To Be Or Not To Be

[8020255]

Does being in the EU affect a country's economic health?

Outline

- Introduction
- European Union
- Economic Trade Theory
- Existing Literature
- Data
- Differences-in-Differences
- Analysis
- Conclusion

Introduction

- Does being in the EU have an effect on the economic health of a country?
  - Economic growth
    - GDP growth rates
  - Price stability
    - Inflation based on CPI
- Largest regional union in the world
- The framework for other regional unions

The European Union

- ‘How can Europe prevent a Third World War?’
- 1945 – End of the Second World War
- 1958 – European Economic Committee [Belgium, France, Germany, Italy, Luxembourg, the Netherlands]
- 1960 – European Free Trade Association [Austria, Denmark, Portugal, Norway, Sweden, Switzerland, the United Kingdom]
- 1993 – European Union [Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, the United Kingdom]
- 2002 – the Euro introduced

Economic Trade Theory

- Ricardian Trade Theory
  - Comparative Advantage, Specialization
- Hecksher-Ohlin Model
  - Different resources
- Specific-Factors Model
  - Capital & land as fixed, labour as variable

Existing Literature

- Badinger (2005)
  - Are growth rates affected permanently or temporarily?
- Takahashi (1999)
  - What are the effects of a tariff?
- Cedro & Melnyk (2014)
  - Do multilateral trade rules help?
- Landau (1995)
  - Does the EEC foster growth?
- Thorhallsson & Kirby (2012)
  - Are alliances beneficial to small countries?

Data

Publically available:

European Union website

World Bank

Variables

European Union

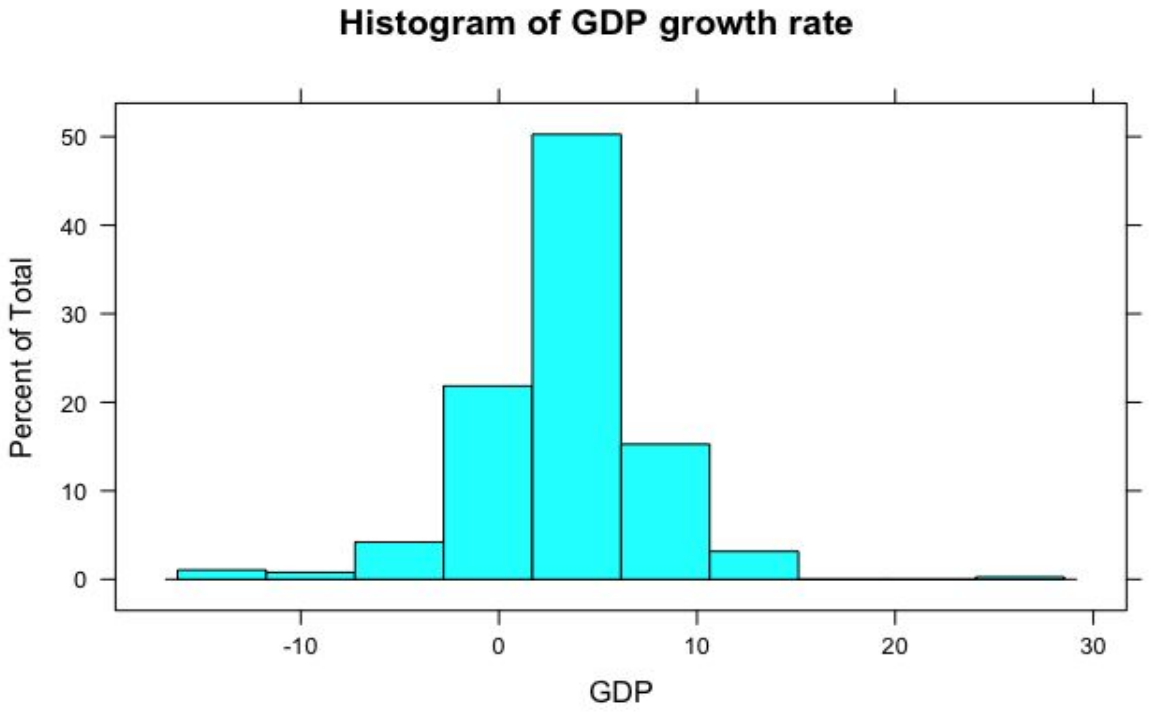
- Dummy variable
- Expressed as EU
- 19 countries
- 53% within treatment group
- 47% within control group

