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The big pattern of democracy
A study of the Gastil Index

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Abstract:
Data for the degree of democracy now exist from 171 countries from 1972 to 2003. The paper presents the big pattern in these data and studies its connection to the level of economic development, as well as the robustness of the pattern to a set of simple classifications of the culture of countries. The big pattern is in accordance with Lipset's Law that democracy is a consequence of the Big Transition from a poor LDC to a rich DC. Little indicates that the causality can be in the reverse. The country classifications are made to analyze various cultural theories, some of which appear to be true: Western countries are relatively democratic, while Muslim countries are relatively undemocratic, and so are socialist countries. However, Oriental, African and Latin American countries do not deviate from the general pattern.

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The Gastil Index, which measures the degree of democracy, is now available for 171 countries from 1972 till 2003 (net sources). These data are crude, and they have often been criticized, but at present they are taken for given. They are given as two integers, for each country and year, measuring *democratic rights* and *civil liberties* on a scale from 1 to 7. The paper considers the average of the two data. They are scaled so that 1 is the best outcome, and 7 is the worst. At first this scaling may confuse the reader, but to avoid further confusion the index is used as posted.

Section 2 shows that democracy has increased – the index has fallen – in the average country from 4.6 to 3.2, but the underlying pattern is much more complex. Explaining the development of democracy for 171 countries over 32 years is potentially an endless job. However, the paper only aims to study the *big pattern* in the index by considering three theories:

(T1) Lipset's Law says that the Big Transition – from poor to rich[1] – leads to democracy.

(T2) The Reverse Lipset thus is that countries become rich because they are democracies.

(T3) The family of theories claiming that democracy is determined by culture.

All three theories can be true at the same time. (T1) and (T2) deal with the relation between the Gastil Index and the standard of living, while (T3) considers various "cultural" classifications of the countries. The appendix lists the 171 countries and the classifications used. The three theories are discussed only at the *operational* level as explanations of the data at hand. Evidence will be presented that (T1) and (T3) are both true, and it is further demonstrated that (T3) is still true when controlled for (T1), while little support is found for (T2).

Democracy is sometimes seen as a "Western" concept, and it has been claimed that other concepts of democracy exist, which are more relevant elsewhere. The author disagrees with this line of argument. There are, of course, other ideals than democracy – such as a high standard of living, equality, obedience to God or the Party, service of the Nation, etc., but to term them "democracy" is to confuse issues.

Section 1 gives a few basic observations on the data. Section 2 looks at the three theories, while section 3 turns to the main pattern in the data. Section 4 considers the rich countries to see how the West differs, while section 5 looks at the Muslim exception. Section 6 deals with the historical experiment of the 33 countries that are either still Communist or in transition from socialism.

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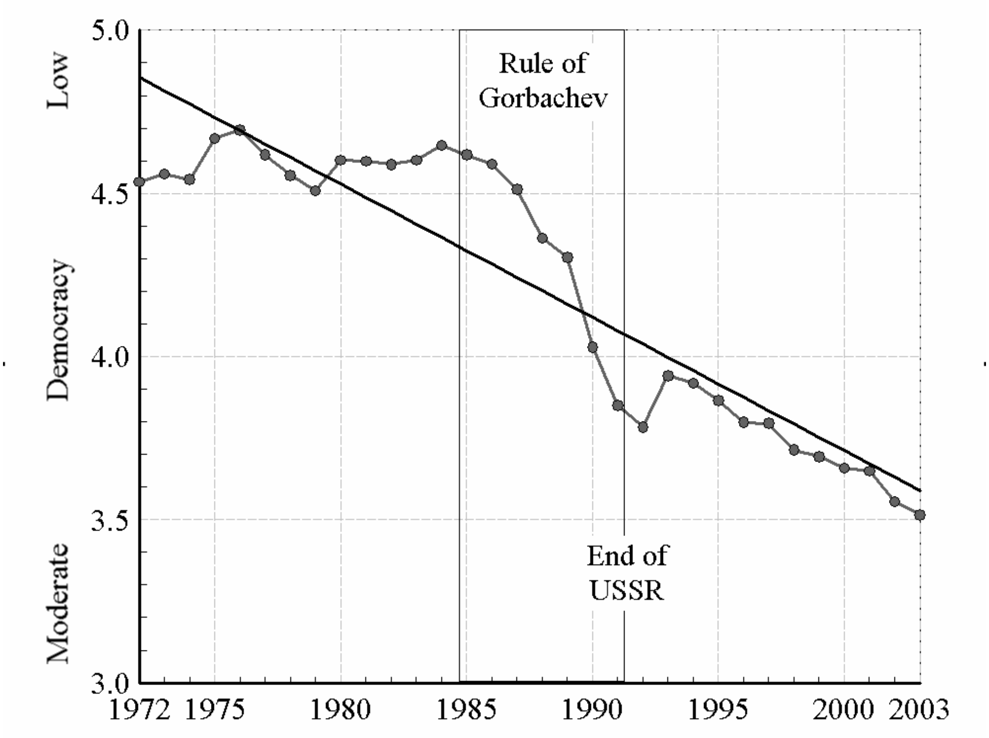
1. The *Big Transition* is from a poor LDC (less developed), via Mic (middle income), to a rich DC (developed). The *Small Transition* is from a socialist to a market economy.

1. A first look at the data: Trend and stability

The average path of the Gastil Index for all 171 countries is shown on figure 1. The regression line shown (reg 6 in table 3) has a significantly negative slope. However, there was no trend before 1987, when the rule of Gorbachev in the Soviet Union started to affect the control of the center over the empire, so the graph can be alternatively interpreted as reflecting the victory of the West in the Cold War, and the resulting expansion of Western values in the world.

Figure 1. The average Gastil Index, A_t, for the 171 countries 1972-2003



Note: Soviet power in the East Block loosened gradually from 1988 to 1991, when USSR was dissolved.

The standard deviations – as defined in table 1 – of the Gastil Index are measures of political *system stability.* S_t (figure 2a) shows the stability over time, while S_i looks at the stability across countries (figure 2b). Not surprisingly, we note that the average $A(S_t) > A(S_i)$.

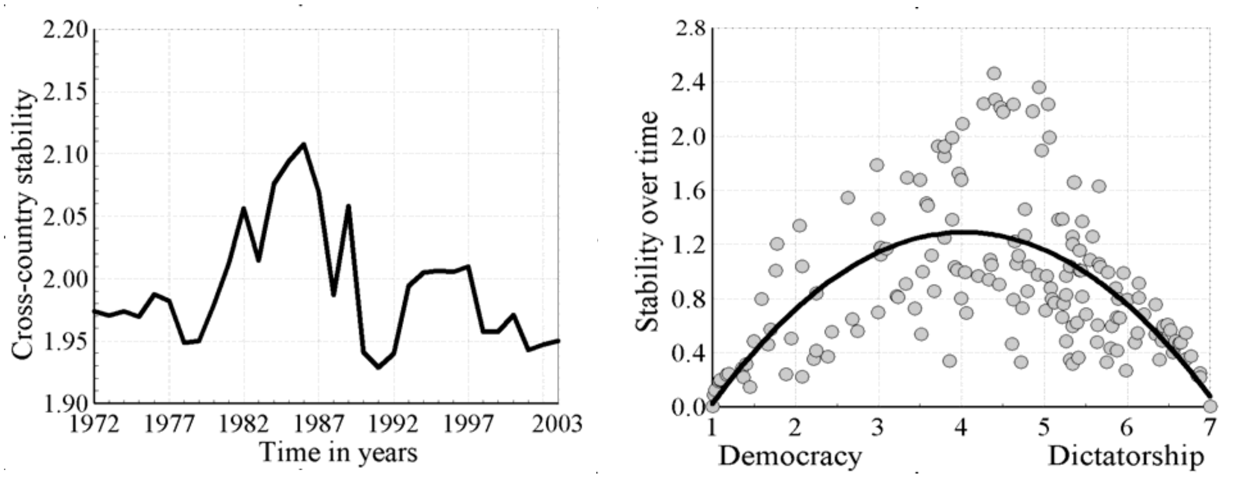
The stability over time S_t has no trend. However, the values for the 1980s are relatively high, pointing to the period as one of unusual political turmoil. It is interesting that the instability starts already in the early 1980s, before it takes a systematic direction.

