European Union Membership and Levels of Corruption

Kevin J. Morris
Georgia College and State University

The Impact of European Union Membership on Levels of Corruption

I.   Introduction

On October 4, 2009, the PASOK (Socialist) Party of Greece was ushered into power with the election of their candidate, George Papandreou, as prime minister. Two months later, the new PASOK Government announced that the projected budget deficit for 2009 was 12.7% of GDP, double the old 2009 deficit estimate of 6.7% of GDP and over 9 percentage points above the 3% deficit-to-GDP ratio allowed by the Stability and Growth Pact for Eurozone member countries.[1] The 12.7% estimate was later adjusted upward to 15.4%,[2] and by early 2010, several credit-rating agencies had re-classified Greece's sovereign debt to "junk status."[3] Over the next few years, the financial crisis in Greece became increasingly dire as Greece received 242.8 billion euros in loans from the International Monetary Fund (IMF) and the European Union (EU), underwent the largest debt restructuring in history, and became the first developed nation to default on the IMF.[4][5]

While the reasons for the debt crisis in Greece are disparate and complex, the widespread presence of corruption in Greece has been noted as a factor that contributed to the situation.[6] Nelson, Belkin, and Mix acknowledge that the decrease in borrowing rates with the Greek adoption of the Euro, the investor confidence inspired by Greek ratification of the Stability and Growth

---

[1] "Papandreou Tries to Prop Up the Pillars" *The Economist*, Dec 17th 2009. Retrieved January 2, 2015, http://www.economist.com/node/15127474/print.

[2] Helena Smith, "Greek Deficit Much Bigger than Estimate," *The Guardian,* November 15, 2010, Retrieved December 27, 2015, http://www.theguardian.com/business/2010/nov/15/greek-deficit-bigger-than-thought.

[3] Chavon Sutton, "S&P downgrades Greek debt to junk," *CNN Money,* April 27, 2010, Retrieved January 14, 2016, http://money.cnn.com/2010/04/27/news/international/Greece_debt_downgraded/.

[4] "Timeline: Greece's Debt Crisis," *Council on Foreign Relations*, Retrieved December 30, 2015, http://www.cfr.org/greece/timeline-greeces-debt-crisis/p36451

[5] Alexander Saeedy and John O'Donnell, "How much Greece owes to international creditors," *Reuter,*. June 28, 2015, Retrieved January 23, 2016, http://www.reuters.com/article/us-eurozone-greece-debt-factbox-idUSKCN0P80XW20150628.

[6] Nicos Christodoulakis, (2010), "Crisis, threats and ways out for the greek economy," *Cyprus Economic Policy Review* 4, no. 1 .89-90.

Pact, as well as the government borrowing to pay for budget deficits and net imports, were all important elements resulting in the Greek Crisis.[7] Nelson et al. also emphasize, however, the impact of the "deeply entrenched" corruption in the Greek economy and Greek society in the form of "…a large and inefficient public administration, endemic tax evasion, and widespread political clientelism."[8]

The issue of widespread corruption, unfortunately, is not limited to Greece alone. In her 2014 Anti-Corruption Report to the European Council and the European Parliament, E.U. Trade Commissioner Cecilia Malmström stated that "the extent of [corruption] in Europe is breathtaking" and costing the E.U. economy "at least €120 billion annually (equivalent to $162 billion)."[9][10] The data describes reports of high levels of corruption in Eastern European members and relatively new E.U. members, such as Romania, Slovakia, the Czech Republic, and Lithuania.[11] Indications of high corruption, however, were also seen in founding E.U. members, such as Spain, Portugal, Italy, and Ireland.[12]

These findings question the anti-corruption efficacy of European Union institutions and guidelines. All applicant nations wishing to accede to the E.U. must adopt anti-corruption legislation and practices, establish "watchdog" institutions, and demonstrate an acceptable level

---

[7] R. M. Nelson, P. Belkin, & D. E. Mix, (2011), Greece's Debt Crisis: Overview, Policy Responses and Implications, *Journal of Current Issues in Finance, Business and Economics,* (4), 373.

[8] Ibid.

[9] Chris Morris, "Corruption across E.U. 'breathtaking' - E.U. Commission." *BBC News, Brussels*. February 3, 2014. Retrieved December 2, 2015. http://www.bbc.com/news/world-europe-26014387.

[10] E.U. Commission. "Report from the Commission to the Council and the European Parliament–EU Anti-Corruption Report." (2014).

[11] Ibid, 14.

[12] Ibid.

of transparency in government operations.[13] The 2014 E.U. Commission Anti-Corruption Report

acknowledges this when it states:

> EU Member States have in place most of the necessary legal instruments and institutions to prevent and fight corruption. However, the results they deliver are not satisfactory across the. EU. Anti-corruption rules are not always vigorously enforced, systemic problems are not tackled effectively enough, and the relevant institutions do not always have sufficient capacity to enforce the rules. Declared intentions are still too distant from concrete results, and genuine political will to eradicate corruption often appears to be missing.[14]

The report details the impact of these shortcomings with a few notable statistics. For

example, 26% of E.U. citizens surveyed reported that they are personally affected by corruption.[15]

Furthermore, 73% of those surveyed indicated that a bribe or connection was the best way to obtain

a public service and only 23% thought that their government was effectively addressing

corruption.[16]

