of the findings and suggestions for further research are discussed.

**Literature Review and Theoretical Framework**

Membership in some form of economic alliance has been argued to protect small states from economic instability and the vulnerability of the small economies (Thorhallson & Kirby 2012), A study by Thorhallson and Kirby investigated the impact of presence or absence of the EU and the Economic Monetary Union (EMU) on reducing risk before the financial crisis and the effect of assistance on recovery on Ireland and Iceland. They concluded that although the support received by Ireland, a member of both the EU and the EMU did not fully prevent the crisis, it made the situation better whereas for Iceland, a non-member of both, lack of support worsened the economic crisis thereby supporting the hypothesis that membership in some form of alliance acts as a shield to the economies. The search conducted by Thorhallson and Kirby (2012), serves as an explanation to why some most countries become members of more than one alliance of cooperation. Not only does membership in an economic alliance provide shield, some studies have found that it provides capital and more support during any kind of crisis. A noteworthy example of these benefits is shown by the structural funds that the EU provided to its members during the 2009 economic crisis in order to provide support and overcome the crisis at hand (Grigorescu & Balalia, 2009). Similarly, Moravcsik and Vachudova (2003), argued that most East European states join the EU in order to partake in the economic benefits associated with membership. Membership in the EU increases the inflow of external capital such as foreign direct investment thereby solidifying and increasing the employment opportunities in that particular country (Lehmann, 2010). In fact, members of both the EU and the EMU have been proven to receive more FDI inflows than non-members and those who are only members of the EU (Lane, 2006).

Research has shown that membership in the EU comes with a lot of benefits for its members. An investigation by Belka (2013), on the influence of the EU on Poland’s economy found that the EU structural funds had a positive impact on foreign direct investment inflows, migrations, and transfers. Belka suggested that Poland is one of the fastest growing economies among other EU member states. Furthermore, accession into the EU led to the rebuilding of the Polish economy, improved productivity, and the improvements in the standards of living hence, marking the period 1966 to 2004 as a period of transformation that facilitated modernization of the Polish economy. Therefore, EU membership is believed to be a symbol of modernization and democracy (Belka, 2013; Royo, 2007). Royo (2007), also argued that countries like Spain and Ireland blossomed economically because they took advantage of the EU benefits whereas countries like Portugal have benefitted but have not completely taken advantage of the EU as a driving force to economic development.

Economic development is defined by Harrison (1996) as the process by which societies, nations or regions increase their per capita output and income by improvements and increases in productivity and how these improvements translate into improvements in the per capita and wellbeing of the society. Harrison (1996), suggested that economic development is a reflection of structural and institutional changes. Economic development is also largely dependent on the resources and atmosphere provided by the political, cultural and environmental factors. An effective use of these therefore leads to development. Gurley and Shaw (1955) argued that development is associated with real goods or debt, institutionalization of savings, investments, and the change in market prices.

Experts in economic development have come up with countless theories to explain how economies change and or grow. Modernization theory is used to explain the transition of traditional societies to modernity. By mainly looking at the internal factors of a society, modernization theory suggests that assistance and existence of capital leads to modernization. As a cause of underdevelopment, a traditional society is characterized by social, economic, and political concerns which limit it from progressing to modernity (Rustow, 1968; Valenzuela and Valenzuela, 1978). Thus is order to enter the modern world, traditional societies have to overcome the existing traditional norms and structures in order to pave the way for social, economic and political transformations (Valenzuela and Valenzuela, 1978). The behavioral- cultural approach to modernity argues that the process of modernization begins with the change in man’s attitude in order to partake in the modernized society. Man needs to be in control over nature and there is a need for cooperation amongst men. In contrast with the traditional society, a modern society is argued to be characterized by predominance of achievement, universalism, and high social mobility, secondary economic activities as opposed to primary and self-sustained growth (Valenzuela and Valenzuela, 1978).

Since a traditional society is characterized by limited production functions and constant rising levels of the quality of life, transforming it to modernity takes time and energy. In addition to that, the transformation is a stage process and each economy can be identified as lying in any of the 5 stages.