Table 1. Averages and standard deviations over time and across countries

Over	Running avr.	Avr.: $A = 4.21$	Running standard deviation	Average standard deviations
Time	$A_t = \sum_{i=1}^{171} \gamma_{it} / 171$	$A = \sum_{t=1}^{32} A_t / 32$	$S_t = (\sum_{i=1}^{171} (A_t - \gamma_{it})^2) / 170$	$A(S_t) = \sum_{t=1}^{32} S_t / 32 = 1.99$
Country	$A_i = \sum_{t=1}^{32} \gamma_{it} / 32$	$A = \sum_{i=1}^{171} A_i / 171$	$S_i = (\sum_{t=1}^{32} (A_i - \gamma_{it})^2) / 31$	$A(S_i) = \sum_{i=1}^{171} S_i / 171 = 0.89$

Figure 2. Political system stability over time and across countries

2a. Over time: S_t as a function of time 2b. Across countries: S_i as a function of A_i



Note: The curve on figure 2b is reg 1 in text. While 10 countries (all Western) have perfect democracy, 1.0, for all 32 years, only 1 country (North Korea) has perfect dictatorship, 7.0, for all years.

The cross-country stability has a characteristic parabolic shape:

$$\text{Reg1}: \quad S_i = -0.953 + 1.112 A_i - 0.138 A_i^2 \qquad R^2 = 0.49$$
$$(2.2) \quad (12.6) \quad (12.1) \qquad \text{numbers in brackets are t-ratios}$$

Stability is only present at the two extremes, especially at the high democracy end. Political systems at average Gastil Scores of 3-5 are rather unstable. This corresponds to well known observations, sufficiently tough dictatorships tend to last for some time, but the most permanent system appears to be democracy, once it has survived the first couple of decades. It has even been termed the "end of history" in Fukuyama (1992). Systems of partial or steered democracy are always under pressure to change either way.[2]

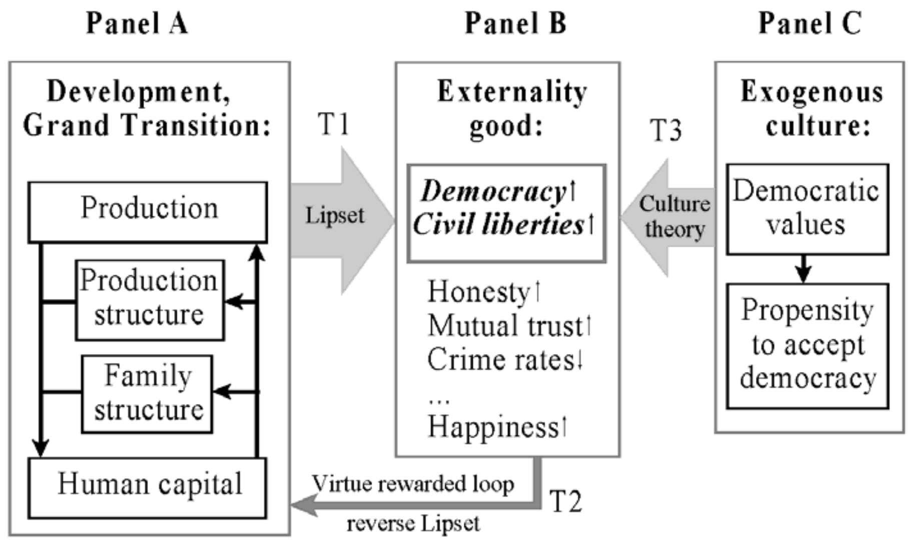
2. The reader may wonder if the parabolic form is an artifact due to the definitions of the index and the censoring at the two ends. However, since we can give a substantial explanation it is preferable.

2. Three theories

Two of the three theories listed in the introduction deal with the relation between democracy and economic development, y_{it}.[3] The third theory is rather a set of "folk" theories and ideas, of which we look at six. Finally some statistical problems are discussed, and the estimating equation is presented.

The Big Transition normally lasts one to two centuries, when a country starts as poor LDC, goes through low Mic (middle income) and high Mic to become a DC. The process is far more than growth,[4] as it changes society profoundly: The structure of production changes, and urbanization increases. The level of education rises dramatically. Children cease to be an economic necessity and become an expensive consumption good, and people's concept of *family* changes from *extended* to *core*. The income distribution becomes more equal, etc. The process is complex, and the variables interact in a highly simultaneous way as sketched in panel A of figure 3.

Figure 3. The causal structure discussed



3. GDP per capita measured at PPP prices, gdp. The data are for 2001 from WDI (2003) supplemented with CIA World Factbook (net) to get one observation for each country.

4. The classical study of the Big Transition is Chenery and Syrquin (1975). It has been a hot research field in the last decade under the name of "cross-country regressions", see Barro and Sala-i-Martin (2003). The classification of countries in four groups: Poor LDC, low Mic, high Mic, rich DC, follows the World Bank. Mic is the abbreviation for *middle income country*. See table A2 for the statistics defining the groups.

Part of the process is the improvement of a certain group of *non-material externality goods*. They are social capital and honesty, civil liberties and democratic rights, security in the streets and homes, and perhaps even happiness in general – they appear in panel B of figure 3.[5] It is strong evidence for the Lipset Law that the Big Transition is associated with a large improvement in a whole class of similar externality goods.

The structure of causality depicted on figure 3 takes the development process to be highly simultaneous, while the improvement of the various externality goods is considered to be mainly an outcome. We thus distinguish between *main causality* from the transition to the externality goods and the *virtue-rewarded loop* the other way, of which the Reverse Lipset is one member. The name given to the reverse causality indicates that it would be nice indeed if honesty, trust and democracy were causal factors in economic development, and not the other way round. We look for signs that this is the case.[6]

The group of externality goods is indeed virtuous "goods". They are also fully or partly public goods (except happiness), and they are not supplied via the normal market and not even deliberately produced: They could hence be seen as positive *externalities* that follow from the development process. However, we know from polls as well as from much casual evidence that *people value and demand these goods*. Anyone who visits a corrupt society is likely to have noticed that people do not like it. Also, even in countries with no democracy, governments often take great care "enacting" the outward shells of democracy as a way to obtain legitimacy and perhaps as homage to virtue.