Corruption costs the E.U. economy in a variety of ways, and the estimated loss due to

corruption (€120 billion) is only a little less than the 2014 agreed E.U. budget of €145 billion

(estimated in 2015 figures).[17] The main costs come through the loss of tax revenues and foreign

investment.[18][19] It is important to note that the tax revenue and foreign investment loss factored not

only in the Greek Crises, but also in the developing debt crises in Ireland and Portugal in 2009 that

---

[13] Paul Craig, "The Treaty of Lisbon: Process, Architecture and Substance," European Law Review 2 (2008): 147.
[14] E.U. Commission Anti-Corruption Report (2014), 2.
[15] Ibid, 7.
[16] Ibid.
[17] "2014 Budget." European Union. Retrieved January 14, 2016. http://europa.eu/pol/financ/index_en.htm
[18] E.U. Commission Anti-Corruption Report (2014), 3.
[19] Additionally, the report states that a third of firms engaged in public tenders for government contracts were unable to participate due to corruption, in some cases raising costs as high as 50% of the cost of the original contract. See Arnáiz, Teresa Medina. (2008) "The Exclusion of Tenderers in Public Procurement as an Anti-Corruption Mean," 2.

spread to Spain and Italy in 2012.[20] Given the global ramifications of the Greek Crisis, as well as the impact of the E.U. economy of the common market, it is imperative that the E.U. effectively address and lower the incidence of corruption among its members.

The ostensible aim of the European Union is to improve the quality of life for the citizens of the member countries. The treaties and agreements made amongst the members are crafted to allow Europeans to enjoy greater economic prosperity and political stability through improved and streamlined governmental processes within the union. The governing documents of the European Union commits the organization to transparency and ethical practices in government operations, as explicitly stated and detailed in the 11th article of the 2007 Treaty of the Functioning of the European Union.[21] The continued instances of corruption are counter to the codified aims of the E.U. as well as the official efforts to eradicate corruption that E.U. institutions and member states are required to undertake. The goal of this study is to empirically determine the effect of E.U. membership on levels of corruption, as the legitimacy of the E.U.'s mission to raise the living standards of Europeans rests in part with the efficacy of E.U. anti-corruption measures. As the recent debt crises suggest, the benefit of E.U. membership in terms of addressing corrupt governance—and the resultant financial emergencies—may not be as robust and effective as it should be.

II.   Previous Literature

The literature on the subject of economic factors of corruption is extensive, so I confined my literature review to recent papers and research that aided me in building my model. I was unable

---

[20] *The Eurozone Crisis: Overview and Issues for Congress*. Congressional Research Service, 2012.

[21] Consolidated versions of the Treaty on European Union and the Treaty on the Functioning of the European Union, The Official Journal of the European Union, C 326, 26/10/2012 P. 0001- 0390. Retrieved April 10, 2017. http://eur-lex.europa.eu/legalcontent/EN/TXT/?uri=celex:12012M/TXT

to find many other papers that examined the specific role of European Union membership on levels of corruption in a country. Thus, I focused on examining research that would aid in identifying necessary independent variables.

Wijaynato Wijayanto (2007) authored the paper that directly influenced this study and the development of the regression used to determine the impact of E.U. membership on corruption. His paper, titled "Economic, Political and Social Factors Affecting Corruption: A Cross Country Analysis," incorporates most of the scholarship and sources later discussed in this paper and used in the construction of this study's regression. Wijaynato's paper is unique in that includes two variables, quality of regulation and urban population, which have never been used in any previous studies. This paper was part of his dissertation at Georgetown University for his Masters in Public Policy. He uses World Bank data from 133 countries around the world for five years, 1996, 1998, 2000, 2002, 2004. Wijayanto states that high-quality regulation created by a government can act as an anticorruption mechanism, given that efficient regulation allows a country to function more effectively.[22] In addition, the proportion of urban population may also have positive relationship with control of corruption, as urban citizens tend to be better educated and more involved in civic activity.[23] Wijayanto, however, found that the urban population variable was not significant.[24]

Daniel Treisman (2000) finds that effective, efficient democracy strengthens the control of corruption score, as a result of limiting corruption-inducing behavior in public officials.[25] This article analyzes various factors that could be related to levels of "perceived corruption." He

---

[22] Wijaynato Wijaynato, (2007) "Economic, Political and Social Factors Affecting Corruption: A Cross Country Analysis," PhD diss., Georgetown University , 4. Accessed January 4, 2016. DigitalGeorgetown Institutional Repository, Available at http://hdl.handle.net/10822/555845.
[23] Ibid, 5.
[24] Ibid, 31.
[25] D. Treisman, (June 2000), "The Cause of Corruption – Cross Country Analysis," *Journal of Public Economics*, 76 (3), 341.

compiled his data from business risk surveys for the early-1980s and mid-1990s. His main findings were Countries with Protestant traditions, histories of British rule, more developed economies, and more effective democracies were rated "less corrupt."[26]

Lindita Camaj (2012) finds that press freedom and democracy strengthen each other, and that this is particularly the case when press freedom exists in the framework of what the author defines as a "strong civil society." She measures the relationship between media freedom and corruption, dividing the media's role into what she defines as vertical accountability (electoral competitiveness, civil society, and voter turnout) and horizontal accountability (judicial independence and political system).[27] She finds a positive relationship between democracy quality and transparency. Her results also suggest a strong association between high levels of media freedom with low levels of corruption.[28]

In addition, Amos Brunetti and Bruno Weder (1999) reinforce Camaj's findings and their data also suggest that the association between media freedom and corruption is stronger in countries with parliamentary systems than in those with presidential systems. They also find that this impact amplifies as the degree of judiciary independence increases.[29] Both Brunetti and Weder and Camaj utilize two decades of Press Freedom data from Freedom house.

