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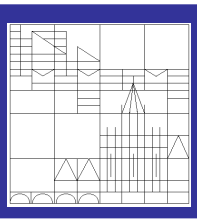

Islam and Democracy

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Working Paper Series
2010-10

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This version: November 4, 2010

Abstract

Using the POLITY IV and Freedom House indices, Rowley and Smith (2009) found that countries with Muslim majorities enjoy less freedom and are less democratic than countries in which Muslims are a minority. Because the POLITY IV and Freedom House indices have been criticized on several grounds, I reinvestigate Rowley and Smith´s finding using the new Democracy-Dictatorship data from Cheibub et al. (2010). The empirical results confirm that countries with Muslim majorities are indeed less likely to be democratic.

JEL Codes: Z12, O11, P16, P48, F59

Keywords: Islam, religion, democracy, political institutions

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I thank Christian Bjørnskov, Arye Hillman, William Shughart II, Heinrich Ursprung and three anonymous referees for very helpful comments, hints, and suggestions. Carl Maier has provided excellent research assistance.

1. Introduction

Rowley and Smith (2009) found that countries with Muslim majorities enjoy less freedom and are less democratic than countries in which Muslims are a minority.[2] The authors established their result by employing the POLITY IV and the Freedom House indices as the means of measuring democracy. These indices have, however, been criticized on several grounds (Cheibub et al. 2010).[3] The new Democracy-Dictatorship (DD) measure of political regimes by Cheibub et al. (2010) avoids the problems inherent in the POLITY IV and the Freedom House indices. The DD measure basically distinguishes between regimes in which executive and legislative offices are allocated via contested elections and those in which they are not. In this minimal definition of democracy, the variable takes on the value one for democracies and zero otherwise. See Cheibub et al. (2010) for a more encompassing discussion on classifying democracies and dictatorships.

Cheibub et al. (2010) show that the choice of democracy measure matters by replicating studies such as Rodrik and Wacziarg (2005), Fearon and Laitin (2003) and Epstein et al. (2006). Against the background of the criticism on the POLITY and the Freedom House indices, I reinvestigate whether countries with Muslim majorities are less democratic employing the Democracy-Dictatorship data from Cheibub et al. (2010) and the data on religion from Alesina et al. (2003). I confirm that having a Muslim majority is an impediment

[2] Studies by Barro (1999), Ross (2001), and Borooah and Paldam (2007) also find that democracy and Islam are negatively associated. Gassebner et al. (2009) show that oil producing Muslim countries are less likely to become democracies. Facchini (2010) shows that Islam and institutions of freedom are negatively associated. On economic performance in Islamic countries, see Kuran (1997) and Hillman (2007a). For an overview of the relation between democracy and economic development, see Hillman (2007b). See Maseland and van Hoorn (2010) on the attitudes towards democracy in the Muslim world. See Berggren and Bjørnskov (2010) on religion and social trust.

[3] See also Munk and Verkuilen (2002), Vreeland (2008). For example, Munck and Verkuilen (2002: 28) arrive at the conclusion that Freedom House is an index "which [exemplifies] problems in all areas of conceptualization, measurement, and aggregation." The POLITY IV index has been criticized for similar reasons, but "the usefulness of the POLITY IV dataset lies in its components" (Cheibub et al. 2010: 76). The POLITY index has five components. In particular, the Chief Executive variable "provides useful information about whether the chief executive has unlimited authority, whether there is a legislature with slight or moderate ability to check the power of the executive, whether the legislature has substantial ability to check the executive, or whether the executive has parity with or is subordinate to the legislature" (Cheibub et al. 2010: 76).

to democracy. Section 2 presents the empirical strategy. Section 3 describes the empirical results. Section 4 concludes.