The causal link from income to democracy may operate in a *narrow* or a *broad* way. The narrow version has income as the key variable: $\gamma = \gamma(y)$. The broad version has γ as a function of the entire transition: $\gamma = \gamma$(education, family structure, ... , y).

The narrow theory sees the generation of these goods as purely demand driven, and the economist will explain the process of their improvement as the production of a demand driven luxury good – that is, a good with an income elasticity above 1. Studies of the pattern of consumption (since the classical study by Houthakker, 1957) find that elasticities generalize when goods are aggregated into groups. This result suggests that if the level of these goods in society is demand driven then the elasticities are general too. This line of thought thus explains Lipset's Law by a deep parameter in human behavior, and rejects the idea that

5. See Paldam (2001) on corruption, Uslaner (2000) on trust, Frey and Stutzer (2000) on happiness.

6. A large body of literature discusses Lipset's Law (since Lipset, 1959). Surveys are found in Lipset (1994) and Przeworski et al. (2000), which is also is a prominent advocate for the virtue-rewarded idea and so is Lambsdorff (2002).

culture is the key explanation.

The broad theory sees the generation of these goods as a consequence of the whole of the Big Transition, and thus it is closer to the externality view. It is because society changes that people come to demand more honesty and democracy. This version of the theory suffers from woolliness: The explanation should be further developed, so that it becomes clear which parts of the Big Transition explain what.

The data contains a group of oil countries that are rich due to *resource rent* and not to the process of the Big Transition. They are much less democratic than other rich countries. This supports the broad theory rather than the narrow one.

A culture may be seen as a set of weights given to the values that are common to all people. A cultural theory is thus a theory that the weights differ systematically between cultures. One value is the preference for democracy. If one culture values democracy more than another, one should observe that the average Gastil Score is lower in the countries of the first group also when the analysis is controlled for other relevant variables.

Cultural theories are empirically difficult because it is hard to find adequate measures for "culture" to use in a formal test. This paper therefore uses various country classifications and binary dummy variables to account for these classifications.[7] Thus, a classification is a box in which some countries are placed, and the corresponding dummy variable is set to one. If they are outside the box, the dummy is zero. The theory that the said culture matters is tested by examining if its dummy generates significant and robust coefficients in a set of regressions using different controls.

The level of analysis pursued demands cultural theories that are at the same time very general and easy to operationalize statistically. Such theories inevitably become rather like stereotypical "folk" theories, even when books have been written on each of them. The following cultural hypotheses have been included:

(1) Democracy originated in the West, and some claim it is a Western Value, so that Western countries should have an unusually high propensity for accepting democracy. It is tested by including a Western dummy variable of the type described. Due to the scaling of the Gastil Index, the coefficient to the Western Dummy should be negative if Western countries are more democratic. It appears that a broad agreement exists about the countries that should be termed Western. We have subdivided the West into (1.a) a group of ***Old West***, and (1.b) a group of ***Convergers*** like Greece and Spain, which were Mic countries in the first half of the

7. This method is also used in Paldam (2002), where the argument in its favor is more detailed.

20th century, but have converged to become rich Western countries.

(2) The ***Latin American*** countries are a distinct group of Mic countries with a culture related to the Western one. For long the Latin American countries pursued a special policy mix that involved economic isolation. One would hence expect that these countries had a coefficient that deviates to the same side from the general pattern, as does the West though perhaps less so.

(3) Another well-known hypothesis is that the countries in the ***Orient*** (Far East) have Asian Values, which gives democracy a low weight relative to economic growth and political stability. This should give the Orient dummy a positive sign. (3.b) A special group of Oriental countries are the Asian ***Tigers,*** which already have a Western standard of living.

(4) A popular cultural theory claims that the ***Muslim*** world is adverse to such Western values as democracy. Muslim countries are defined as countries that are either politically dominated by Islam or have a large Muslim majority. Hence, Sudan, Lebanon and Indonesia are classified as Muslim, while Nigeria, Tanzania, Kenya and Malaysia are not. (4.b) In addition, a variable for the ***Arab*** countries has been included as the original core group where Muslim culture is likely to be particularly pure.

(5) A special case is the countries that were Communists before 1990. Of these (5a) a few are still ***Communist***, while the rest (5b) are the ***Transition*** countries, which have chosen new economic and political systems since 1990. They provide a fine historical experiment.

(6) As already mentioned it is important to single out the ***oil*** countries. Consequently, an oil dummy is included for countries with oil as the dominating export good.

Many countries belong to several groups: Libya is thus Muslim, Arab and an oil country, while Norway is a Western oil country, etc. 171 countries provide a fair amount of observations for tests.

Within the time span of 32 years considered the average country has had a growth per capita of about 2% pa or 88%. This is substantial, but still small compared to the Big Transition – to analyze that we have to use the cross-country variation. Also, 32 years is too short for major cultural change, so we take cultures to be exogenous. So, for a study of the Gastil Index it is important to sort out the variation over time from the large cross-country variation. Consequently, the following cross-country model is used for the regressions in tables 3-5:

$$(1) \qquad A(\gamma_i, P) = \alpha_0 + \alpha_1 \log y_i + \beta_1 D_{1,i} + \ldots + \beta_n D_{n,i} + u_i$$

$A(\gamma_i)$ is the average of the Gastil Index, γ_i, for a certain period, P, which is either all 32 years or the last 10 years. Income, y_i, is gdp, i.e., GDP per capita. Each D is a binary dummy for a culture or some other country characteristic as will be explained, and u_i is residuals. The α's and β's are the coefficients estimated. Theory (T2) is the claim that there is a counter causality bias in α_1. We take it for granted that there is no such bias in the β's.

3. The big pattern in the data

First the average γ-scores for 1972-2003 will be considered, and then the path of the average γ's over time is discussed. The y-data have the structure given in table A2 (of the appendix). The proper year to use for the y-data is initial gdp, but as the transition countries are an important case, and their data make little sense before 1998 I use final gdp instead of initial.