Time

- Dummy variable
- Expressed as 2004
- 20 years
- 65% within treatment period
- 35% outside treatment period

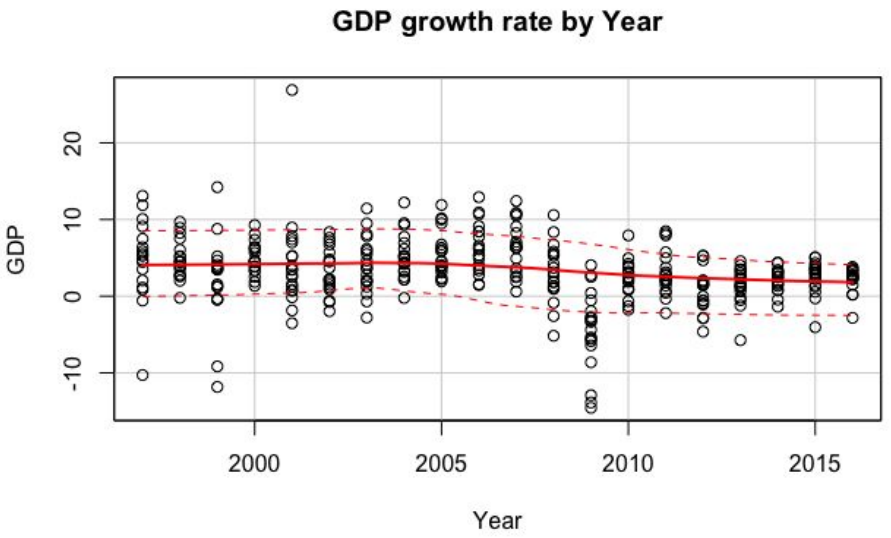
Groups

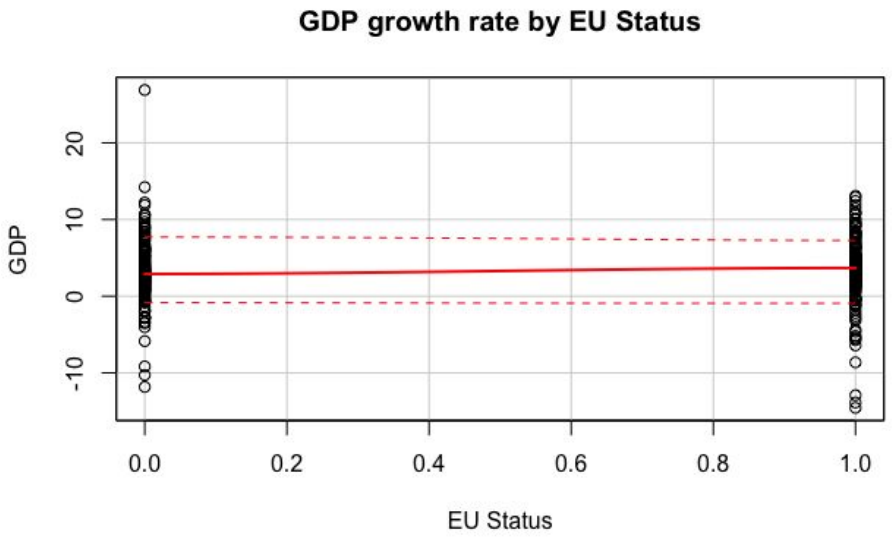
Treatment Group – European Union	Control Group – Non-EU
Cyprus	Albania
Czech Republic	Belarus
Estonia	Kosovo
Hungary	Liechtenstein
Latvia	Macedonia
Lithuania	Montenegro
Malta	Norway
Poland	Serbia
Slovakia	Switzerland
Slovenia	