2. Empirical strategy

I specify a probit model of the following form:

$$Democracy_i = \alpha + \beta\, Muslim\ Share_i + \Sigma_j \zeta\, \boldsymbol{x}_{ij} + \Sigma_k \delta\, Region_{ik} + \Sigma_l \gamma\, Legal\ Origin_{il} + u_i$$

$$\text{with } i = 1,...,191;\ j=1,2;\ k=1,...,4;\ l=1,2$$

where $Democracy_i$ is the the DD measure by Cheibub et al. (2010) for country i. I employ a cross section of 191 countries for the year 2007.[4] $Muslim\ Share_i$ describes the proportion of Muslims in the total population of each country. I employ the data on religious fractionalization by Alesina et al. (2003). This database reports for each country for the period 1980-1998 the percentage of the population belonging to the three most widespread religions in the world. However, the database contains many missing observations. The most complete data are available for Islam. In Alesina's data base the category "Muslim" is for some countries subdivided in "Shia Muslim" and "Sunni Muslim", for other countries this sub-division is not recorded. I therefore combine the available data to obtain a single variable that describes the share of Muslims in the total population of each country. $\Sigma_j \zeta\, \boldsymbol{x}_{ij}$ describes two economic control variables. I include the logarithm (log) of real GDP per capita (referring to the year 2007) and an oil exporter dummy variable that takes on the value one if exports of oil exceed 50% of total exports (Easterly and Sewadeh 2001). $\Sigma_k \delta\, Region_{ik}$ is a set of regional dummy variables that take on the value of one when a country belongs to a particular region and zero otherwise. I distinguish five different regions: Africa, Asia, Europe, America and

[4] I choose the year 2007 as most recent year because of availability of data for GDP as control variable. The 191 countries included are the countries represented in the United Nations General Assembly, except Monaco, for which the Democracy-Dictatorship variable is not available.

Oceania. To avoid multicollinearity between the regional dummies, one of them denotes the reference category (here Africa). The estimated effects of the other regional dummies are deviations from the reference category. $\Sigma_l \gamma \, Legal \, Origin_{il}$ is a set of legal origin dummy variables (La Porta et al. 1999). I distinguish between three different legal origins: French, British and Socialist (all countries with German and Scandinavian legal origin are democracies so that I cannot include variables describing German and Scandinavian legal origin). The reference category is French. Table 1 shows descriptive statistics of all variables included. I estimate a probit model with robust standard errors.

3. Empirical results

3.1 Basic results

Table 2 shows the regression results of the coefficient estimates. The dependent variable is coded such that democracies take on the value one and dictatorships take on the value zero. Positive coefficients of the explanatory variables thus mean that the explanatory variable induces a positive influence on democracy and vice versa. Column (1) shows results without control variables. In column (2), I have included log GDP per capita and the oil exporter dummy variable as basic economic control variables, which somewhat reduces the sample size because of the absence of observations on GDP. Column (3) presents the results when all control variables are included. Log GDP per capita has a positive sign and is statistically significant at the 1% level in column (2), but does not turn out to be statistically significant in column (3). In a similar vein, the oil exporter dummy variable has the expected negative sign and is statistically significant at the 5% level in column (2), but does not turn out to be statistically significant in column (3). The regional variables “America” and “Europe” are statistically significant at the 1% level and the regional variable “Oceania” is statistically significant at the 10% level. The variable “Asia” does not turn out to be statistically significant. As expected, the regional dummy variables indicate that democracy

has been more pronounced in America, Europe and Oceania than in Africa (reference category). The Socialist legal origin variable is statistically significant at the 1% level and indicates that democracy was less pronounced in countries with a socialist legal origin compared to countries with a French legal origin. The British legal origin variable does not turn out to be statistically significant.

The results in Table 2 show that the share of Muslims in a society has a negative influence on democracy: the coefficient of the Muslim share variable has a negative sign and is statistically significant at the 1% level in columns (1) and (2) and at the 5% level in column (3). Based on the coefficient estimates, we can calculate the marginal effects of the independent variables on the probability of being a democracy. Table 3 shows the change in probability of being a democracy when the Muslim share variable changes. The results in Table 3 indicate that when the Muslim population share increases by one percentage point, the probability of being a democracy decreases by about 0.4%. In other words, a country with no Muslims is by about 40% more likely to be democratic than an otherwise identical but purely Muslim country. The marginal effects for the full model (column 3 of Table 3) are somewhat smaller but remain statistically significant at the 1% level. The marginal effects clearly show that the probability of being a democracy decreases when the share of Muslims increases.