Figure 4. The average democracy score 1972-2003 explained by gdp 2001

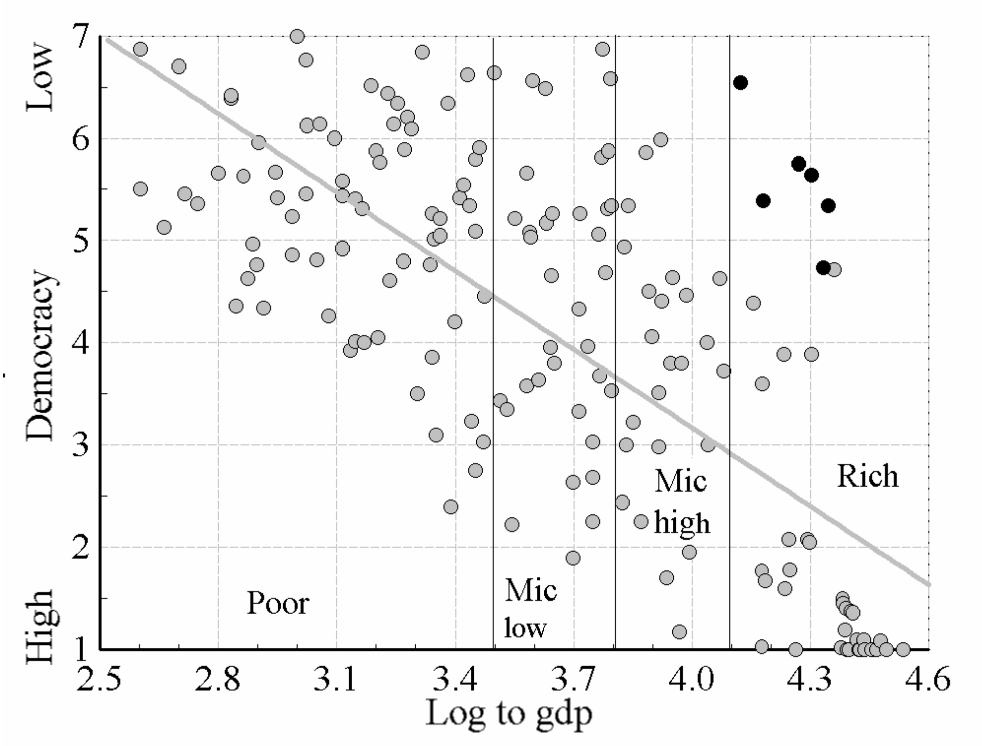


Figure 4 presents the basic support for Lipset's Law. It shows the average γ-score for 1972-2003 for all 171 countries explained by the logarithm to y, in 2001. The figure and the averages in table 2 show four points:

1. A significant downward trend appears in the observations.
2. All countries with "full" democracy are in the rich group.
3. Lipset's Law explains 1/3 of the variation in the data, but
4. it is easy to suggest additional factors explaining more of the variation.

A first additional factor is suggested in the figure: Seven points are extreme in being both rich and undemocratic. Six out of the seven outliers are the 6 richest oil countries (they are marked in black), i.e. Saudi Arabia, Bahrain, Brunei, Qatar, Kuwait, United Arab Emirates. The last rich outlier is Singapore. This is the first indication that the resource rent point is important.

Table 2. Average value of variables

Countries covered	Number of countries	gdp-PPP for 2001 y	log y	γ for 32 years Average	Δ	γ for last 10 years Average	Δ
Africa, SS	43	1727	3.10	5.26	*1.05*	4.60	*0.88*
Arab	16	8869	3.79	5.65	*1.44*	5.83	*2.11*
Latin American	22	5753	3.72	3.24	*–0.97*	2.86	*–0.86*
Orient	16	8549	3.69	5.02	*0.81*	4.70	*0.98*
Of which Tigers	4	20865	4.31	3.39	*–0.82*	2.63	*–1.09*
West	25	24301	4.38	1.30	*–2.91*	1.17	*–2.55*
Of which old rich	15	26658	4.42	1.07	*–3.14*	1.10	*–2.62*
Others	50	5536	3.63	4.42	*0.21*	3.58	*–0.15*
Muslim	43	5080	3.47	5.51	*1.30*	5.50	*1.78*
non-Arab	27	2834	3.29	5.43	*1.22*	5.29	*1.27*
Communist	5	2252	3.31	6.71	*2.50*	6.80	*3.08*
Transition (ex com)	28	6364	3.71	(5.11)	*(0.90)*	3.59	*–0.13*
Oil countries	20	9886	3.86	4.99	*0.78*	4.99	*1.27*
All countries	171	7947	3.63	4.21	0	3.72	0

Note: The Δ-columns show the deviation from the average. The countries with more democracy than the average are shaded in gray. All averages are unweighted.

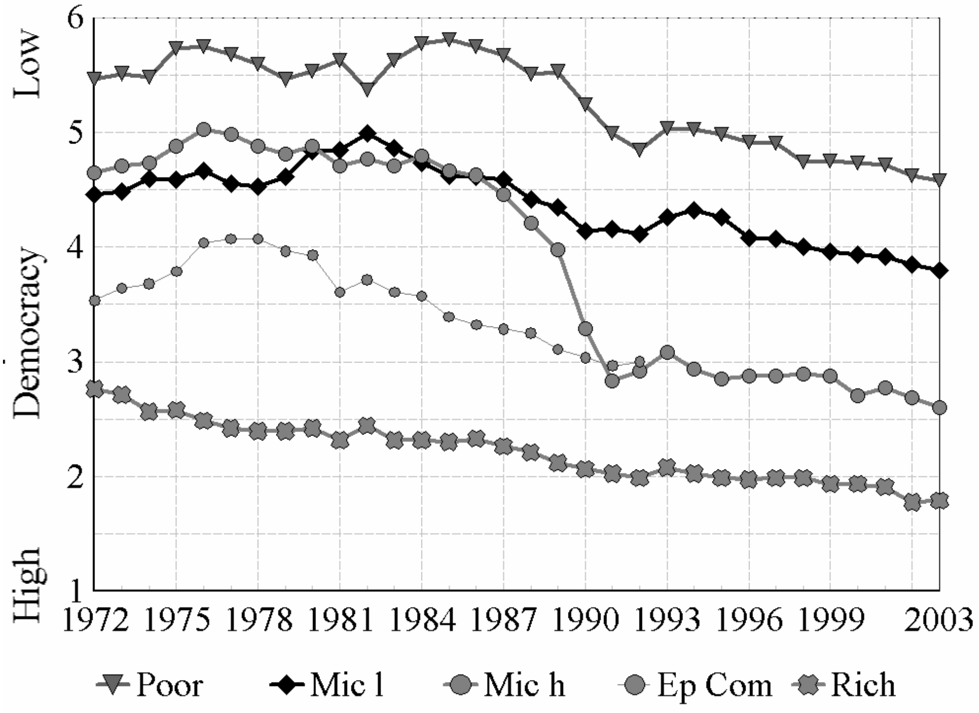
Table 2 shows various averages of the variables analyzed. For now we consider the four last columns showing averages for the Gastil Index, and how they deviate from the grand average.

5. The average score is 4.21 for all 32 years, and 3.72 for the last 10 years. It is close to the middle of the scale (4 points) from no to full democracy.
6. The Western countries are relatively democratic as expected. Also the Latin American group and the Asian Tigers appear relatively democratic.
7. Two groups of countries have low scores: Communist and Muslim countries, where the core group of Arab countries is (even) less democratic than the average.

Communist countries have Gastil scores of 6-7, so the Small Transition – the one from socialism since 1990 – provides a fine historical experiment demonstrating what political system countries prefer, given their history and income, when they have to start all over.

The development from 1972 to 2003 of the Gastil Index for the 4 income groups of countries in the World Bank classification (see Appendix) is shown on figure 5. The trendless part of the aggregate curve from 1972 to 1986 is due to a small rise in the two poorest groups and a steady fall in the two richest groups. However, all 4 curves have a (significant) negative slope indicating that democracy increases. The increase for the average country is about 0.03 points a year or 1 full point on the scale over the 32 years.

Figure 5. The development over time for the 4 main income groups of countries



The relative position of the 4 curves also supports Lipset's Law, as the level of democracy for the four income groups differs precisely as predicted. The only deviation from the picture is the development of the Mic h(igh) group that intersects with the Mic l(ow) group before 1990. This is due to the high number (10) of ex-Communist countries in the high Mic group now in transition. The "Exc. Com" line shows how much the high Mic curve changes when the 10 Communist countries are excluded.