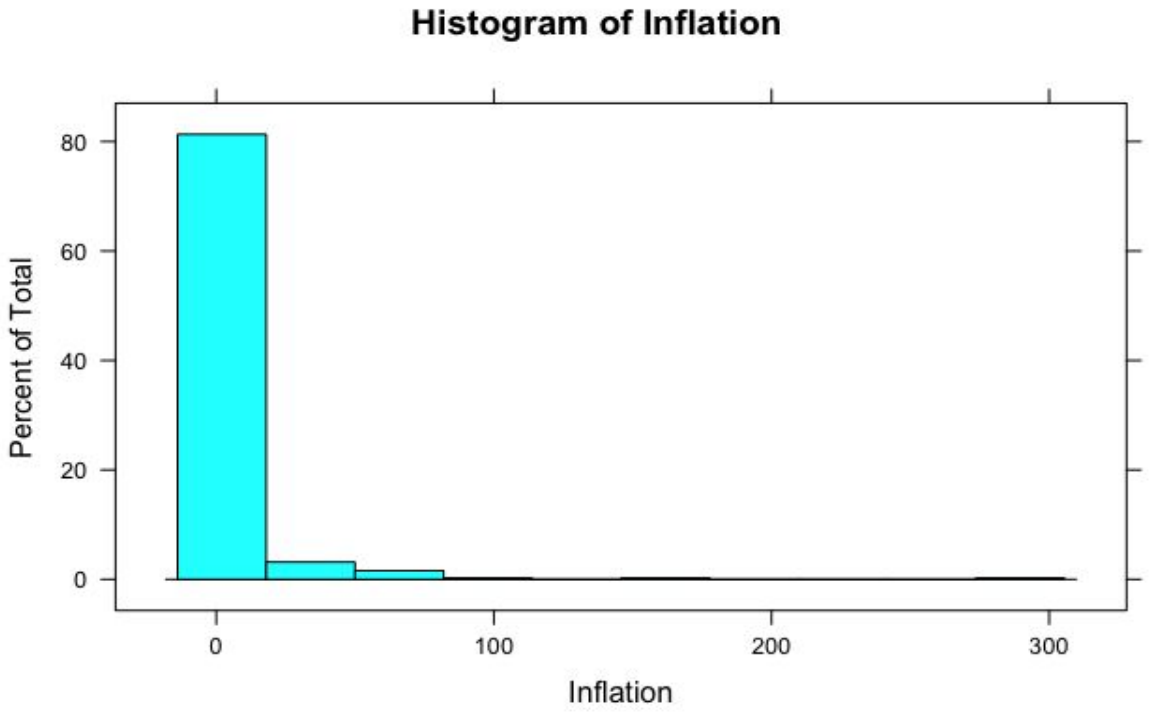


GDP per capita annual rate					
Minimum	1st Quarter	Median	Mean	3rd Quarter	Maximum
-14.560	1.404	3.187	3.234	5.258	26.890
Range	Std Error	Variance	Std deviation	Skewness	Kurtosis
41.448	0.220	17.742	4.212	-0.209	7.694