Press freedom enables media to publish balanced news about the government, including news about corruption by government officers. A strong and viable Press creates accountability

[26] ibid, 453.
[27] Lindita Camaj, (2012), "The Media's Role in Fighting Corruption: Media Effects on Governmental Accountability," *The International Journal of Press/Politics.* 1940161212462741.

[28] ibid, 13.
[29] A. Brunetti and B. Weder, (2003), "A Free Press is Bad News for Corruption," *Journal of Public Economics*, 87 (8), 1801-1810.

source for the general public. This is in line with Klitgaard's (1999) statement in his book, *Controlling Corruption*, that corruption levels increase with a government-dominated media and decrease when an un-censored press focuses on government accountability.[30]

Fatic Aleksandar (2000) finds that stability is an important factor in determining whether the national environment is conducive to corruption or not.[31] Stable political, economic and social elements allow the government and the citizens to create and perpetuate transparent mechanisms of corruption monitoring, assessment, and control.[32] Aleksandar continues with findings indicating that corruption is rampant in countries in Southeast Europe that underwent political transition.[33] Aleksandar states that this transition is accompanied by political, economic and social instability. Situations of instability may make corruption the only available option for citizens, including government officers, to survive.[34] Reading from Aleksandar's analysis indicates that political stability may have positive relationship with the control of corruption.[35]

James Rauch and Peter Evans (2000) conducted a study on bureaucratic quality and corruption.[36] They look at how the recruitment and promotion process in the bureaucracy is based on meritocracy or on nepotism, as they argue that less nepotism tends to reduce the collusion and power abuse among bureaucrats.[37] They test this point by constructing an index of

---

[30] R. Klitgaard, (1991). *Controlling Corruption*. California: University of California Press.
[31] Fatic Aleksandar (2000), Stability and Corruption in South Eastern Europe – Corruption is a way of life in South-Eastern Europe – a necessary method of survival. *SouthEast Europe Review*. 4/2000

[32] Ibid.
[33] ibid.
[34] ibid.
[35] ibid.
[36] James E Rauch and Peter B. Evans, (1999), "Bureaucratic Structure and Bureaucratic Performance in Less Developed Countries," UC San Diego: Department of Economics, Retrieved from: http://eprints.cdlib.org/uc/item/0sb0w38d
[37] ibid, 9.

meritocratic recruitment and promotion. They show that it is significantly associated with

corruption in their sample of less developed countries.[38]

Carlos Liete and Jens Weidmann (1999) find a strong association with natural resource

abundance and rent seeking behavior.[39] They also find that the extent of corruption relies mainly

on natural resource abundance, governmental policies, and how bureaucratic power is

concentrated.[40] They also measure corruption by using corruption scores provided by the

International Country Risk Guide.[41] Their natural resource measure is given as the share of

natural resource exports in a country's GNP.[42]

Finally, I examined a working paper written by Pomona College researcher Cristina

Waggoner-Nicolescu and co-researcher Shawn Bowler. They specifically look at the impact of

what they define as "Political Conditionality," or the conditions attached to trade agreements and

aid programs the E.U. has with other nations.[43] This includes nations who are in the E.U. or in the

process of joining the EU. They are specifically interested in how these stipulations and conditions

that the E.U. puts into the agreements, such as election reform or increases in public financial

transparency, impacts corruption. They look at three different types of association with the EU,

including Membership, Negotiation, and ENP Action Plan (or European Neighbor Policy). They

conduct several different regressions with several different types of data. They consistently find

that the levels of corruption decrease in country when the country holds a conditional offer of E.U.

---

[38] ibid, 11.

[39] Carolos Leite and Jens Weidman, "Does Mother Nature Corrupt? Natural Resources,   Corruption, and Economic Growth," Working Paper No. 99/85, International Monetary Fund, 1999, http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=259928 (Retrieved March 5, 2015).

[40] ibid, 45.

[41] ibid, 46.

[42] ibid, 7.

[43] Christina Nicolescu-Waggonner, and Shaun Bowler, "Corruption in the European Neighbourhood: The Impact of E.U. 'Political Conditionality' on Governance," Working Paper, (Academia.edu-Pomona College), https://www.academia.edu/1888247/_Corruption_in_Europe_the_Impact_of_EU_political_conditionality_on_governance_with_Shaun_Bowler_ (Retrieved March 15, 2016).

membership, contingent on that country insituting certain reforms, but that levels of corruption rise again after that country is accepted and officially added to the EU.[44]

Waggoner-Nicolescu and Bowler also include demographic binaries for cultural factors, such as Catholic, Muslim, or Orthodox, as they cite Treisman when they theorize that some faith traditions, such as Eastern Orthodoxy and Islam, are more hierarchal and discourage civic participation—creating environments conducive to government corruption. They find in several of their regressions that both Islam and Eastern Orthodoxy have large effects on increasing corruption, both at the 99% significance level.[45]