Some researchers – e.g. Przeworski et al (2000) – explain the observations presented by the reverse causal structure: Democracies are countries that develop particularly well and hence become rich. Here, the causality is from democracy to development. It surely would be great to see virtue rewarded, and a large number of studies have analyzed the matter. The conclusion is that γ has fared rather poorly as a variable explaining growth; see e.g. Barro and Sala-i-Martin (2003: 528-529) and Brunetti (1997).

Table 3. Cross-country regressions explaining the average γ, 1994-2003, and y for 2001

	Const.	Log y	West	Muslim	Com	La Am	Trans	Africa	Orient	R^2	Df
Reg 2	**7.859**	**–1.210**	**–1.396**	**1.867**	**2.847**	–0.636	–0.257	0.009	0.276	0.65	171
	7.23	4.18	3.56	7.75	4.66	1.83	0.86	0.03	0.71		
Reg 3	**7.920**	**–1.235**	**–1.346**	**1.867**	**3.086**	**–0.613**				0.64	171
	9.89	5.43	3.97	8.37	5.71	2.13					
Reg 4	**8.125**	**–1.330**	**–1.134**	**1.994**	**3.074**					0.63	171
	10.11	5.91	3.46	9.17	5.62						
Reg 5	**8.685**	**–1.447**	**–1.183**	**1.839**						0.56	171
	10.01	5.93	3.32	7.84							
Reg 6	**11.803**	**–2.226**								0.34	171
	13.61	9.42									

Note: The two numbers given in each row are the coefficient estimate and its t-ratio. Abbreviations: *Com* is Communist. *La Am* is Latin American. *Trans* is Ex-Communists. *West* is the old West group. Bolded coefficients are significant at the 5% level, i.e., where the t-ratio exceeds 1.97.

Model (1) is used for the regressions of table 3. Lipset's Law predicts that log y_i gets a negative coefficient. It is indeed negative, always significant, and it obtains an $R^2 = 0.34$ if it is the only variable in the regression (reg 6). The country groups included add almost as much explanatory power as Lipset's Slope, but the bulk of the extra explanation is from just two variables: Muslim and West.

Africa, Orient and Transition get insignificant coefficients. That is also the case in other combinations where these 3 variables are included either together or one at a time. Consequently, the countries in these groups have the average level of democracy when controlled for their level of development. It is also the case for the Transition countries as will be discussed in section 6. The "Asian Values" hypotheses find no support in these data; nor are African countries exceptional as regards democracy, but they are exceptionally poor.

Table 4. Cross-country regressions on the effect of oil on democracy

	Const	Log y	Oil	West	Muslim	Arab	Com	R^2	Df
Reg 7	**9.498**	**–1.735**	**0.882**	**–0.773**	**1.354**	**1.089**	**3.037**	0.68	171
	11.66	7.55	2.85	2.42	5.35	2.83	5.88		
Reg 8	**8.969**	**–1.589**	**1.111**	**–0.892**	**1.712**		**3.084**	0.66	171
	11.08	6.95	3.65	2.76	7.66		5.85		
Reg 9	**9.015**	**–1.583**		**–0.920**	**1.467**	**1.378**	**3.017**	0.66	171
	11.08	6.94		2.86	5.75	3.63	5.72		
Reg 10	**12.338**	**–2.440**	**2.097**					0.46	171
	15.58	11.23	6.09						

Note: See table 3.

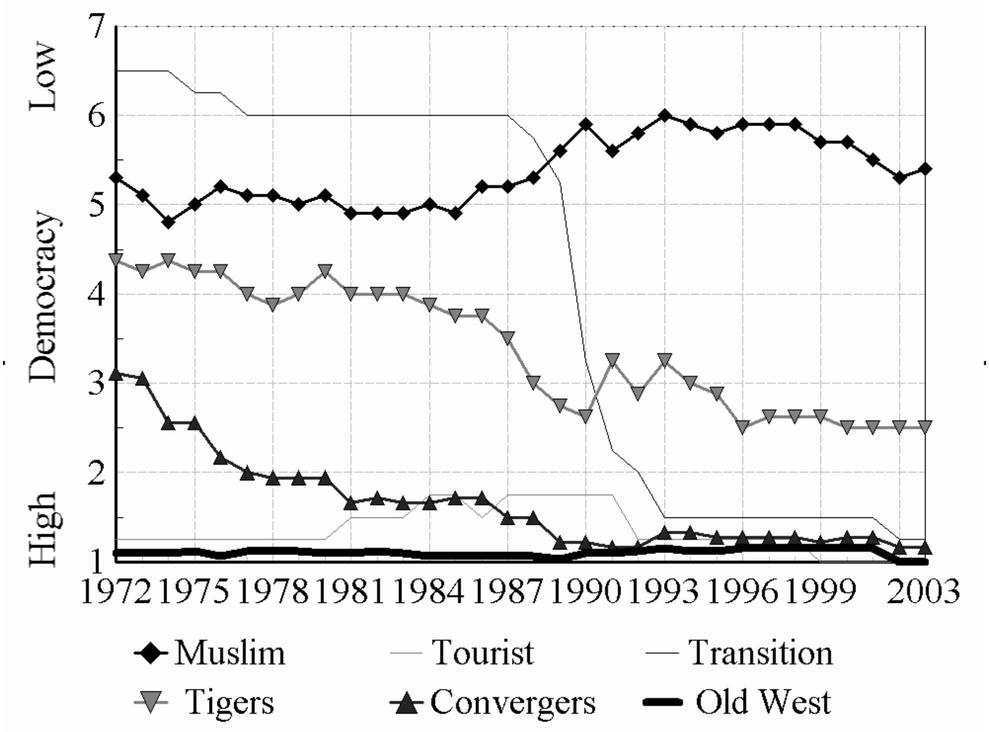
Communist countries are 3 points less democratic relative to the Lipset Path, but the group consists of 5 countries only, so it does not add much to the R^2. Western countries are more than 1 point too democratic, and it is reflected in the Latin American group as well. Muslim countries are almost 2 points less democratic than they should be given their income level. This will be further analyzed in section 5 below.

Table 4 adds the oil variable. It is significant, and the sign is always positive. Oil countries are less democratic. This once again supports the resource rent point. Clearly it is not income alone, but also the transformation during the Big Transition that causes democracy to rise. In table 4 the Arab group is also singled out, and it appears to be less democratic than other Muslim countries even when controlled for oil and income.

4. The 38 rich countries: Is the West special?

The data contain 38 rich countries: 2 are Caribbean "tourist states", 2 are Transition countries discussed in section 6, 5 are Muslim Oil countries discussed in section 5. The remaining 30 countries are divided as listed in table A1 into, 5 *Asian Tigers*, 10 *Convergers* and 15 *Old West* which are countries that were DCs already in the first half of the 20th century – all countries in this group have been democracies for at least 50 years – most much longer.

6. The development of democracy in the rich countries



The ideas of democracy and civil rights originally developed in the West. It is therefore arguable that they are relatively strong in the Western system of values. Figure 6 shows that the Old West is actually very democratic and has been so throughout the period. The Convergers are becoming more democratic as they become richer, and precisely the same applies to the Asian Tigers. This is, of course, a clear confirmation of Lipset's Law, and contrary to the Reverse Lipset idea.