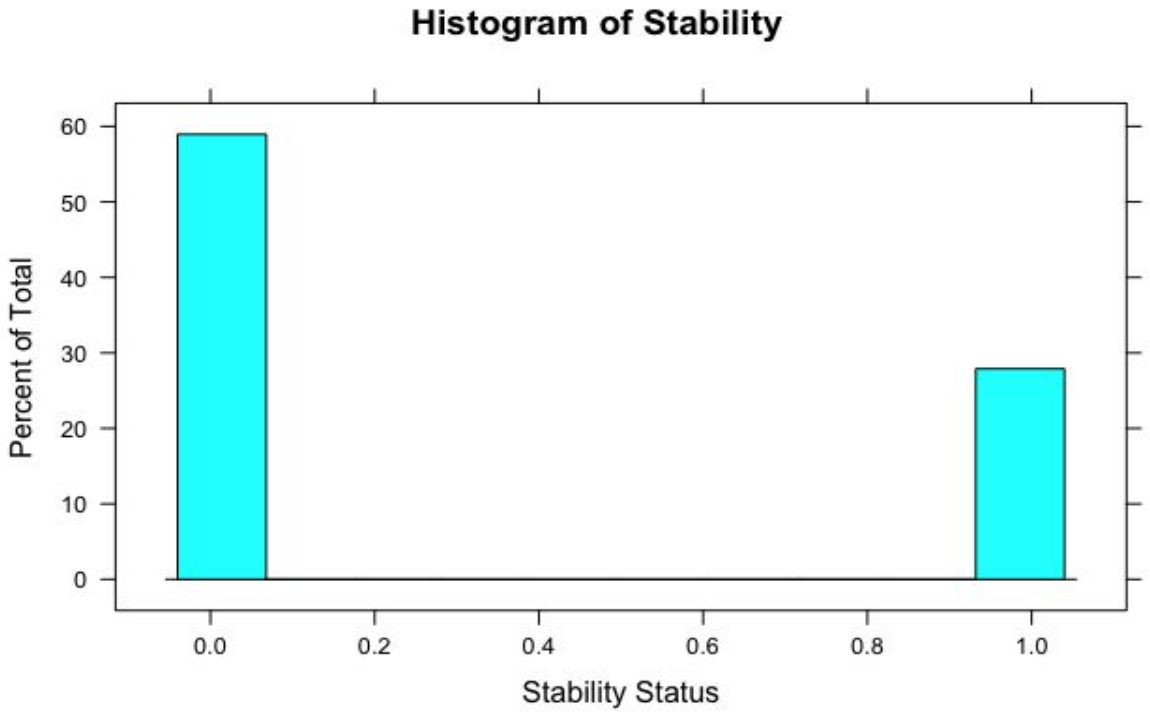
GDP Growth Rate Trends





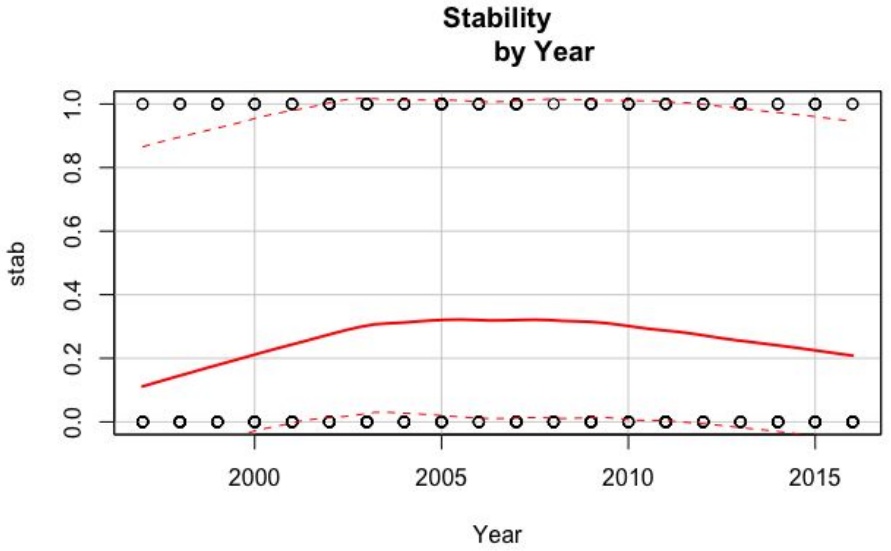


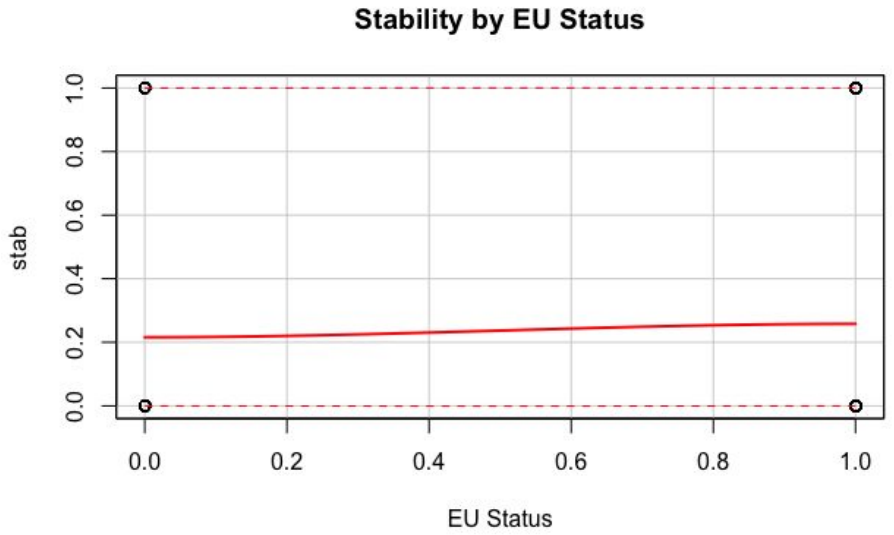
Inflation annual rate, based on CPI					
Minimum	1st Quarter	Median	Mean	3rd Quarter	Maximum
-2.097	1.174	2.715	7.026	5.986	293.700
Range	Std Error	Variance	Std deviation	Skewness	Kurtosis
295.679	1.169	451.219	21.242	9.430762	113.2814



Stability					
Minimum	1st Quarter	Median	Mean	3rd Quarter	Maximum
0	0	0	.3212	1	1
Range	Std Error	Variance	Std deviation	Skewness	Kurtosis
1	0.026	0.219	0.468	0.766	1.586

Stability Trends





Differences-in-Differences

- Selection bias leading to endogeneity
- Common trends assumption
- Differences-in-differences estimate, δ
- Internally valid

Difference-in-Differences

- $Growth$: $GDP_{it} = \alpha + \gamma EU_i + \lambda 2004_t + \delta_G(EU_i \cdot 2004_t) + \varepsilon_{it}$
  - Linear regression on GDP growth rates
- $Stability$: $Stab_{it} = \alpha + \gamma EU_i + \lambda 2004_t + \delta_S(EU_i \cdot 2004_t) + \varepsilon_{it}$
  - Probit regression on stability

Growth

Table 1: Estimates of Growth	
	1.092 (0.742)
	-0.506 (0.678)
	-1.242 (0.918)
	3.410*** (0.549)
Observations	368
R^2	0.024
Adjusted R^2	0.016
Residual Std. Error	4.178 (df = 364)
F Statistic	2.985** (df = 3; 364)
Note: * signifies significance at the 10% level; ** signifies significance at the 5% level; * signifies significance at the 1% level**	

Stability

Table 2: Estimates of Stability	
	0.267 (0.268)
	0.382 (0.257)
	-0.232 (0.322)
	-0.792*** (0.217)
Observations	330
Log Likelihood	-205.520
Akaike Inf. Crit.	419.040
Note: * signifies significance at the 10% level; ** signifies significance at the 5% level; * signifies significance at the 1% level**	

Conclusion

- Economic Trade Theory says EU should foster growth
- Existing literature shows that its still up for debate
- Use Differences-in-Differences model
- Use time and EU membership as dummy variables
- Used small economies to see the EU's effects
- EU membership had no statistically significant effects