III. Methodology
Data

The dataset for this paper contains 13 independent variables composed of 6 Worldwide Governance Indicators, 4 Global Development Indicators, and 3 demographic binary variables. Excepting the 3 demographic variables, all the data for my variables come from the World Bank's Worldwide Governance Indicators and the World Development Indicators datasets. For this study, I used only the countries from the European/Central Asian Region.[46]

The World Bank compiles data from a variety of officially recognized and respected international sources to generate the Worldwide Governance Indicators, originally developed by Kaufmann, Kraay, and Mastruzzi (2010).[47] According to an official statement released on the database website, "[the aggregated indicators] are based on over 30 individual data sources

[44] ibid, 17.
[45] ibid, 13.
[46] "World Development Indicators," World Bank, http://www.worldbank.org/en/region/eca.
[47] Daniel Kaufman, Aart Kraay, and Massimo Mastruzzi, "The Worldwide Governance Indicators: Methodology and Analytical Issues," Policy Research Working Paper No. 5430, (World Bank, September 2010), p 1, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130 (Retrieved November 1, 2015).

produced by a variety of survey institutes, think tanks, non-governmental organizations, international organizations, and private sector firms.[48] These sources include Freedom House, Transparency International, Global Competitiveness Report, the European Bank for Reconstruction, Global Integrity Index, the Asian Development Bank, the African Development Bank, Economist Intelligence Unit, Political Risk Services, the Bertelsman Foundation, Reporters Without Borders, and the Commercial Business Information Providers.[49] The data from these sources are treated using a statistical technique known as Unobserved Components model to combine the data into standard, comparable units.[50]

I also use country demographic variables from the World Development Index. This is the primary collection of World Bank data for development and demographic information on countries throughout the world.[51] This database includes a variety of indices on national and regional financial, commercial, population, and environmental characteristics.[52]

Data Cleaning

There were 855 initial observations in 54 European and Central Asian countries initially included in the Worldwide Governance Indicators dataset. This number, however, later reduced to 372 observations of 31 countries after countries were dropped due to missing or insufficient data.

---

[48] ibid, 5.
[49] ibid, 8.
[50] ibid, 7.
[51] "World Development Indicators," World Bank, Retrieved October 16, 2015, http://data.worldbank.org/data-catalog/world-development-indicators.
[52] ibid.

Variables

These units of data from the Worldwide Governance Indicators are then sorted into six broad governance categories (or variables) known as Voice and Accountability (renamed *Free Press* in this study), Political Stability and Absence of Violence/Terrorism (renamed *Political Stability*), Government Effectiveness (renamed *Effective Governance*), *Regulatory Quality*, *Rule of Law*, and *Control of Corruption*.[53]

The *Control of Corruption* variable is my dependent variable. *Control of Corruption* measures the extent to which public power is exercised for private gain. *Control of Corruption* encompasses a range of corrupt activities, as well as the event of "capture" of the state by private interests.[54] This variable is a 5-point scale whose scores range roughly from -2.5 (indicating most corrupt) to 2.5 (indicating least corrupt) with a mean of 0 and a standard deviation of 1. For reference, Finland's 2012 score was 2.55, indicating a very low level of corruption. Georgia's control of corruption score in 2002, conversely, was -1.13. This indicates a very high level of corruption.

EU Member is my key independent variable. E.U. *Member* is a binary variable where the value of E.U. Member is 1 if the country was a member of the European Union for that year and 0 if the country was not member of the E.U. for that year.

From the World Development Indicators dataset, I incorporated data for the factors of *Urban Population* and the Percent of Natural Resources Rents of GDP. While Wijaynato did not

---

[53] Kaufman, et al "Worldwide Governance Indicators," 1.
[54] ibid, 4.

find Urban Population to be significant, I included this variable in the study due to the variation in urban demographics among European countries.

Finally, I included certain cultural demographic variables for religious traditions in European countries. I am very intrigued by the results found by Waggonner-Nicolescu and Bowler, and I am interested gauging the impact of historically Catholic, Protestant, or Orthodox Christian traditions. These cultural variables are binaries, with the Islamic variable left out. For the complete list of variables, please see Table 1.

Table 1.

Variable	Source	Description
Control of Corruption	WGI[55]	Score, indicating the control corruption in each country, ranging from -2.5 (most corrupt) to +2.5 (least corrupt).
EU Member	European Commission[56]	Binary, indicating 0 if not an E.U. member for respective year and 1 if an E.U. member in that year
Effective Governance	WGI	Score, indicating effectiveness of governmental operation, ranging from -2.5 (very ineffective) to +2.5 (very effective)
Political Stability	WGI	Score, indicating political stability, ranging from -2.5 (very unstable) to +2.5 (very stable)
Regulation Quality	WGI	Score, indicating the quality of regulation in the country ranging from -2.5 (lowest quality) to +2.5 (highest quality)
Rule of Law	WGI	Score, indicating the quality of justice system, ranging from -2.5 (low quality) to +2.5 (high quality)
Freedom of Press	WGI	Score, indicating freedom of speech and freedom of press, ranging from -2.5 (not very free) to +2.5 (very free)
GDP per Capita	WDI[57]	Indicates the GDP per Capita for a Country per year
Unemployment Rate	WDI	Indicates the ratio between the unemployed and employed populations of labor force per country per year
Nat Resource GDP	WDI	The ratio between rents from natural resources (i.e. oil, gas, mineral, other resources) and other activity to a country's total GDP.
Urban Population	WDI	Indicates the fraction of the country's population that lives in an Urban Area.
Catholic	CIA World Factbook[58]	Binary, indicating 1 if country is a Historically Catholic Country and 0 if not.
Protestant	CIA World Factbook	Binary, indicating 1 if country is a Historically Protestant Country and 0 if not.
Orthodox	CIA World Factbook	Binary, indicating 1 if country is a Historically Orthodox Country and 0 if not.