We know from table 2 that the Oriental countries do not deviate from the general trend and it is interesting that the Asian Tigers, who made the Big Transition exceptionally fast, have had a quick transition to democracy as well. The regressions above suggest that they will not converge fully to the Western level, but may stop 1.25 from it as they do indeed seems to do on figure 6. A closer inspection shows that the oldest tiger – Japan – is now close to the Western level. It suggests that the distance from a "reasonable" to a "full" democracy takes considerable time, so perhaps the other Tigers will gradually become (even) more democratic just as the Convergers. In fact, the curve for the Tigers looks strikingly as the one for the Convergers with a delay of 15 years.

The big exception to the general picture is the 5 rich Muslim oil countries, which have few democratic and civil rights and are moving even further away from democracy. They are all ruled by absolute monarchs, as was Europe before the French Revolution. We analyze the effect of Islam on democracy in the next section.

5. The Muslim exception: An aversion to democracy?

The data are complete for 43 Muslim countries, with an average Gastil Score of 5.5. Table 2 shows that the average Arab country is 3.2 times richer than the average non-Arab Muslim country; nevertheless the average Gastil Score for the Arab group is 5.7. The Lipset Graph corresponding to figure 4 is shown on figure 7 for the Muslim countries separately. The average only covers the years 1994-2003, to allow the data to include the 7 Ex-Communist countries that are (now) Muslim.

The picture on figure 7 is different from the one on figure 4, and there is no sign of a downward slope. The slope through the points is positive, but insignificant. Also, the average is high – there is little demand for democracy in this group of countries.

Figure 7. The average democracy score in 45 Muslim countries, 1994-2003

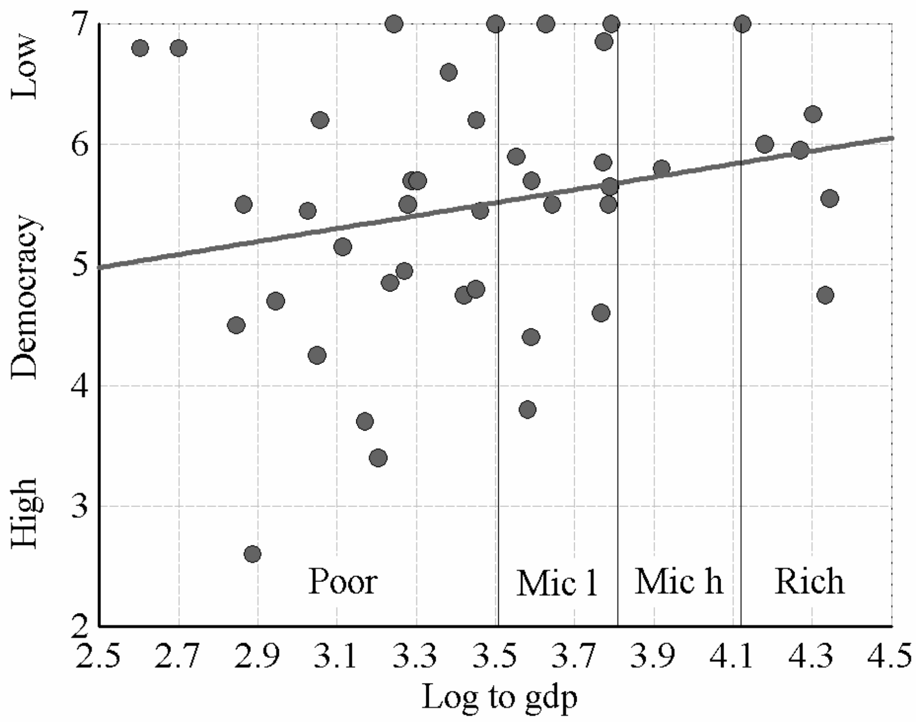
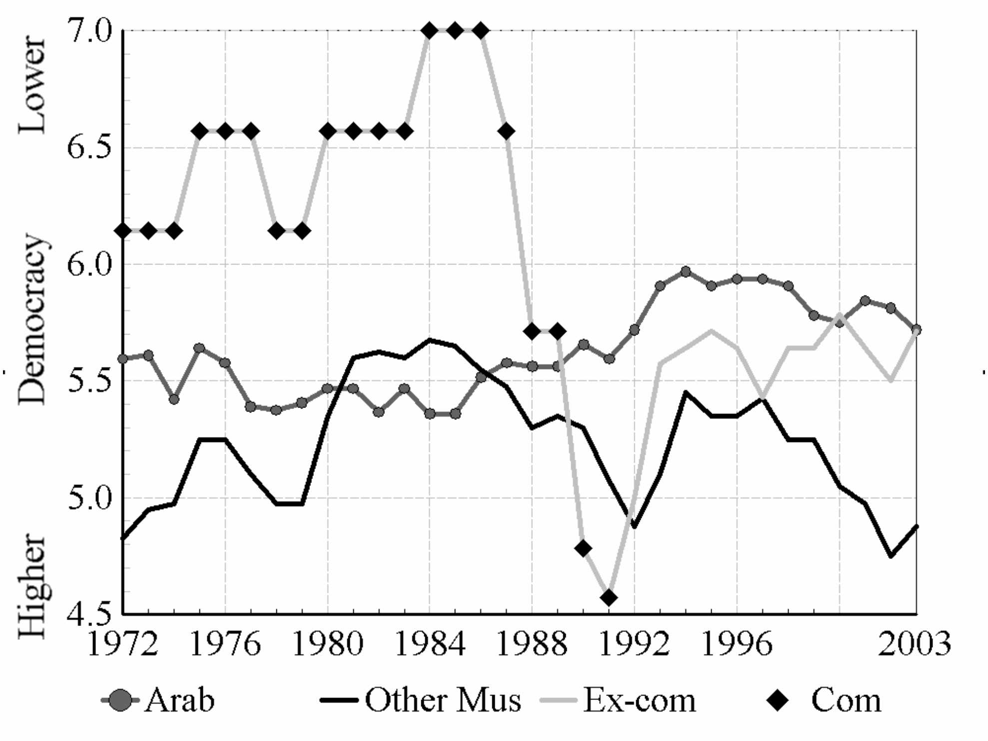


Table 5. Regressions for the 43 Muslim Countries, 1994-2003

	const	ln y	Arab	Oil	Trans	African	Or	R^2	Df
Reg 11	**5.824**	–0.230	0.553	0.622	0.431	0.024	–0.185	0.13	43
	2.99	0.39	1.00	1.23	0.75	0.05	0.20		
Reg 12	**5.906**	–0.255	0.586	0.591	0.447			0.13	43
	3.29	0.45	1.37	1.24	0.96				
Reg 13	**5.104**		0.496	0.455	0.401			0.13	43
	21.69		1.32	1.25	0.89				
Reg 14	**4.362**	0.283	0.420					0.08	43
	3.07	0.66	1.07						
Reg 15	**4.593**	0.219	0.487					0.08	43
	3.02	0.48	1.10						
Reg 16	**3.640**	0.536						0.05	43
	2.90	1.50							

Figure 8 shows the development over time for the 16 Arab countries, the 6 Transition countries that used to be Communist, and the remaining 21 Muslim countries. When the data for the 43 countries are examined for trends over the 32 years, only the Arab group of countries has a significant trend, and it is upwards. Table 5 gives 6 regressions to explain this sub-set of data, using model (1) above. The main impression from the table is a low level of significance throughout. Only the constant is significant.