3.2 Robustness Tests

I checked the robustness of the results in several ways. Democracies can be coded more expansively. Cheibub et al. (2010) have conservatively coded countries as democratic only if there has been alternation in power. Some countries appear, however, to have "contested" elections for the executive and legislature, but there has never been an alternation of the government in power (e.g., Botswana). The data by Cheibub et al. (2010) also allow considering these cases as democracies in addition to their conservative coding. I use the more expansive democracy variable (type 2) as dependent variable (also referring to the year 2007).

The results in Table 4 show that the Muslim share variable retains a negative sign and is statistically significant at the 1% level in columns (1) to (3). The oil exporter dummy variable has a negative sign and is statistically significant at the 1% level in columns (2) and (3). Log GDP per capita, the regional dummy variables and the legal origin variables do not turn out to be statistically significant, however. The marginal effects in Table 5 show that when the Muslim population share increases by one percentage point the probability of being a democracy decreases by about 0.2% or 0.3%.

The reported effects could be driven or mitigated by idiosyncratic circumstances in individual countries. For this reason, I tested whether the results are sensitive to the inclusion/exclusion of particular countries. Inferences do not change when excluding an individual country.

The results could suffer from omitted variable bias. The association between democracy and the Muslim share is, however, so pronounced that potential omitted variable bias is very unlikely to change the inferences.[5]

4. Conclusion

By employing the new Democracy-Dictatorship variables by Cheibub et al. (2010), I have reinvestigated how the presence of Islam affects democracy. The findings confirm the conclusion of Rowley and Smith (2009) that the greater the share of Muslims in a population, the smaller the likelihood that a country will have democratic institutions.

A large Muslim population share, apart from having a direct negative influence on human development and economic performance thus also gives rise to a reinforcing indirect effect working through the political institutions.[6] Democratic institutions provide political and

[5] See Gassebner et al. (2009) on extreme bounds of democracy.
[6] Muslim majority has been shown to impede human development directly by, e.g., institutionalizing gender inequality in education (Norton and Tomal 2009, Cooray and Potrafke 2010).

economic freedom, which are foundations for economic development.[7] By compromising these democratic institutions, countries with Muslim majorities tend to have relatively low living standards. To be sure, Muslim societies may willingly choose their non-democratic institutions and the corresponding living standards. However, the non-Muslim population living in democracies may confront the end of democracy and also the end of accompanying high incomes if there is sufficient demographic change.

References

Adam, A., Delis, M.D. & Kammas, P. (2010). Are democratic governments more efficient? *European Journal of Political Economy,* (2010), doi:10.1016/j.ejpoleco.2010.04.004

Alesina, A., Devleeschauwer, A., Easterley, W., Kurlat, S., & Wacziarg, R. (2003). Fractionalization. *Journal of Economic Growth* 8(2), 155-194.

Barro, R. (1999). Determinants of democracy. *Journal of Political Economy* 107(6), 158-183.

Berggren, N., & Bjørnskov, C. (2010). Is the importance of religion in daily life related to social trust? Cross-country and cross-state comparisons. *Working Paper, Ratio Institute.* Stockholm.

Borooah, V.K., & Paldam, M. (2007). Why is the world short of democracy? A cross-country analysis of barriers to representative government. *European Journal of Political Economy* 23(3), 582-604.

Cheibub, J., Gandhi, J., & Vreeland, J.R. (2010). Democracy and dictatorship revisited. *Public Choice* 143(1-2), 67-101.

Cooray, A., & Potrafke, N. (2010). Gender inequality in education: Political institutions or culture and religion? *European Journal of Political Economy,* (2010), doi:10.1016/j.ejpoleco.2010.08.004

De Haan, J., & Sturm, J.-E. (2003). Does more democracy lead to greater economic freedom? New evidence for developing countries. *European Journal of Political Economy* 19(3), 547-563.

Easterly, W., & Sewadeh, M. (2001). *Global Development Network Growth Database*. Worldbank Economic and Development Research Group, Washington, D. C.