---

[55] "Worldwide Governance Indicators," World Bank, Retrieved October 15, 2015, http://data.worldbank.org/data-catalog/worldwide-governance-indicators

[56] "EU Neighborhood Policy and Enlargement Negotiations," E.U. Commission. Retrieved December 1, 2015. http://ec.europa.eu/enlargement/countries/check-current-status/index_en.htm

[57] "World Development Indicators," World Bank, Retrieved October 16, 2015, http://data.worldbank.org/data-catalog/world-development-indicators

[58] "World Factbook," Central Intelligence Agency, Retrieved December 1, 2015, https://www.cia.gov/library/publications/the-world-factbook/.

Countries

This study incorporates thirty-one countries in Europe and Central Asia from 2002 to 2013. The countries include fourteen countries who were E.U. members at the onset of the study, nine countries who join the E.U. during the course of the study,[59] and seven countries that are not E.U. members.[60] Of the nine countries that join the E.U. during the study, six countries were added during the 2004 enlargement of the EU,[61] two countries were added from the 2007 Enlargement,[62] and one country was added from the 2013 Enlargement.[63] Please see Figure 1.

---

[59] Countries who were already E.U. members at the onset of this study included Austria, Belgium, Denmark, Finland, France, Germany, Greece, Italy, Ireland, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.
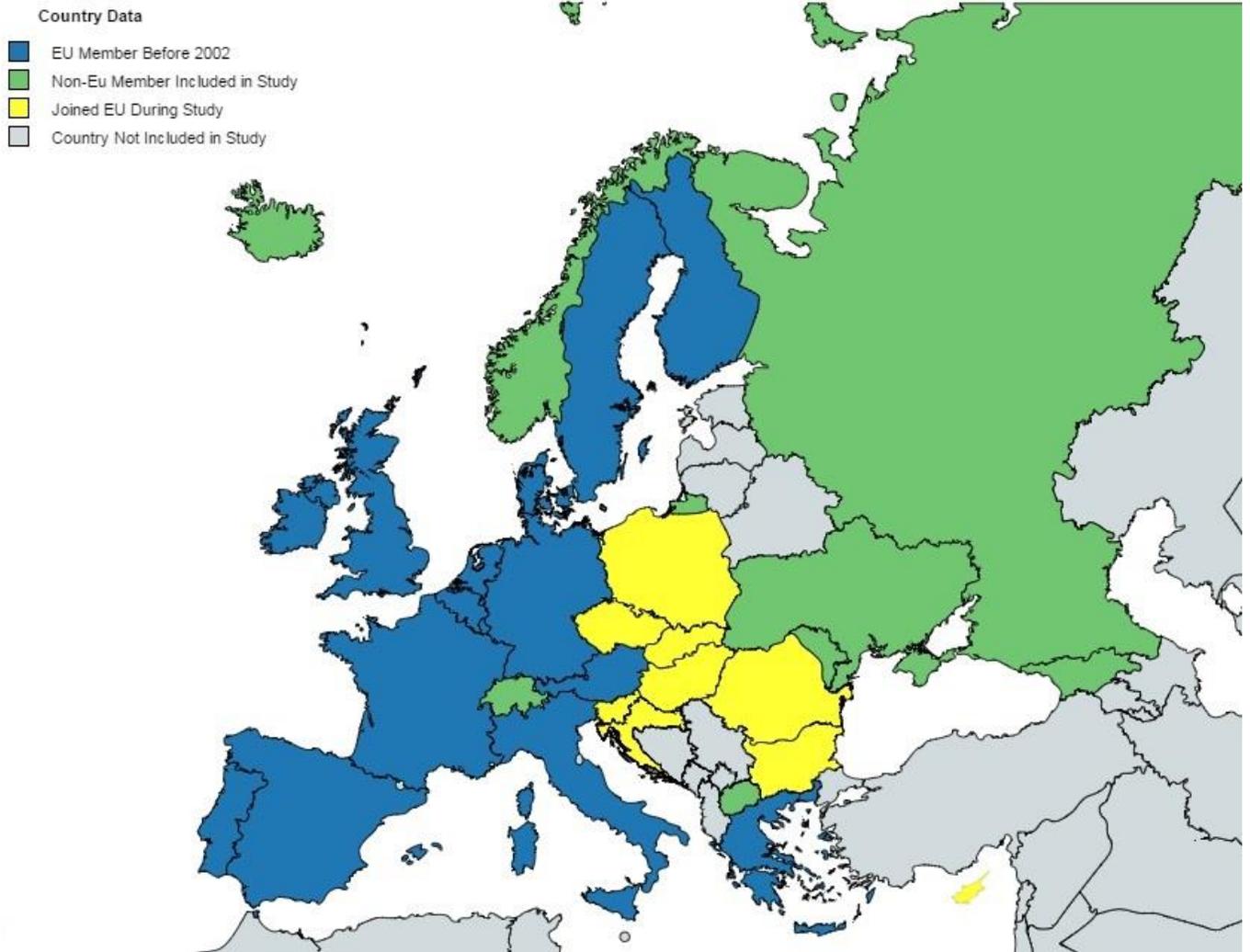[60] Non-EU Members included Iceland, Georgia, Macedonia, Moldova, Norway, Switzerland, Russia, and Ukraine.
[61] The members of this study in the 2004 Enlargement included Cyprus, the Czech Republic, Hungary, Poland, Slovakia, and Slovenia.
[62] Members of this study in the 2007 Enlargement included Bulgaria and Romania.
[63] The 2013 Enlargement added Croatia to the EU. The latest information on country association status with the E.U. can be found at http://ec.europa.eu/enlargement/countries/check-current-status/index_en.htm