From the traditional stage, the next stage of economic growth is the preconditions of take-off which is the process of transition. In this stage, “the society either prepares itself or is prepared by external forces for sustained growth” (Rostow, 1960, p. 17). The creation of this stage largely consisted of the building of social capital, increasing investment rates and the levels of productivity. Hence, a traditional society shifts from being entirely dependent on agricultural production to being a society dominated by commerce, industry, and communication. Moreover, this stage is characterized by non-economic transformation consisting mainly of political roles. The political roles include the capability of the government to organize a nation in a way that financial markets develop. Also, the government should develop fiscal and monetary systems that encourage modernity and it should lead the way to modernity in every aspect of the society, (in education, tariffs and public health). Nationalism and coalitions also make up part of the non-economic roles in the modernization of a traditional society (Rostow, 1960).

Following the preconditions of take-off is the take off stage. This is the stage when “the old blocks and resistance to steady growth are overcome” (Rostow, 1960, p. 7). Rostow suggests that this stage has no single pattern in which it can happen, it can happen in any direction. The take of stage is argued to require three conditions including an increase of productive investment to over 10% of national income, the development of one or more substantial manufacturing sectors, the existence of a political, social, and institutional framework which allow for the exploitation of the expansion impulses in the modern sector and gives growth an ongoing character.

The fourth stage in the transition to modernity is the drive to maturity stage, the stage in which the economy demonstrates the ability to move beyond the original industries that powered its take-off and apply efficiently the most advanced fruits on modern technology. (Rostow, 1960, p. 10). In this stage, most of the countries are said to have experienced a great boom in productivity as this stage is mostly based in industries. The final stage is the age of high mass consumption stage is associated with the need to extend power and influence through the allocation of more resources to the military and government, redistribution of power through income taxation, and achieving maturity through expansion in the consumption of basic commodities. Thus by the twentieth century, some European powers attained colonies from other continents (Rostow, 1960).

Modernization of a traditional society therefore depends on the availability of capital, commerce, and high levels of production. Capital can be domestic or foreign depending on the need for each country. As suggested by Rostow (1960), the take-off stage of Britain and Japan happened without imported capital whereas for countries like the US, Russia, and Canada the take-off stage was necessitated by foreign capital. Countries generating less domestic capital generate more foreign capital. Foreign capital can be in form of foreign direct investment (FDI), official development assistance and external debt (Billet, 1993).

Foreign direct investment, a long term investment by entities from one country in entities in another country and is driven by the search for markets, resources, efficiency and strategic assets (McCloud & Kumbhakar, 2011). Foreign direct investment promotes economic growth but requires a conducive economic climates without which the availability of FDI is counterproductive and may potentially thwart instead of promoting economic development (Al Nasser, 2010; Bandelj, 2010; Balasubramanyam, Salisu & Sapsford, 1996). FDI is arguably a prime source of human capital and technological innovation. Furthermore, its spillover effects are largely noticeable as it also transfers production and managerial skills. Based on the modernization theory and its emphasis on capital, a positive correlation between the amount of capital available and economic development can be assumed.

Other researchers have associated the modernization theory and economic development with democracy (Pzerworski and Limongi, 1997). Thus, democracies are expected to be more economically developed. However, other researchers have argued that even though there is a positive correlation between economic growth and democracy, that relationship is insufficient in predicting and explaining economic growth (Arat, 1988).

Furthermore, the export oriented growth hypotheses and globalization theories are used to explain economic development. Globalization is defined as the free flow of goods and services (trade liberalization), people, capital, technology and knowledge (Cheng & Mittelhammer, 2008). Since globalization is characterized by market integration and growth of international trade, it is viewed as a tool to promote growth and reduce poverty through trade liberalization (Cheng & Mittelhammer, 2008; Ponzio, 2005). Trade liberalization stimulates more exchange of goods and services between countries. Although trade is characterized by both exports and imports, a developed nation, or one that has a potential to develop should export more than it imports goods and services. More exports symbolize self-sufficiency rather than dependency on imports. As suggested by Marin (1992), countries who do well in exporting their goods and services have a high rate of productivity. The export oriented growth hypothesis assumes that exports have a stimulating influence on the economy. With more trade agreements between countries, foreign exchange is promoted and facilitates the alleviation of foreign exchange constraints as well as increases efficiency of trade and provision of greater access to international markets. International trade also promotes economic interdependence which also increases the chances of economic development (Dunford & Perrons, 1994). Przeworski and Limongi, (1997) argue that globalization prompts nations to move toward modernization as it provides competition.