Epstein, D., Bates, R., Goldstone, J., Kristensen, I., & O'Halloran, S. (2006). Democratic transitions. *American Journal of Political Science* 50(3), 551-569.

Facchini, F. (2010). Religion, law and development: Islam and Christianity – Why is it in occident and not in the orient that man invented the institutions of freedom? *European Journal of Law and Economics* 29(1), 103-129.

[7] Democracy has been shown, for example, to advance economic freedom (De Haan and Sturm 2003) and to improve public sector efficiency (Adam et al. 2010).

Fearon, J. D., & Laitin D.D. (2003). Ethnicity, insurgency, and civil war. *American Political Science Review* 97(1), 75-90.

Gassebner, M., Lamla, M.J., & Vreeland, J.R. (2009). Extreme bounds of democracy. *KOF Working Paper No. 224.* Zurich.

Hillman, A.L. (2007a). Economic and security consequences of supreme values. *Public Choice* 131(3-4), 259-280. Reprinted as: Hillman, A. L. (2008). An economic perspective on radical Islam. In Frisch, A., Inbar, E. (Eds.), *Radical Islam and International Security: Challenges and Responses*. Routledge, London, pp. 44-69.

Hillman, A.L. (2007b). Democracy and low-income countries. In Casas Pardo, J., Schwartz, P. (Eds.), *Public Choice and Challenges of Democracy*. Edward Elgar, Cheltenham U.K., pp. 277-294.

Kuran, T. (1997). Islam and underdevelopment: an old puzzle revisited. *Journal of Institutional and Theoretical Economics* 153(1), 41–71.

La Porta, R., Lopez-di-Silanes, F., Shleifer, A., & Vishny, R. (1999). The quality of government. *Journal of Law, Economics and Government* 15(1), 222-279.

Maseland, R., & Van Hoorn, A. (2010). Why Muslims like democracy yet have so little of it. *Public Choice*, (2010), doi: 101007/s11127-010-9642-5.

Munck, G., & Verkuilen, J. (2002). Conceptualizing and measuring democracy: Evaluating alternative indices. *Comparative Political Studies* 35(1), 5-34.

Norton, S.W., & Tomal, A. (2009). Religion and female educational attainment. *Journal of Money, Credit and Banking* 41(5), 961-986.

Rodrik, D., & Wacziarg, R. (2005). Do democratic transitions produce bad economic outcomes? *American Economic Review* 95(2), 50-55.

Ross, M.L. (2001). Does oil hinder democracy? *World Politics* 53(April), 325-361.

Rowley, C.K., & Smith, N. (2009). Islam´s democracy paradox: Muslims claim to like democracy, so why do they have so little? *Public Choice* 139(3-4), 273-299.

Summers, R., & Heston, A. (1991). The Penn World Table (Mark 5): an expanded set of international comparisons, 1950-1988. *Quarterly Journal of Economics* 106(May), 327-369.

Vreeland, J.R. (2008). The effect of political regime on civil war: Unpacking anocracy. *Journal of Conflict Resolution* 52(3), 401-425.

Appendix

Table A1. Country list: Democracy and Muslim Share.