Figure 1.

Country Data

- EU Member Before 2002
- Non-Eu Member Included in Study
- Joined EU During Study
- Country Not Included in Study

Summary Statistics

Table 2 details the summary statistics of my variables.

Table 2.

Variable	Mean	St. Deviation	Minimum	Maximum
Corruption	0.623655	1.064515	-1.138725	2.552692
EU Member	0.9316476	0.4851205	0	1
Effective Governance	1.020473	0.8778297	-0.8864411	2.356591
Political Stability	0.5940804	0.6797157	-1.46215	1.664877
Regulation Quality	1.033927	0.6784107	-0.81443	1.920921
Rule of Law	0.9232398	0.9077001	-1.167023	1.99964
Freedom of Press	0.9624432	0.6625328	-1.013167	1.82637
GDP per Capita	28186.15	20995.02	670.1845	86129.38
Unemployment Rate	9.053983	6.084385	2.3	37.3
Nat Resource GDP	2.65139	5.878833	0	39.1455
Urban Population	71.38512	12.57945	44.857	97.776
Catholic	0.5215054	0.5002101	0	1
Protestant	0.2580645	0.438159	0	1
Orthodox	0.2190645	0.438159	0	1
No. of Observations	372			

The mean for E.U. *Member* is 0.93, which shows that 93% of the countries in the sample were E.U. members or became E.U. members during the selected time range and demonstrated a standard deviation of 0.4851.

My average *Control of Corruption* score is 0.623655, meaning that the countries in my sample from 2002 to 2013 leaned slightly less corrupt on average.

Model

I included regional-level fixed effects into my model in order to account for unobservable heterogeneity between different regions across time. For the purposes of this study, these regions are defined as Northwest, Mediterranean, Eastern, and Other.

Building on the model developed by Wijaynato, I thus estimate my model to observe the effect membership in the E.U. has on levels of corruption within a country. The basic specification for the model is as follows:

$$\begin{aligned}
\textit{Control of Corruption}_{it} = \beta_0 + \ &\beta_1 \textbf{EU\_Member}_{it} + \beta_2 \textbf{Government\_Effectiveness}_{it} + \\
&\beta_3 \textbf{Press}_{it} + \beta_4 \textbf{Free\_Speech}_{it} + \beta_5 \textbf{Regulation}_{it} + \\
&\beta_6 \textbf{GDP\_per\_Capita}_{it} + \beta_7 \textbf{Rule\_of\_Law}_{it} + \\
&\beta_8 \textbf{Unemployment}_{it} + \beta_9 \textbf{Political Stability}_{it} + \\
&\beta_{10} \textbf{Percent\_Urban\_Pop}_{it} + \beta_{11} \textbf{Percent\_Natural\_Resources\_GDP}_{it} + \\
&\beta_{12} \textbf{Historically\_Protestant}_i + \\
&\beta_{13} \textbf{Historically\_Catholic}_i + \beta_{14} \textbf{FE} + \varepsilon_{it}
\end{aligned}$$

IV. Results

Table 3 summarizes the regression results.

Table 3.

Variable	Coefficient	St. Error (Robust)	P-Value
EU Member	-0.1087836***	0.0335655	0.001
Effective Governance	0.5391492***	0.0580785	0.000
Political Stability	-0.0667007**	0.0350888	0.058
Regulation Quality	0.017878	0.0640482	0.780
Rule of Law	0.4197714***	0.074219	0.000
Freedom of Press	0.0552318	0.072617	0.447
GDP per Capita	7.74e-06***	1.31e-06	0.000
Unemployment Rate	-0.000955	0.0020959	0.649
Nat. Resource GDP	-0.0094065***	0.0026768	0.000
Urban Population	-0.0022343	0.0013693	0.104
Catholic	-0.0223395	0.0400301	0.577
Protestant	0.3214475***	0.0443816	0.000
Orthodox	0.00603	0.0615436	0.922
No. of Observations	372		
R Squared	0.9698		
Adj. R Squared	0.9685		

***Significant at the 99% Level, **Significant at the 95% Level, *Significant at the 90% Level

I find that E.U. *Membership* does impact the level of corruption, and is statistically significant at the 99% level. The E.U. *Membership* variable magnitude of -0.108 indicates that membership in the E.U. will decrease a country's Corruption score by roughly 0.11 points. While this value may seem small, this is actually a much larger effect in the context of the possible 5-point score range (from -2.5 to 2.5).