**Research Design and Hypotheses**

The purpose of this research was to investigate the impact that membership in the EU has on economic development. Seven other independent variables in addition to membership were investigated to help come up with a stronger model that effectively explains the variation among the dependent variable in question. Data for 43 European countries was analyzed.

Membership in the European Union was defined according to the fulfillment of the European Union membership criteria. European Union member state list was obtained from the UE website as of 2012. Countries who gained membership after 2012 were considered as nonmembers. Specifically, Croatia which gained membership in the European Union in 2013. Due to the free trade and bilateral trade agreements that the EU has with the EFTA, members of the EFTA were considered as members of the EU to control for these benefits. This means that they partake in the free trade and internal market benefits of the EU. According to Fredriksen (2012) and Tatham (2014), members of the EFTA experience the same trade benefits as the members of the EU hence, it makes sense to treat them as members in this situation. Moreover, members of the EFTA, excluding Switzerland, signed the European Economic Area Agreement (EEA) which brought the three states (Iceland, Liechtenstein, and Norway) into the single market of the EU. The EEA allows for free movement of goods, services, people, and capital among the 31 countries (EFTA, 2016). Due to insufficient data found on Liechtenstein, it was removed from the analysis. Membership is a nominal variable, therefore, EU members were assigned a value of 1 and non-members a value of 0. The year in which a country gained membership in the EU or the EFTA was subtracted from 2012 to get the length of time as a member. Membership data was obtained from the EU website.

The data for foreign direct investment, exports and public debt as a percentage of GDP were also obtained from the World Bank website. The data for corruption was obtained from the Transparency International website and reverse scored because higher numbers reflect lower levels of corruption. Economic globalization was measured through the Economic Globalization Index and the data was obtained from the KOF website.

**Hypotheses***:* Based on the theories discussed in this paper and previous research, I came up with the following hypotheses:

H1:Membership in the European Union leads to higher levels of economic development.

H0:Membership in the European has no effect on economic development.

H2: The longer the length of membership in the EU, the higher the levels of economic development.

H0: Length of membership in the EU has no effect on economic development.

H3: Higher levels of foreign direct investment lead to higher levels of economic development.

H0: Foreign direct investment has not effect on the levels of economic development.

H4: Higher levels of corruption lead to lower levels of economic development.

H0: Corruption has no effect on the levels of economic development.

H5: The higher the public debt, the higher the levels of economic development.

H0: Public debt has no impact on economic development.

H6: The higher the levels of economic globalization, the higher the level of economic development.

H0: Economic globalization has no impact on economic development.

H7: The greater the exports, the higher the levels of economic development.

H0: Exports have no impact on economic development.

As reflected by past research, membership in the EU is argued to cultivate economic development. Membership in the EU affirmed Poland's position as a safe destination for outside capital investors because of the insurance provided by the European Law. This additionally stimulated the increase in levels of productivity, competition, free movement of individuals and the introduction of FDI. (Belka, 2013).The EU fiscal and monetary policies upheld the improvement of its member states. The EU structural funds aim at strengthening economic and social cohesion between the member states, thus ensuring sustainable economic growth. For example, since joining the EU, Hungary has received about 22. 5 billion Euros worth of structural funds. Membership in the EU also allowed stability, growth in GDP per capita, and increased FDI inflows for Hungary (Hungarian Chamber of Commerce and Industry, 2014). The European Commission (2010) suggested that for the EU-10, (member states that joined in 2004), the EU has attracted about 40 percent of the total GDP worth of FDI. Therefore, EU enlargement is seen as a force to modernization and has led to greater macroeconomic stability. From the hypothesis, members of EU are expected to be more developed than the non EU members and the countries who have been members is the EU are expected to the more developed.

Moreover, a positive correlation between foreign direct investment and economic development is assumed (Billet, 1993; Banjelj, 2010). Using the modernization theory which emphasizes on the availability of capital, I expect to find a significant positive correlation between FDI and economic development. Therefore in the model we should expect to find a significant positive relationship between economic development and FDI if the hypothesis is supported by the results. Similarly, using the globalization theory and export oriented growth hypothesis, a positive correlation is expected between exports, economic globalization index and economic growth.