Country	Democracy	Muslim	Country	Democracy	Muslim
Afghanistan	0	99	Djibouti	0	97.78
Albania	1	69.91	Dominica	1	0
Algeria	0	99.54	Dominican Republic	1	0
Andorra	1	0	Ecuador	1	0
Angola	0	0	Egypt	0	89
Antigua and Barbuda	1	0	El Salvador	1	0
Argentina	1	1.49	Equatorial Guinea	0	0
Armenia	1	0	Eritrea	0	69.32
Australia	1	0	Estonia	1	0
Austria	1	0	Ethiopia	0	32.94
Azerbaijan	0	93.41	Fiji	0	7.81
Bahamas	1	0	Finland	1	0
Bahrain	0	81.16	France	1	5.51
Bangladesh	0	88.30	Gabon	0	0
Barbados	1	0	Gambia	0	94.89
Belarus	0	0	Georgia	1	10.96
Belgium	1	0	Germany	1	2.13
Belize	1	0	Ghana	1	14.39
Benin	1	12.03	Greece	1	1.33
Bhutan	1	0	Grenada	1	0
Bolivia	1	0	Guatemala	1	0
Bosnia and Herzegovina	0	42.97	Guinea	0	85.01
Botswana	0	0	Guinea-Bissau	1	45.74
Brazil	1	0	Guyana	0	8.96
Brunei Darussalam	0	67.26	Haiti	0	0
Bulgaria	1	13.1	Honduras	1	0
Burkina Faso	0	50	Hungary	1	0
Burundi	1	0	Iceland	1	0
Cambodia	0	2.18	India	1	11.97
Cameroon	0	21.78	Indonesia	1	87.21
Canada	1	0.94	Iran	0	99.57
Cape Verde	1	0	Iraq	0	97.03
Central African Republic	0	15.1	Ireland	1	0
Chad	0	53.86	Israel	1	14.89
Chile	1	0	Italy	1	1.21
China	0	1.43	Jamaica	1	0
Colombia	1	0	Japan	1	0
Comoros	1	99.31	Jordan	0	96.59
Congo	0	1.77	Kazakhstan	0	47.02
Costa Rica	1	0	Kenya	1	6
Cote d'Ivoire	0	38.67	Kiribati	1	0
Croatia	1	1.17	Kuwait	0	75.25
Cuba	0	0	Kyrgyzstan	1	70
Cyprus	1	22.09	Lao People's Democratic Republic	0	0
Czech Republic	1	0	Latvia	1	0
Democratic People's Republic of K	0	0	Lebanon	0	55.31
Democratic Republic of the Congo	0	1.4	Lesotho	0	0
Denmark	1	0	Liberia	1	13.92

Table A1. Country list: Democracy and Muslim Share (continued).

Country	Democracy	Muslim	Country	Democracy	Muslim
Libya	0	97.06	Saint Vincent and the Grenadines	1	0
Liechtenstein	1	0	Samoa	0	0
Lithuania	1	0	San Marino	1	0
Luxembourg	1	0	Sao Tome and Principe	1	0
Macedonia	1	29.9	Saudi Arabia	0	96.68
Madagascar	1	8.69	Senegal	1	91.99
Malawi	1	20.02	Serbia	1	0
Malaysia	0	52.88	Seychelles	0	0
Maldives	0	100	Sierra Leone	1	60.04
Mali	1	89.99	Singapore	0	14.92
Malta	1	0	Slovakia	1	0
Marshall Islands	1	0	Slovenia	1	0
Mauritania	1	99.25	Solomon Islands	1	0
Mauritius	1	16.1	Somalia	0	99.86
Mexico	1	0	South Africa	0	0.45
Micronesia	1	0	Spain	1	1.15
Mongolia	1	4.17	Sri Lanka	1	7.53
Montenegro	0	0	Sudan	0	73
Morocco	0	99.83	Suriname	1	19.72
Mozambique	0	28.22	Swaziland	0	0
Myanmar	0	3.83	Sweden	1	0
Namibia	0	0	Switzerland	1	0
Nauru	1	0	Syria	0	86.02
Nepal	0	3.77	Tajikistan	0	85.10
Netherlands	1	4.34	Thailand	0	4.04
New Zealand	1	0	Timor-Leste	1	30.68
Nicaragua	1	0	Togo	0	14.97
Niger	1	88.69	Tonga	0	0
Nigeria	1	42.98	Trinidad and Tobago	1	5.80
Norway	1	0	Tunisia	0	99.48
Oman	0	14.05	Turkey	1	99.76
Pakistan	0	94.92	Turkrnenistan	0	86.91
Palau	1	0	Tuvalu	1	0
Panama	1	0	Uganda	0	10.55
Papua New Guinea	1	0	Ukraine	1	0
Paraguay	1	0	United Arab Emirates	0	96.02
Peru	1	0	United Kingdom	1	1.41
Philippines	1	4.57	United Republic of Tanzania	0	37
Poland	1	0	United States	1	1.35
Portugal	1	0	Uruguay	1	0
Qatar	0	95	Uzbekistan	0	88
Republic of Korea	1	0	Vanuatu	1	0
Republic of Moldova	1	0	Venezuela	1	0
Romania	1	0	Vietnam	0	0
Russian Federation	0	10	Yemen	0	99.89
Rwanda	0	0.97	Zambia	0	0
Saint Kitts and Nevis	1	0	Zimbabwe	0	0
Saint Lucia	1	0	Total	0.60	23.65