Figure 8. The development over time for three groups of Muslim countries



While the facts thus tell a clear story, the explanation is less obvious. The two largest religions – Christianity and Islam – are rather similar and both emerged in the Middle East, so it is strange that one is easy to combine with democracy while the other is not. One point to consider is that Muhammad was not only the definitive Prophet of Islam, but he and a small circle of his early followers ruled in Mecca from about 630 and for the next half century when a major Arab/Muslim state was forged through conquest and conversion. This period is a Muslim ideal, and the political system in this ideal state was certainly not democracy. The wave of fundamentalism that is now so prominent in the Muslim world is a reaction to *modernization* including democracy and other "Western" ideas, and expresses a wish to return to the ideal and re-establish the Caliphate. Hence, it is likely that democratic values carry relatively little weight in the Muslim culture.[8]

The data thus tell a clear story: Islam is difficult to combine with democracy.

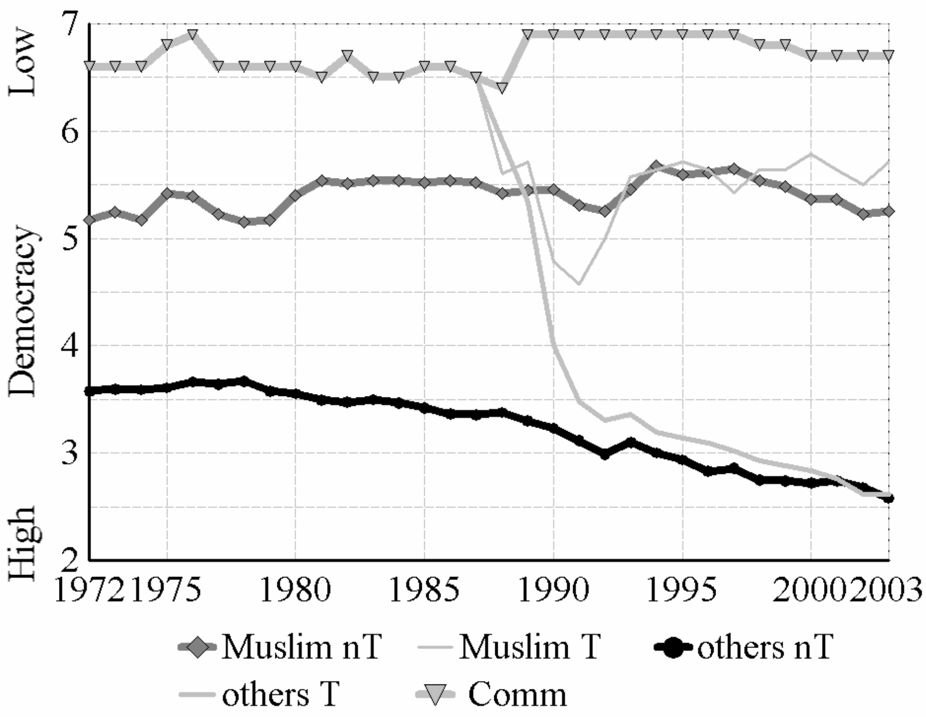
8. Many Muslims have other political ideals as well. A battery of questions in the World Value Surveys (see Inglehart, et al., 2004) analyze the values and beliefs relating to religion and politics in about 80 countries of which 10 are Muslim by our classification. Muslims do express a clear preference for democracy, (see E110-124), but at the same time also express strong preferences for having a religious factor in politics (see F63-66 and F102-105).

6. The Small Transition: A historical experiment

The data include 33 countries with a Communist government before 1990. Five still have a Communist regime. The remaining 28 countries form the Transition group, which is further divided into three groups: Muslim countries, ex-Soviet non-Muslim countries and the rest, which are all – but Mongolia – East and Central European countries.

For the countries in the Transition group the big political change 1988-90 came in the form of a sudden collapse of the old political system and the central control. In the cases of the Soviet Union and Yugoslavia even the state as such disintegrated. The development of the new political order in these countries thus provides a fine historical experiment.

Figure 9. The small transition



Note: *nT* means non-Transition, *T* is Transition, *others* are neither Communists nor Muslim. Finally, *Com* is Communist. To simplify all Communist countries are shown as an average from 1972 to 1987.

Figure 9 shows what has happened. It is as could be expected from the analysis till now. The Communist countries remain at low levels of democracy – they even tighten their dictatorships – probably due to the dramatic collapse of communism in the 28 Transition countries. The Muslim Transition countries had a short "democratic spring" in 1990 to 92, and then they moved to the typical Muslim level of democracy (around 5.5). Finally the non-Muslim transition countries moved to the other countries in that group. The group of non-Muslim transition countries has made great strides toward democracy. The most Western countries in the group are also the richest in the group. They are already at an almost Western level of democracy as seen on figure 6. Consequently the countries quickly converge to the position in the big pattern where they would have been without the previous Communist regimes.

Table 6. Regressions on 33 Communist and Transition countries, 1994-2003

	Constant	Log y	Muslim	Com	Oil	R^2	df
Reg 17	**11.506**	**–2.275**	**1.790**	**2.816**	0.776	0.74	33
	3.96	2.98	3.17	4.34	1.10		
Reg 18	**11.039**	**–2.142**	**2.017**	**2.844**		0.73	33
	3.83	2.83	3.82	4.37			
Reg 19	**20.234**	**–4.425**				0.51	33
	7.10	5.69					

The models from tables 3 and 4 are reestimated on the data for the 33 countries in Table 6. The group contains 1 Latin American and 3 Oriental countries only so some of the regressions in tables 3 and 4 make little sense to replicate for the 33 countries. However, the regressions that can be replicated look precisely as expected from tables 3 and 4.

The degree of socialism, σ, can be defined as the share of GDP produced by publicly owned real capital. The communist countries were very socialist, as σ was in the range from 0.7 to 0.95 in all these countries.[9] We know that other countries are/have been socialist as well, with σ-scores well above 0.5. However, no systematic cross country data exists for σ. The Gastil data show that the least democratic group of data is the Communist group, but the author is convinced that the result generalizes to socialism in general. It is very difficult to combine socialism and democracy.

The main reason is that in any system somebody has to do the nasty job of preventing the agents from maximizing costs. In a capitalist country the owners and the market do the nasty. This leaves the state with the nice and popular job of taking care of the losers and in general making the system milder. However, in a socialist country the state has to do the nasty job itself. This makes the state unpopular. Thus control is needed, and it is easy to establish when the state owns everything, and dictatorship results.

9. This definition goes back to Karl Marx. By the definition both China and Vietnam are now rapidly moving out of socialism.

7. Conclusion

The analysis above is based on the Gastil Index from the NGO Freedom House. These data are far from perfect, but if the imperfections are measurement errors only, they are likely to make the pattern less significant than it would otherwise, be and it has certainly a very significant pattern. Three basic conclusions emerge from the above analysis of data for 171 countries over the last 32 years:

- C1. Lipset's Law is consistent with the data. It explains ap 1/3 of the variation in the data.
- C2. No signs have been found that causality may be from democracy to income.
- C3. Three cultural hypotheses are confirmed by the data:
  - C3.1. Communist countries are the least democratic.
  - C3.2. Muslim countries are rather undemocratic too, and they show no tendency to become more democratic, when income grows.
  - C3.3. Western countries are relatively democratic.