Corruption, defined by Swaleheen and Stansel (2010) as the use of public office and power for private gain” is expected to be negatively correlated with economic developemt. According to Habib and Zurawicki (2002), corruption lies mostly in bureaucratic inefficiency and the instability of political institutions. Henderson (2008), argued that corruption is more prevalent in less developed and less free countries. Henderson also suggested that this form of corruption monopolizes markets hence, shifting competition from the public to the political arena. Corruption lowers the chances of FDI and international trade thereby limiting the chances of development of a nation (Mauro, 1995; Podobnik, Shao, Njavro, Ivanov & Stanely, 2009) In fact, corrupt institutions are perceived to breed nothing but inefficiency and poverty (Mauro, 1995).

**Data Analysis**

*Descriptive analysis.* I first looked at the descriptive analysis to determine the distribution of the variables. Due to the different levels of economic development, the GPD Per capita was skewed with a lot of outliers. Hence, it was transformed in order to get a normally distributed set of data. Foreign direct investment data was still skewed after transformation. Therefore, I assumed that countries with larger populations are likely receive more foreign direct investment and divided foreign direct investment values by the population for each country to control for the size of the country.

*Correlation Analysis*. After the descriptive analysis, I obtained the correlation for all the variables using Pearson’s correlation analysis. I found that there is a significant positive correlation between GDP per capita and all the variables except for exports. Furthermore, GDP was positively correlated to all membership, length of time, economic globalization index, foreign direct investment, GDP/Time and public debt and negatively correlated with corruption.

Table 1. Regression Analyses.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Model | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | |
| Membership | | -.189  (-1.031)  .310 | | -.124  -1.030  .310 | | -.133  -1.133  .264 | |  | | -.114  -.989  .329 | |  | |
| Time | .388\*\*\*  (2.062)  .047 | | .301  2.184  0.36 | | .334\*\*\*  2.792  .008 | | .311  2.631  .-012 | | .384  3.664  .001 | | .354  3.530  .001 | |
| Corruption | -.454\*\*\*  (-3.094)  .004 | | -.516  -3.834  0.000 | | -.501\*\*\*\*  -3.863  .000 | | -.466  -3.685  .001 | | -.462  -3.795  .001 | | -.440  -3.675  .001 | |
| Exports | -.095  (-.877)  .387 | |  | |  | |  | |  | |  | |
| EGI | .264  (1.867)  .070 | | .240  1.973  .056 | | .263\*  2.358  .024 | | .210  2.065  .046 | | .278  2.528  .016 | | .228  2.336  .025 | |
| Public Debt | .069  (.622)  .538 | | .105  1.005  .322 | | .081  .886  .382 | | .062  .684  .498 | |  | |  | |
| FDIPP | .060  (.590)  .559 | | .045  .492  .626 | |  | |  | |  | |  | |
| GDP/Time | .120  (.723)  .475 | |  | |  | |  | |  | |  | |
| Adjusted R2  F  N | .774 18.952 43 | | .778  25.471  43 | | .782  31.155  43 | | .780  38.336  43 | | .783  38.969  43 | | .783  51.662  43 | |

\*. Correlation coefficient significant at the .05 level \*\*. Correlation coefficient significant at the .01 level \*\*\*. Correlation coefficient significant at the .005 level  
\*\*\*\*. Correlation coefficient significant at the .001 level

*Regression Analyses:* A regression analysis was done in order to determine the extent to which the various models explained the impact of the independent variables on economic development. As shown in Table 1, the first regression analysis included all the seven independent variables and GDP/Time. GDP was divided by time in order to determine if certain increases in GDP were affected by the length of time members had been in the EU. The adjusted R square for the model was .774 with an *F* value of 18.952. This meant that this is a strong model and the independent variables explained 77.4 percent of the variance in economic development. Among all the variables corruption (*p* = .004) and length of time (*p* = .047) were significant.

Using the study by Pan and Jackson (2007) as a reference for Variance Inflation Factor (VIF), this research maintained that despite the significance of the model, any variables with a VIF that exceeded 4 were to be excluded from the model. Appendix 2, shows that membership, length of time, corruption and GDP/Time had VIFs over 4. The collinearity diagnostics table (Appendix C), indicated that length of time, corruption and GDP/Time were high on the same factor, dimension 7. Furthermore, economic globalization index (EGI) and exports were high on the same factor, dimension 8. This meant that these variables were highly collinear. Using the collinearity results and the significance of the variables, exports and GDP/Time were not included in the second model.