Table 1. Summary Statistics

Variable	Observations	Mean	Std. Dev.	Min	Max	Source
Democracy-Dictatorship	191	0.60	0.49	0	1	Cheibub et al. (2010)
Democracy-Dictatorship (type 2 coding)	191	0.81	0.39	0	1	Cheibub et al. (2010)
Muslim	192	23.65	36.15	0	100	Alesina et al. (2003)
GDP per capita (real)	177	13636.65	15679.55	408.71	104707.50	Penn World Tables 6.3 Summers and Heston (1991)
Oil Exporter	192	0.08	0.26	0	1	Easterly and Sawedeh (2001)
Africa	192	0.28	0.45	0	1	Own Calculation
Asia	192	0.24	0.43	0	1	Own Calculation
America	192	0.18	0.39	0	1	Own Calculation
Oceania	192	0.07	0.26	0	1	Own Calculation
Europe	192	0.22	0.42	0	1	Own Calculation
Legal Origin (British)	185	0.34	0.47	0	1	La Porta et al. (1999)
Legal Origin (German)	185	0.03	0.16	0	1	La Porta et al. (1999)
Legal Origin (French)	185	0.43	0.50	0	1	La Porta et al. (1999)
Legal Origin (Scandinavian)	185	0.03	0.16	0	1	La Porta et al. (1999)
Legal Origin (Socialist)	185	0.18	0.39	0	1	La Porta et al. (1999)

Table 2. Regression Results.
Probit, robust standard errors.
Dependent variable: Democracy-Dictatorship Dummy.

Variable	(1)	(2)	(3)
Muslim	-0.0163***	-0.0132***	-0.0087**
	[5.63]	[4.23]	[2.48]
log GDP per capita		0.2304**	-0.0504
		[2.49]	[0.39]
Oil Exporter		-0.9802**	-0.672
		[2.17]	[1.41]
Asia			0.3789
			[1.13]
America			1.5760***
			[3.59]
Oceania			0.8350*
			[1.71]
Europe			2.1248***
			[4.07]
Legal origin (British)			-0.2467
			[0.93]
Legal origin (Socialist)			-0.9187**
			[2.21]
Constant	0.6389***	-1.4035*	0.4615
	[5.53]	[1.66]	[0.44]
Observations	191	177	176
Pseudo R-squared	0.14	0.18	0.32

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 3. Marginal Effects. Muslim on Democracy.

(1)	(2)	(3)
-0.005***	-0.004***	-0.002***
[7.87]	[5.05]	[2.60]

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 4. Regression Results.
Probit, robust standard errors.
Dependent variable: Democracy-Dictatorship Dummy (expansive)

Variable	(1)	(2)	(3)
Muslim	-0.0137***	-0.0128***	-0.0100***
	[4.91]	[3.94]	[2.66]
log GDP per capita		-0.0341	-0.0717
		[0.34]	[0.53]
Oil Exporter		-1.3275***	-1.3628***
		[3.33]	[3.00]
Asia			-0.5332
			[1.39]
America			0.75
			[1.34]
Oceania			0.1645
			[0.26]
Europe			0.5164
			[0.88]
Legal origin (British)			-0.4731
			[1.60]
Legal origin (Socialist)			-0.6034
			[1.36]
Constant	1.3100***	1.7376*	2.2858**
	[8.86]	[1.84]	[2.06]
Observations	191	177	176
Pseudo R-squared	0.14	0.21	0.30

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%

Table 5. Marginal Effects. Muslim on Democracy (expansive).

(1)	(2)	(3)
-0.003***	-0.003***	-0.002***
[5.84]	[4.42]	[2.68]

Absolute value of t statistics in brackets; * significant at 10%; ** significant at 5%; *** significant at 1%