I was expecting E.U. *Membership* to have a negligible impact on the *Control of Corruption*. The negative effect may be due to the situation referenced by Cecilia Malmström in which she claims that while member countries have the correct practices and institutions in place, these anti-corruption measures are not being effectively utilized to actually combat corruption. Prospective countries may create "surface-level" changes during the admission process into the EU, but fail to actually address and decrease corruption.

As expected, the *Government Effectiveness* and *Rule of Law* variables both had positive effects on Corruption scores and were statistically significant at the 99% level. Additionally, both had meaningful magnitudes which were moderately large. Both of these results indicate that higher levels of Effective Governance and Rule of Law are associated with moderately higher Control of Corruption scores.

The *GDP per Capita* variable was both positive and statistically significant at the 99% level. However, GDP per Capita had a small magnitude, indicating that a higher GDP per Capita is associated with a slighter higher Control of Corruption score.

While the magnitude is small, *Nat Resources per GDP* has a negative effect that is significant at the 99% level. This is unsurprising and consistent with the literature.

Contrary to my expectations, my results indicated that the *Quality of Regulation* and *Free Press* variables were not statistically significant. While the literature indicates that these typically have significantly effect on reducing levels of corruption in a country, my model does not demonstrate this. I was also surprised to see that *Political Stability* had a negative effect on a country's corruption score that was significant at the 90% level.

Interestingly, *Historically Protestant* has a large effect with a 99% level of significance. This is consistent with the literature, particularly Treisman and others. It is important to note, however, that this study encompasses a relatively short period in recent history. Thus, I cannot conclude that a Protestant tradition is always associated with lower corruption.

I was unable to obtain data for certain likely important variables, such as salaries of public employees. Additionally, there are certain issues involved in gauging corruption, as there is discrepancy between what some cultures consider traditional and obligatory exchanges and what other cultures consider corrupt practices. This may have resulted in some bias due to missing data.

The regression results indicate a very high R-Squared and Adjusted R-Squared. This is due to the fact that my variables are very general and encompass a lot of factors, which is resulting in a very high Adjusted R-Squared. Furthermore, including regional-level fixed effects in a study with country-level data will typically lead to a very high R-squared.

Additionally, many of these variables are quite abstract and are highly correlated with eachother. This model thus contains a high degree of multicolinearity, especially among the 6 Worldwide Governance Indicators.

V. Conclusion

I aim to develop the sophistication of this study in a few ways. Firstly, I would like to include data on ethnic diversity per country, as there is research indicating that level of ethnic diversity can increase corruption levels. I would also include data on Black Market premiums to gauge the level of Black Market activity in each country.

Given the high degree of multicolinearity in my model, I think it would be expedient to include a correlation matrix to ascertain the degree to which the six Worldwide Governance Indicators are correlated with each other and the other variables.

Additionally, I am interested in running this regression with country-level fixed effects to absorb unobservable heterogeneity between the different countries over time. These fixed effects would account for the differences that exist between these countries that are missing in my model due to the observations I had to drop. I did not include country-level fixed effects as this would have consumed too many of my degrees of freedom.

Finally, I would like to address the largest problem my paper has–the lack of data that forced me to remove several countries, particularly Mediterranean and Southeastern European states, from my study. I would like to conduct an analysis to determine the effect of the missing observations on my model. I will do this by creating a binary variable that is equal to 1 if the observation for said country in said year is present, and 0 if this observation is missing. Should the missing data prove to be significant, it will mean that this missing data is skewing my results and the effect of my key variable.

The Greek Debt Crises created reverberations across the globe and impacted countries and financial institutions all over the world. As the debt crisis manifested in other countries, it became evident that the European Union had several problems that it needed to address. Corruption, a problem which played a significant role in Europe's financial issues, continues to negatively affect the E.U. economy today. As evidenced by my results, it appears that European Union Membership is associated with higher levels of corruption in a country. Commissioner Malmström was correct in stating that the E.U. needs to re-examine the process by which prospective member countries create and adopt anti-corruption measures. Additionally, it appears that current E.U. member nations need to scrutinize the efficacy of the anti-corruption legislation, practices, and institutions that are already in place. Ultimately, the European Union member states and prospective members may need to adopt new and effective ways to address this issue if they are going to effectively eradicate corruption in a long-term and feasible manner.

Bibliography

Peer Reviewed Economic Studies

Brunetti, A. & B. Weder. (2003). "A Free Press is Bad News for Corruption." *Journal of Public Economics*, 87 (8), 1801-1824.

Camaj, Lindita. (2012). "The Media's Role in Fighting Corruption: Media Effects on Governmental Accountability." *The International Journal of Press/Politics*. 1940161212462741.

Christodoulakis, Nicos. (2010). "Crisis, Threats and Ways out for the Greek Economy." *Cyprus Economic Policy Review* 4, no. 1 .89-96.

Craig, Paul. (2008). "The Treaty of Lisbon: Process, Architecture and Substance." *European Law Review* 2. 137-166.