The second regression analysis excluded exports and GDP/Time. The adjusted R square increased from .774 to .778 and the *F* value increased from 18.952 to 25.471. This meant that this model was stronger compared to the previous one. In this model corruption (*p* =.000), length of time (*p* = .036) were significant. The significance of EGI increased from *p* = .07 to *p* = .056 in the second model. Although all the VIF values were below 4, the collinearity diagnostics table indicated that length of time and public debt were high on the same factor, dimension 5 (appendix E). Although these two were high on the same factor, the variance portions of length of time were evenly distributed along 4 dimensions. Therefore, FID which was the least significant variable was taken out of the model.

The third regression analysis had an adjusted R square of .782 and an *F* value of 31.155 indicating a much stronger model. Corruption (*p*= .000), length of time (*p*= .008) and EGI (*p*= .024) were significant. All the VIF values were below 4. Although, the variance portions were evenly distributed, time and public debt were still high on the same factor (dimension 4) and membership and corruption were high on the same factor (dimension 5). The next two models took into account the significance of public debt and membership and excluded them from the models.

The regression analysis for the fourth model excluded membership. The adjusted R square decreased to .780 and the *F* value increased to 38.336 and public debt was the least significant of the variables. The fifth model excluded public debt. The adjusted R square increased to .783 and the *F* value increased to 38.969. All the VIF values were below 4 and membership was the least significant independent variable. Therefore, the final model included EGI, corruption, and time. Although the adjusted R square for the final model remained at .783, the F value increased to 51.662 with all the three variables in the model significant. Corruption and length of time with a p value of .001 were the most significant independent variables followed by EGI with a *p* value of .025.

**Discussion of Hypotheses and Implications**

The purpose of this study was to investigate the impact of European Union membership on economic development. The results of this study indicate that EU membership itself has no impact on economic development but length of time as a member of the EU has an impact on economic development. This refutes the hypothesis that membership in the EU leads to higher levels of economic development and supports the hypothesis that the longer the length of time as a member of the EU the higher the level of economic development. This leads to the failure to reject the null hypothesis that membership in the EU had no impact on economic development.

Moreover, the results of this study support the hypothesis that high levels of corruption lead to lower levels of economic development. Therefore, we reject the null hypothesis that corruption has no impact on economic development. This shows that corruption is more likely to have a very significant impact on the economy regardless of membership in the EU. Corrupt governments as suggested by Mauro (1995) and other researchers, breed poverty and low levels of economic development. The least corrupt a government is, the greater chances of economic development.

Another significant variable in this research was EGI which supports the hypothesis that the high levels of economic globalization the higher the levels of economic development. With these results we reject the null hypothesis. The significance of economic globalization is in line with the globalization theory.

Export, public debt and FDI were not significant in this model. We therefore fail to reject the null hypotheses for these variables. Although the export oriented growth hypotheses puts emphasis on international trade and exports, it doesn’t seem to be applicable with the countries studied in this research. Furthermore, the availability of capital accounted for by FDI and public debt is not a predicting factor of economic development.

However, with a t statistic of 10.734 and a significance of .000, the model suggests that the error term is significant in the model meaning that other independent variables that were not included in this mode have a significant impact on economic development. These factors could include foreign aid, human and natural resources, and social and cultural structure.

**Conclusion**

Corruption and length of membership are shown by the study is the most significant independent variable in economic development. This means that membership in the European Union is not a predicting factor of economic development, instead the length of time as a member leads to economic development. The longer the countries are members of the EU, the more they get to experience the economic benefits of being part of the European Union.

For further research, more variables can be explored in order to determine the effect of the variables that were not accounted for in the current model. Furthermore, this research can also be focused on rich EU and rich non-EU members to compare the factors that have led to their economic development. It will also be interesting to examine if they were any increases in GDP per capita in the first few years of membership in the European Union.