Several other cultural hypotheses find no support in the data: The Asian Values hypothesis is rejected, and African countries are only undemocratic because they are poor. Also, signs have been found that the Western exception may be due to history only, as democracy slowly improves once it is established, and many Western countries have been democratic for more than a century.

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Gastil Index, available from the NGO Freedom House: <http://www.freedomhouse.org/>.

Appendix Table A1.1: Countries included and the classification used

	W	Typ	Re	T	Oil		W	Typ	Re	T	Oil		W	Typ	Re	T	Oil
Sierra Leone	P	Af				Pakistan	p		M			Paraguay	ml	LA			
Somalia	p	Af	M			Haiti	p					Gabon	ml	Af			o
Liberia	p	Af				Guinea	p	Af	M			Panama	ml	LA			
Afghanistan	p		M			Mauritania	p	Af	M			Venezuela	ml	LA			o
Equatorial Guinea	p	Af				Gambia, The	p	Af	M			Samoa	ml				
Tanzania	p	Af				Vietnam	p	O	Co			Fiji	ml				
Malawi	p	Af				Ghana	p	Af				Romania	ml			T	
Congo (Brazzav.)	p	Af				Serbia & Mont.	p			T		Turkey	ml		M		
Congo (Kinshasa)	p	Af				Tonga	p					Algeria	ml	Ar	M		o
Burundi	p	Af				Zimbabwe	p	Af				Iraq	ml	Ar	M		o
Comoros	p		M			Bolivia	p	LA				Macedonia	ml			T	
Yemen	p	Ar	M			Mongolia	p	O		T		Tunisia	ml	Ar	M		
Zambia	p	Af				Uzbekistan	p		M	T		Kazakhstan	ml		M	T	o
Mali	p	Af	M			Pap. New	p					Libya	ml	Ar	M		o
Nigeria	p	Af			o	Nicaragua	p	LA				Thailand	ml	O			
Ethiopia	p	Af				Georgia	p			T		Bosnia-Herzeg.	ml			T	
Madagascar	p	Af				Kyrgyzstan	p		M	T		Dominican R.	ml	LA			
Niger	p	Af	M			Cuba	p	LA	Co			Bulgaria	mh			T	
Guinea-Bissau	p	Af				Armenia	p			T		Colombia	mh	LA			
Benin	p	Af				Honduras	p	LA				Russia	mh			T	o
Kenya	p	Af				India	p					Brazil	mh	LA			
Korea, North	p	O	Co			Indonesia	p	O	M		o	Botswana	mh	Af			
Burma	p	O				Iran	p		M		o	Belarus	mh			T	
Mozambique	p	Af				Azerbaijan	p		M	T	o	Latvia	mh			T	
Chad	p	Af	M			Ecuador	p	LA				Malaysia	mh	O			
Burkina Faso	p	Af	M			Lesotho	p	Af				Mexico	mh	LA			o
Tajikistan	p		M	T		Syria	p	Ar	M			Uruguay	mh	LA			
Sao Tome & Prin.	p	Af				Sri Lanka	ml					Oman	mh	Ar	M		o
Rwanda	p	Af				Surinam	ml					Lithuania	mh			T	
Central African R.	p	Af				Jamaica	ml	LA				Trinidad &	mh	LA			o
Djibouti	p	Af	M			Egypt	ml	Ar	M			Chile	mh	LA			
Bhutan	p					Guyana	ml					Croatia	mh			T	
Nepal	p					Albania	ml		M	T		Costa Rica	mh	LA			
Cote d'Ivorie	p	Af				Jordan	ml	Ar	M			Poland	mh			T	
Cape Verde	p	Af				Maldives	ml		M			Estonia	mh			T	
Uganda	p	Af				China	ml	O	Co			Mauritius	mh				
Senegal	p	Af	M			Philippines	ml	O				South Africa	mh	Af			
Laos	p	O	Co			Turkmenistan	ml		M	T		Argentina	mh	LA			
Cameroon	p	Af				Ukraine	ml			T		Slovakia	mh			T	
Bangladesh	p		M			Guatemala	ml	LA				Hungary	mh			T	
Togo	p	Af				Lebanon	ml	Ar	M			Saudi Arabia	mh	Ar	M		o
Angola	p	Af				Swaziland	ml	Af				Czech R.	r			T	
Morocco	p	Ar	M			Peru	ml	LA				Barbados	r	Tu			
Sudan	p	Af	M			Nauru	ml					Cyprus (Gr.)	r	Wc			
Cambodia	p	O				Grenada	ml	LA				South Korea	r	Oti			
Moldovia	p			T		El Salvador	ml	LA				Bahrain	r	Ar	M		o

Appendix Table A1.2 – continued

	W	Typ	Re	T	Oil		W	Typ	Re	T	Oil		W	Typ	Re	T	Oil
Bahamas	r	Tu				Kuwait	r	Ar	M		o	Japan	r	Oti			
Slovenia	r			T		Un. Arab Emir.	r	Ar	M		o	Belgium	r	Wo			
Malta	r	Wc				Singapore	r	Oti				Austria	r	Wo			
Greece	r	Wc				Sweden	r	Wo				Canada	r	Wo			
Portugal	r	Wc				Finland	r	Wc				Ireland	r	Wc			
New Zealand	r	Wo				France	r	Wo				Netherlands	r	Wo			
Brunei	r	O	M		o	UK	r	Wo				Denmark	r	Wo			
Israel	r	Wc				Italy	r	Wc				Norway	r	Wo			o
Spain	r	Wc				Australia	r	Wo				Luxembourg	r	Wo			
Taiwan	r	Oti				Iceland	r	Wc				Switzerland	r	Wo			
Qatar	r	Ar	M		o	Germany	r	Wo				USA	r	Wo			

The countries are placed in increasing order of gdp, i.e. by standard of living. However, the first 5 on the list are largely in random order.

Abbreviations:

Typ(es):	*Af,* south of Sahara Africa. *Ar,* Arab. *O,* Oriental or East Asia. *Oti,* are Tiger Countries. *LA,* Latin American. *Wo,* Old Western, *Wc,* Western converger. *Tu*, is used for Barbados and Bahamas, that are rich from tourism.
Re(ligion or ideology):	*M,* Muslim, *Co,* Communist.
T(ransition):	*T*, in transition from a communist to a market economy since 1989.
Oil:	*o*, main export oil.
W(ealth):	*p(oor), m(ic) l*(ow), *m(ic) h*(igh), *r(ich)*. Classification from WFI(2003), but the limits between groups are changed from using the official exchange rate to the PPP-rate.

Table A2. Main economic structure in the world 2001

US $	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Population	GDP-exc (exchange rate)			GDP-PPP (purchasing power)			PPP-ratio
Country group	Millions	Billions	gdp-exc	Limits	Billions	gdp-PPP	Limits	(6)/(3)
Rich	957	25'372	26'510		25'506	26'650		1.01
High Mic	504	2'672	4'550	9'206	5'494	8'500	12'350	1.87
Low Mic	2'164	4'957	1'230	2'975	10'178	4'700	6'700	3.82
Poor	2'506	1'069	430	745	14'373	2'190	3'175	5.09
World	6'130	34'100	5'560		54'940	7'370		1.44

Note: While GDP is the macro aggregate, gdp is per capita. The PPP-limits between the groups are calculated as the same fraction of the gap as in the exchange rate case.