Klitgaard, R. (1991). *Controlling Corruption*. California: University of California Press.

Fatic Aleksandar (2000). Stability and Corruption in South Eastern Europe – Corruption is a way of Life in South-Eastern Europe – A Necessary Method of Survival. *SouthEast Europe Review*. 4/2000.

Nelson, R. M., Belkin, P., & Mix, D. E. (2011). Greece's Debt Crisis: Overview, Policy Responses and Implications *. *Journal of Current Issues in Finance, Business and Economics, 4* (4), 372-380.

Rauch, James E; & Evans, Peter B., "Bureaucratic Structure and Bureaucratic Performance in Less Developed Countries." UC San Diego: Department of Economics. Retrieved on February 2, 2016, http://eprints.cdlib.org/uc/item/0sb0w38d

Treisman, D. (June 2000). "The Cause of Corruption – Cross Country Analysis." *Journal of Public Economics*, 76 (3), 399 - 457.

Wijayanto, Wijayanto. (2007) "Economic, Political and Social Factors Affecting Corruption: A Cross Country Analysis." PhD diss., Georgetown University. DigitalGeorgetown Institutional Repository. Available at http://hdl.handle.net/10822/555845.

World Bank. 2006. World Bank Governance Index – Control of Corruption. Retrieved on January 10 2016, from http://info.worldbank.org/governance/kkz2005/tables.asp

Working Papers

Kaufman, Daniel., Kraay, Aart., and Mastruzzi, Massimo. "The Worldwide Governance
Indicators: Methodology and Analytical Issues." Policy Research Working Paper No.
5430. World Bank. September 2010.
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1682130. Retrieved November 1,
2015.

Leite, Carolos and Weidman, Jens, "Does Mother Nature Corrupt? Natural Resources,
Corruption, and Economic Growth," Working Paper No. 99/85, International Monetary
Fund, 1999, http://papers.ssrn.com/sol3/Papers.cfm?abstract_id=259928. Retrieved
March 5, 2015.

Nicolescu-Waggonner, Christina, and Bowler, Shaun. "Corruption in the European
Neighbourhood: The Impact of E.U. 'Political Conditionality' on Governance," Working
Paper. Academia.edu-Pomona College.
https://www.academia.edu/1888247/_Corruption_in_Europe_the_Impact_of_EU_politica
l_conditionality_on_governance_with_Shaun_Bowler_. Retrieved March 15, 2016.

Government Publications

2014 Budget. European Union. Retrieved January 14, 2016.
http://europa.eu/pol/financ/index_en.htm

Consolidated Versions of the Treaty on European Union and the Treaty on the Functioning of the
European Union. The Official Journal of the European Union. C 326, 26/10/2012 P. 0001
- 0390. Retrieved April 10, 2017. http://eur-lex.europa.eu/legal
content/EN/TXT/?uri=celex:12012M/TXT.

World Factbook, Central Intelligence Agency. Retrieved December 1, 2015.
https://www.cia.gov/library/publications/the-world-factbook/.

"Report from the Commission to the Council and the European Parliament–EU Anti-Corruption
Report." E.U. Commission 2014. Retrieved December 20, 2015.
http://ec.europa.eu/dgs/home-affairs/e-library/documents/policies/organized-crime-and-
human-trafficking/corruption/docs/acr_2014_en.pdf.

"EU Neighborhood Policy and Enlargement Negotiations." E.U. Commission. Retrieved
December 1, 2015. http://ec.europa.eu/enlargement/countries/check-current-
status/index_en.htm

The Eurozone Crisis: Overview and Issues for Congress. Congressional Research Service 2012. United States Congress Retrieved December 1, 2015. https://www.fas.org/sgp/crs/row/R42377.pdf.

"World Development Indicators." World Bank. Retrieved October 16, 2015. http://data.worldbank.org/data-catalog/world-development-indicators.

"Worldwide Governance Indicators." World Bank. Retrieved October 15, 2015. http://data.worldbank.org/data-catalog/worldwide-governance-indicators.

News Articles

Alexander Saeedy and John O'Donnell. "How much Greece owes to international creditors." *Reuters.* June 28, 2015. Retrieved January 23, 2016. http://www.reuters.com/article/us-eurozone-greece-debt-factbox-idUSKCN0P80XW20150628

Chris Morris. "Corruption across E.U. 'breathtaking' - E.U. Commission." *BBC News, Brussels.* February 3, 2014. Retrieved December 2, 2015. http://www.bbc.com/news/world-europe-26014387.

Chavon Sutton. "S&P downgrades Greek debt to junk." CNN Money. April 27, 2010. Retrieved January 14, 2016. http://money.cnn.com/2010/04/27/news/international/Greece_debt_downgraded/.

Helena Smith. "Greek Deficit Much Bigger than Estimate." *The Guardian, Athens*. November 15, 2010. Retrieved December 27, 2015. http://www.theguardian.com/business/2010/nov/15/greek-deficit-bigger-than-thought.

"Papandreou Tries to Prop Up the Pillars" *The Economist*, Dec 17th 2009. Retrieved January 2, 2015, http://www.economist.com/node/15127474/print.

"Timeline: Greece's Debt Crisis." *Council on Foreign Relations*. Retrieved December 30, 2015. http://www.cfr.org/greece/timeline-greeces-debt-crisis/p36451