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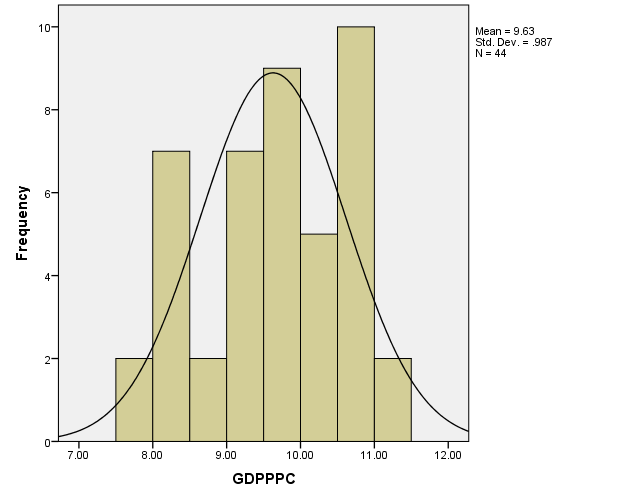
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Appendix A

 GDP per capita Transformed Histogram

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix B  Model 1 Coefficients table | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| B | Std. Error | Beta | Tolerance | VIF |
| 1 | (Constant) | 9.434 | 1.039 |  | 9.079 | .000 |  |  |
| Member | -.388 | .376 | -.189 | -1.031 | .310 | .160 | 6.257 |
| Time | .019 | .009 | .388 | 2.062 | .047 | .152 | 6.567 |
| EGI | .022 | .012 | .264 | 1.867 | .070 | .271 | 3.696 |
| Public Debt as a % of GDP | .002 | .003 | .069 | .622 | .538 | .438 | 2.281 |
| Corruption1 | -.023 | .008 | -.454 | -3.094 | .004 | .250 | 4.002 |
| GDPTime | .000 | .000 | .120 | .723 | .475 | .196 | 5.110 |
| Export1 | -.204 | .233 | -.095 | -.877 | .387 | .464 | 2.154 |
| FDIPP | 2.549E-6 | .000 | .060 | .590 | .559 | .523 | 1.912 |
| a. Dependent Variable: GDPP | | | | | | | | |

Appendix C  
Model 1 Collinearity Diagnostics table

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | | | |
| Model | Dimension | Condition Index | Variance Proportions | | | | | | | | |
| (Constant) | Member | Time | EGI | Public Debt as a % of GDP | Corruption1 | GDPTime | Export1 | FDIPP |
| 1 | 1 | 1.000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | 2.475 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .00 | .33 |
| 3 | 3.127 | .00 | .01 | .02 | .00 | .01 | .01 | .01 | .00 | .17 |
| 4 | 3.625 | .00 | .00 | .05 | .00 | .03 | .00 | .11 | .00 | .00 |
| 5 | 7.495 | .00 | .01 | .08 | .00 | .67 | .00 | .02 | .00 | .18 |
| 6 | 12.226 | .00 | .66 | .03 | .01 | .02 | .16 | .15 | .00 | .04 |
| 7 | 16.622 | .00 | .24 | .72 | .03 | .08 | .50 | .67 | .02 | .05 |
| 8 | 39.943 | .01 | .04 | .00 | .61 | .17 | .09 | .04 | .80 | .04 |
| 9 | 45.104 | .98 | .04 | .07 | .35 | .02 | .23 | .00 | .18 | .18 |
| a. Dependent Variable: GDPP | | | | | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix D  Model 2 Coefficients Table | | | | | | | |
| Model | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| Beta | Tolerance | VIF |
| 1 | (Constant) |  | 9.880 | .000 |  |  |
| Member | -.124 | -1.030 | .310 | .365 | 2.743 |
| Time | .301 | 2.184 | .036 | .279 | 3.590 |
| EGI | .240 | 1.973 | .056 | .357 | 2.801 |
| Public Debt as a % of GDP | .105 | 1.005 | .322 | .489 | 2.044 |
| Corruption1 | -.516 | -3.834 | .000 | .292 | 3.421 |
| FDIPP | .045 | .492 | .626 | .637 | 1.570 |
| a. Dependent Variable: GDPP | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix E Model 2 Collinearity DiagnosticsTable | | | | | | | | | | |
| Model | Dimension | Condition Index | Variance Proportions | | | | | | |
| (Constant) | Member | Time | EGI | Public Debt as a % of GDP | Corruption1 | FDIPP |
| 1 | 1 | 1.000 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 2 | 2.172 | .00 | .00 | .02 | .00 | .00 | .00 | .43 |
| 3 | 2.833 | .00 | .02 | .07 | .00 | .01 | .02 | .19 |
| 4 | 5.362 | .00 | .37 | .13 | .00 | .16 | .01 | .01 |
| 5 | 7.069 | .00 | .05 | .46 | .00 | .68 | .01 | .24 |
| 6 | 12.048 | .02 | .47 | .12 | .08 | .04 | .50 | .00 |
| 7 | 38.326 | .98 | .08 | .19 | .92 | .10 | .46 | .13 |
| a. Dependent Variable: GDPP | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix F Model 3 Coefficients Table | | | | | | | |
| Model | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| Beta | Tolerance | VIF |
| 1 | (Constant) |  | 10.393 | .000 |  |  |
| Member | -.133 | -1.133 | .264 | .374 | 2.675 |
| Time | .334 | 2.792 | .008 | .363 | 2.756 |
| EGI | .263 | 2.358 | .024 | .417 | 2.398 |
| Public Debt as a % of GDP | .081 | .886 | .382 | .625 | 1.601 |
| Corruption1 | -.501 | -3.863 | .000 | .308 | 3.243 |
| a. Dependent Variable: GDPP | | | | | | | |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix G Model 3 Collinearity Diagnostics Table | | | | | | | | | | | | | | | | | |
| Model | Dimension | Condition Index | Variance Proportions | | | | | | | | | | | |
| (Constant) | Member | Time | | EGI | | | Public Debt as a % of GDP | | | Corruption1 | | |
| 1 | 1 | 1.000 | .00 | .00 | | .01 | | .00 | | | .01 | | | .00 | | |
| 2 | 2.625 | .00 | .02 | | .12 | | | .00 | | | .00 | .03 | |
| 3 | 5.296 | .00 | .33 | | .12 | | | .00 | | | .31 | .01 | |
| 4 | 6.124 | .00 | .11 | | .48 | | | .00 | | | .59 | .01 | |
| 5 | 11.958 | .02 | .48 | | .17 | | | .09 | | | .06 | .52 | |
| 6 | 35.473 | .98 | .06 | | .10 | | | .91 | | | .03 | .43 | |
| a. Dependent Variable: GDPP | | | | | | | | | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix H Model 6 Coefficients Table | | | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Collinearity Statistics | |
| B | Std. Error | Beta | Tolerance | VIF |
| 1 | (Constant) | 8.839 | .823 |  | 10.734 | .000 |  |  |
| Time | .017 | .005 | .354 | 3.530 | .001 | .513 | 1.948 |
| EGI | .019 | .008 | .228 | 2.336 | .025 | .543 | 1.841 |
| Corruption1 | -.023 | .006 | -.440 | -3.675 | .001 | .360 | 2.774 |
| a. Dependent Variable: GDPP | | | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Appendix I Model 6 Collinearity Diagnostics Table | | | | | | | |
| Model | Dimension | Eigenvalue | Condition Index | Variance Proportions | | | |
| (Constant) | Time | EGI | Corruption1 |
| 1 | 1 | 3.315 | 1.000 | .00 | .01 | .00 | .00 |
| 2 | .622 | 2.309 | .00 | .33 | .00 | .02 |
| 3 | .059 | 7.489 | .01 | .61 | .08 | .41 |
| 4 | .004 | 27.491 | .99 | .05 | .92 | .56 |
| a. Dependent Variable: GDPP | | | | | | | |

Appendix J  
List of Countries

|  |  |  |
| --- | --- | --- |
| EU Members | Non-EU Members | EFTA Member |
| Austria  Belgium  Bulgaria  Cyprus  Czech Republic  Denmark  Estonia  Finland  France  Germany  Greece  Hungary  Ireland  Italy  Latvia  Lithuania  Luxembourg  Malta  Netherlands  Poland  Portugal  Romania  Slovakia  Slovenia  Spain  Sweden  United Kingdom | Albania  Armenia  Azerbaijan  Belarus  Bosnia and Herzegovina  Croatia  Georgia  Macedonia  Moldova  Montenegro  Serbia  Turkey  Russian Federation  Ukraine | Iceland  Norway |